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## OFFICIAL

## PARTS and EQUIPMENT MANUAL

## OF THE

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DENVER 17. COLO.
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701 E. Linwood Blvd.
Tel. Logan 9035
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Tol. Angelus $1-5193$
MILWAUKEE 3, WISC
526 Empire 8idg.
710 N . Plankinton Ave
Tel. Broadway 2-5997

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Tel. Broadway 3830
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16 East Main St.
Tel. Baker 9179
SAN FRANCISCO 3, CALIF.
1264 Folsom St
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ST. LOUIS 5, WO .
Room 214
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Middletown. Conn.
Tel. Diamond 6-8659
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Tel. MAlden 4-4108
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Los Angeles 3, California
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Telephone: Academy 4932
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446 Broadway
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164 Duane Street
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154 Eighth St.
Telephone: Hemlock 1-5127
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291 First Parish Road
Telephone: Scituate 652
SEATTLE, WASH.
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Tel Garfield 0222
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50 Wingold Ave.
Tel. RUssell 1-6174

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    Cleveland II, Ohio
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    Los Angeles 54, Calif.
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    Philadelphia 8, Pa.
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New York: Ridgefield. N. J.
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San Francisco, Calif.
320 Shaw
St. Paul I, Minn.
367 Grove St.
Seattle 4, Wash.
1242-6th Ave. So.
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Tel. Pyramid I-1174
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Twx Salem
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St. Louis 14, Mo.
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Tel. Geneva 7000
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Chicago-iUxedo 9-5400
Franklín Park-GLadstone 5-9100
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Tel. MIChigan 2-7136
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SAN FRANCISCO, CALIF.
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IPSWICH, MASS.
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| M-64, 65. | Electronic Research Associates, Inc. |
| M-66...... | Associated Specialties Co. |
| M-67 to 69. | Sola Electric Company |
| M-70.......................... Terado Company |  |
| M-71.......................... Sangamo Generators, Inc. |  |
| M-72......................... Standard Electrical Products Co. |  |

## SECTION N

TRANSFORMERS, ALL TYPES-REACTORS-CHOKES-COILS-INDUCTORS
(Seo Section Jor addilional Coils)

| $\mathrm{N}-1$ to 20. | Chicago Standard Transformer Corp. |
| :---: | :---: |
| N-21 | Utah Radio Products, Inc. |
| $\mathrm{N}-22$ to 31. | .Triad Transformer Corp. |
| N-32 to 35. | .SNC Mfg. Co., Inc. |
| $\mathrm{N}-36$ to 39. | Altec Lansing Corp., Peerless Div. |
| N-40, 41. | .Kenyon Transformer Co., Inc. |
| $\mathrm{N}-42$ to 65 | ..Freed Transformer Co., Inc. |
| N -66 to 68. | ..Standard Electrical Products Co. |
| N-69 to 71. | .Ferranti Electric, Inc. |
| N-72 to 87. | . Merit Coil \& Transformer Corp. |
| N -88 to 109 | ..United Transformer Co. |
| N-110. | Rogers Electronics Corp. |
| N-111 to 11 | .Thordarson-Meissner Mifg. Div. |
| $\mathrm{N}-114$ to 11 | . Microtran Company |
| N-118, 119 | .Ram Electronics Sales Co. |
| N-120. | Acro Products Company |

## SECTION P

FIXED CAPACITORS, ALL TYPESNOISE AND INTERFERENCE FILTERSCAPACITOR TESTERS-PRINTED CIRCUITS

| P -1 to 11 | P. R. Mallory \& Co., Inc. |
| :---: | :---: |
| P-12 to 15. | ..General Electric Company |
| P-16 to 34. | ...Sprague Products Company |
| P-35 to 41. | Erie Resistor Corp. |
| P-42 to 65 | nell-Dubilier Electric Corp |



## SECTION S

## WIRE AND CABLE, ALL TYPES

S-1 to 20........................ Alpha Wire Corporation
S-21................................Federal Telephone \& Radio Corp.
S-22 to 35.......................Belden Mfg. Co.
S-36 to 57.......................Birnbach Radio Co., Inc.
S-58, 59.........................Columbia Wire \& Supply Co.
S-60 to 65....................... Consolidated Wire \& Associated Cos.
S-66 to 69.......................Cornish Wire Co., Inc.
S. 70 to 74......................National Wire \& Cable Corp.

S-75............................... Copperweld Stcel Co.
S-76............................... Plastoid Corporation

## ANTENNAS \& SYSTEMS FOR TV-FM-AM-AUTOANTENNA INSTALLATION ACCESSORIES

S-77 to 81......................Ward Products Corp.
S-82, 83........................Spirling Products Co., Inc.
S-84 to 87.......................Radiart Corporation
s-88................................Crown Controls, Inc.
S-89...............................Cornell-Dubilier Electric Corp.
S-90 to 92.......................Master Mobile Mounts, Inc.
S-93...............................Webster Mfg. Co.

| Sucimin E Puge | Name of M.mul.riturer |
| :---: | :---: |
| S-9.4 | Vaaro Elcitronics Div. |
| S-95. | Radion Corporation |
| S-96, 97 | Tenna Mfg. Co. |
| 5.98 | Technical Appliance Corp. |
| 5-99. | Hi-Lo TV Antennal Corp. |
| S-100 to 104 | National Electronic Mfg. Corp. |
| S. 105 | Trio Mfg. Co. |
| S-106 | Channel Master Corp. |
| S-107 | ... Mosley Elcetronies. Jnc. |
| S-108 to 111 | ... Jerrold Electronics Corp. |
| S.112, 113. | Radio Merchandise Sales, Inc. |
| S-114 to 119 | ... Snyder Mfg. Co. |
| S-120, 121 | .. Antenna Specialists Co. |
| S-122 | Columbia Products Co. |
| S-123 | Baker Mffg. Co. |
| S-124. 125 | Premax Products |
| S. 126 to 128 | E-Z Way Towers, Inc. |
| S-129. | Jontz Mfg. Co. |
| S-130 | .. Kuchne Mfg. Co. |
| S-131. | . Porcclain Products. Inc. |
| S-132 to 135 | Telrex, Inc. |
| S. 136. | . Julius Blum \& Co.. Jnc. |

## SECTION T

TV PARTS \& ANTENNA ACCESSORIES-
BOOSTERS, CONVERTERS, TUNERS-CABINETS
(See Sectlon $S$ for Antennas and additional Antenna installation Aceessories)

T-6..................................CBC Electronics Co., Inc.
T-7... ....................Oak Electronics Co.

- $-8,9 \ldots$............................. Corporation of Anerica

T-10, 11...................... Mosley Electronics, Inc.
T-12.......................... Worknman TV, Inc.
T-13 to 17. ............. South River Metal Products Co., Inc.
T-18 .....................Bud Radio, Inc.
T-19 .......................... Epco Electronics, Inc.
T-20............................ Vidaire Electronics Mfg. Co.
T-21.. ... ................... Television Hardware Mfg. Co.
T-22...... ................... Penn Television Products Co.
T-23........................... Inwood Enginecring Co.


## SECTION U

TOOIS: SOLDERING IR()NS, PLIERS, WRENCHES, SCREW'DRIVİRS. NUTDRIVERS, CITTING T()OLS, NEL'TRALIZING \& AIIGNMENT TOOLS-
CONNECTORS-CHEMICALS, OILS, PAINTS. ETC.
HARDWARE, SERVICE AIDS OF EVERY DESCRIPTION

| Surtion E Page | N.ime of Manufacturer |
| :---: | :---: |
| $\mathrm{l}^{\prime} \cdot 1$ | American Electrical Heater Co. |
| 1-2. 3 | Electric Soldering Iron Co., Inc. |
| 1-4.9 9 | Hexacon Electric Co. |
| 106.7 | Gencral Electric Company |
| 1 -8 | Kwikheat Mfg. Co. |
| U-9 | Weller Electric Co. |
| 1-10. 11 | Vulcan Electric Co. |
| l'-12 | Television Accessories Co. |
| $1-13$ | Multicore Sales Corp. |
| $\mathrm{l}^{\text {- }} 14$ | Kester Solder Co. |
| $\mathbf{l}^{+}-15$ | Ltica Drop Forge \& Tool Corp. |
| $1 \cdot 16$ tol 19 | Vaco Products Co. |
| U-20 to 23 | Xcelite, Inc. |
| $1 \mathrm{~T}-24$ to 27 | Kracuter \& Co., Inc. |
| ["-28 | Mathias Klein \& Sons |
| [-29 | Chasc Mfg. Co. |
| (T-30, 31 | . Greenlec Tool Co. |
| [1-32, 33 | . Akro-Mils, Inc. |
| ['3.34 | Snap-On-Drawer Co. |
| U-35 | . United Technical Laboratories |
| U.36, 37 | Industrial Safety Belt Co. |
| U. 38 | Dutch Brand Division, Johns-Manville Sales Corp. |
| 1i.39 to 73 | General Cement Mfg. Co. |
| U-74 to 87 | Herman H. Smith, Inc. |
| U-88, 89. | . Bud Radio, Inc. |
| U-90 to 101 | Walsco Electronics Corp. |
| L-102 | Keystone Electronics Corp. |
| U-103 to 105 | Jan Hardware Corp. |
| U-106to 109 | Gee-Lar Mfg. Co. |
| L-110 to 112 | Waldom Electronics, Inc. |
| U-113.. | - Rogan Brothers |
| U-114, 115 | - Harry Davies Molding Co. |
| $\mathrm{L}^{+}-116,117$. | Krylon, Inc. |
| U'118......... | Quietrole Co. |
| U-119 | Tekni-Labels Co, |
| U-120. | Decimeter Products Co. |
| [V-121 to 137 | - Insuline Corp. of America |
| Li-138. | Superex Electronics Corp. |
| U-139 | - Chas, O. Larson Co. |
| 1-140. | Dale Products, Inc. |
| [1-141 | - Robins Industries Corp. |
| L-142 | . Radio Corporation of America |
| U-143 | . International Resistance Co. |

All Prices listed are subject to change without notice

| Type | List Price | Description |  |
| :---: | :---: | :---: | :---: |
|  |  | Envelope | Faceptate |
| 5 5P4 | \$78.25 | Round, Glass | Clear |
| $17 \mathrm{PP4}$ | 27.75 | Round, Glass | Clear Filter, |
| 8AP4A 10BP4A | 27.75 19.25 | Round. Metal Round, Glass | Filter, Spherical <br> Filter, Snherical |
| - 10FP4A | 25.40 | Round, Glass | Filter, Spherical. Aluminized |
| -12KP4A | 29.75 | Round. Glass | Filter, Spherical, Aluminized |
| 12LP4A | 24.25 42.75 | Round. Glass | Filter, Spherical $\begin{aligned} & \text { Filter, Etched Spherical }\end{aligned}$ |
| $12 \mathrm{PP48}$ $14 \mathrm{CP4}$ | 42.75 26.75 | Round, Metal Rectangular, Glass | Filter, Etched, Spherical |
| 15GP22 | 265.00 | Round, Glass | Clear, Spherical, Color |
| 16AP4A | 44.75 | Round, Metal | Filter, Spherical |
| $16 \mathrm{PP4A}$ | 44.75 | Round, Glass | Filter, Spherical |
| $16 \mathrm{GP4}$ | 44.75 | Round, Metal | Filter. Spherical |
| $\begin{aligned} & 16 \mathrm{GP4B} \\ & 16 \mathrm{KP4} \end{aligned}$ | $\begin{aligned} & 44.75 \\ & 32.00 \end{aligned}$ | Round, Metal <br> Rectangular, Glass | Filter, Etched, Spherical Filter, Spherical |
|  |  |  |  |
| *16KP4A | 36.75 | Rectangular, Glass | Filter, Spherical, Aluminized Filter Spherical |
| $16 \mathrm{LP4A}$ | 41.50 | Round, Glass | Filter. Spherical <br> Filter, Spherical |
| $16 R P 4$ $16 T P 4$ | 32.00 32.00 | Rectangular, Glass Rectangular, Glass | Filter, Spherical |
| $16 \mathrm{WP4A}$ | 41.50 | Round, Glass | Filter, Spherical |
| $178 \mathrm{P4A}$ | 32.00 | Rectangular, Glass | Filter, Spherical |
| *178P4B | 37.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| $17 \mathrm{CP4}$ | 40.00 | Rectangular, Metal | Filter, Etched, Spherical |
| 1 17FP4A 1 $17 \mathrm{FP4}$ | 37.25 44.75 | Rectangular, Glass Rectangular, Metal | Filter, Etched, Spherical |
| - 17GP4 | 44.75 | Rectangular, Metal | Filter, Etched, Spherical |
| 1 *17HPaB | 39.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 17084 | 32.00 | Rectangular, Glass | Filter, Cylindrical Face |
| \| 17RP4/17HP4 | 34.00 34.00 | Rectanqular, Glass | Fitter, Spherical Filter, Cylindrical face |
| 19AP4A | 48.75 | Round. Metal | Filter, Spherical |
| 19AP4B |  | Round, Metal | Filter, Etched, Spherical |
| $20 \mathrm{CP4}$ | 39.00 | Rectangular, Glass | Filter, Spherical |
| 20CP4A | 39.00 | Rectangular, Glass | Filter, Spherical |
| -20CP48 | 46.00 | Rectanqular, Glass | Filter, Spherical, Aluminized |
| -20CP4D | 46.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 20DP4A | 40.00 | Rectangular, Glass | Filter, Spherical |
| -20DP4B | 46.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| -20DP4C | 46.00 | Rectangular, Glass |  |
| $\dagger$ 20HP4A/20LP4 | 42.75 | Rectangular, Glass | Filter, Spherical |
| $\dagger^{*} 20 \mathrm{HP4C}$ | 47.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| +20HP4D | 47.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| ${ }^{21} 1 C^{\text {CP4 }} / 21 A M P 4$ | 41.50 | Rectangular, Glass | Filter, Spherical Aluminired |
| *21ACP4A/2IAMP4A | 46.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| +. 21 IALP4A | 43.00 46.00 | Rectangular, Glass Rectangular, Glass | Filter, Spherical, Aluminized |
| $21 \mathrm{AP4}$ | 47.00 | Rectanqular, Metal | Filter, Etched, Spherical |
| 21 ARP4 | 52.40 | Rectangular, Glass | Filter, Spherical |
| *21ARP4A | 58.70 | Rectanqular, Glass | Filter, Spherical, Aluminized |
| +*21ATP4 | 46.00 |  | Fitter, Spherical, Aluminized |
| +*21AUP4A | 46.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| +*21AVP4A | 46.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| $\dagger^{*} 21 / A W P 4$ | 44.25 | Rectangular, Glass | Filter, Spherical, Aluminized |
| $21 E P 4 A$ | 39.00 | Rectanqular, Glass | Filter, Cylindrical Face. |
| *21EP4B | 44.25 | Rectangular, Glass | Filter. Cyl. Face, Aluminized |
| + 21FP4A | 40.75 | Rectangular, Glass | Filter, Cylindrical Face |
| +*21FP4C | 50.50 | Rectangular, Glass | Filter, Cyl. Face, Aluminized |
| $\dagger{ }^{1} 1 \mathrm{IMPA}^{21 W P 4}$ | 48.75 | Rectanqular, Metal | Filter, Etched, Spherical |
| -21XP4A | 47.00 48.50 | Rectangular, Glass | Filter, Spherical. Aluminized Filter, Spherical, Aluminized |
| + 21YP4 | 40.75 | Rectangular, Glass | Filter, Sphericat ${ }^{\text {a }}$ |
| +2IYPAA |  | Rectangular, Glass | Filter, Spherical, Aluminized |
| 212P4A | 39.00 | Rectanqular, Glass | Filter, Spherical |
| $\cdot \cdot 212 \mathrm{P} 4 \mathrm{~B}$ | 44.25 | Rectangular, Glass | Filter, Spherical, Aluminized |
| 24AP4 | 120.00 | Round, Metal | Filter, Spherical |
| *24CP4A | 75.50 | Rectangular, Glass | Filter, Spherical, Aluminized |
| +*24DP4A | 77.25 | Rectangular, Glass | Filter, Spherical, Aluminized |
| *27EP4 | 110.00 | Rectangular, Glass | Filter, Spherical, Aluminized |
| '27P4 |  | Rectangular, Glass | ter, Spherical, Aluminized |

There's a G-E
Electronic Tube for
Every Purpose:


Ask for-ETX. 10
For complete
Descriptions and Retings.

- Pliotrons
- Ignitrons
- Phasitron
- Glow Tubes
- Thyratrons
- Phototubes
- Ballast Tubes
- High Altitude Devices
- Phanotrons
- Lighthouse Tubes
- Cathode-Ray Tubes
- Microwave Radar Devices
- Kenotrons
- TV Camera Tubes

Prices and other data subject to change without notice. TUBES

| Type | List Price | Type | List Price | Type | List Price | Type | List Price | Type | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OZ4 | \$1.40 | 3AU8 | \$1.75 | 6AX4GT | \$2.35 | 6L6G | \$3.40 | 767 | \$3.00 |
| OZ4A | 2.00 | 3AV6 | 1.55 | 6AX5GT | 1.85 | 6L6GA | 3.10 | 7H7 | 2.25 |
| OZ4G | 1.70 | 3BA6 | 1.80 | 684G | 3.35 | 6L7G | 3.40 | $7 \mathrm{J7}$ | 3.65 |
| IA4P | 4.25 | 38C5 | 2.00 | 687 | 3.50 | 8N7 | 2.95 | 7K7 | 3.20 |
| IASGT | 2.10 | 38 E 6 | 1.90 | 688 | 3.55 | 6N7GT | 2.90 | 7N7 | 2.35 |
| $1{ }^{\text {A }} 6$ | 3.65 | 38N6 | 2.75 | 688G | 3.65 | 6P5GT | 2.45 | 7 97 | 2.60 |
| IA7GT | 2.45 | 38 Y 6 | 1.90 | 6BA6 | 1.80 | 6 67 | 2.40 | 7R7 | 3.50 |
| IAH4 | 2.90 | 3CB6 | 2.00 | 6BA7 | 2.60 | 6Q76T | 2.10 | 757 | 3.45 |
| IAJS | 3.05 | 3CS6 | 1.90 | 68C5 | 2.00 | 6R7 | 2.80 | 7 7 7 | 3.50 |
| IAX2 | 2.45 | 3LF4 | 3.10 | 6BC7 | 3.20 | 6R7GT | 2.75 | 7W7 | 3.50 |
| IB3GT | 2.45 | $3 Q 4$ | 2.20 | 6BD6 | 1.80 | 6S4A | 1.80 | 7X7/XXFM | 3.30 |
| IC5GT | 2.60 | 3Q5GT | 2.80 | 6BE6 | 1.90 | 657G | 3.50 | $7{ }^{7} 4$ | 1.80 |
| $1 \mathrm{C6}$ | 3.50 | 354 | 2.15 | 6BF5 | 2.05 | 6S8GT | 2.75 | 7 74 | 1.80 |
| IC7G | 3.50 | $3 \vee 4$ | 2.15 | 6BF6 | 1.60 | 6SA7 | 2.15 | I2A4 | 2.20 |
| IDSGP | 4.25 | 4897A | 3.30 | 68G6GA | 5.20 | 6SB7Y | 3.75 | I2A8GT | 2.75 |
| ID7G | 3.65 | $4 \mathrm{BZ7}$ | 3.50 | 68H6 | 2.30 | 6SC7 | 2.25 | 12AL5 | 1.65 |
| ID8GT | 4.25 | 5AQ5 | 1.90 | 6BJ6 | 1.95 | 6SF5 | 1.90 | I2AQS | 1.90 |
| IE7GT | 4.25 | 5AU4 | 2.90 | 6BJ7 | 2.35 | 6SF7 | 2.90 | l2AT6 | 1.50 |
| IF4 IF5G | 2.85 | 5AZ4 | 1.55 | $68 K 5$ | 2.60 | 6SG7 | 2.35 | 12AT7 | 2.60 |
| IFSS | 2.85 | 5BK7A | 2.90 2.35 | 6BK7A | 2.90 | 6SH7 | 2.90 | 12AU6 | 1.70 |
| IFS IF7G | 4.25 4.25 | 556 518 | 2.35 2.90 | 6BL7GT | 3.30 | 6SJ7 | 2.00 | 12AU7 | 2.20 |
| IG4GT | 4.25 2.60 | 518 5046 | 2.90 1.70 | 68N6 | 2.70 | 6SK7 | 2.00 | I2AV5GA | 3.40 |
| IG5G | 3.30 | 5U4GA | 1.80 | 6BQ6GA | 3.55 | 6SK7GT | 2.00 | 12AV6 | 1.45 |
| IG6GT | 3.00 | 5U8 | 2.90 | 6BQ7A | 3.25 | 6SL7GT | 2.40 | 12AV7 | 3.05 |
| IH4G | 2.35 | 5V4G | 2.60 | 6805 | 5.50 | 6SN7GTB | 2.15 | I2AWS | 2.40 |
| IH5GT | 2.00 | 5V6GT | 1.90 | 68X7GT | 3.35 | 6SQ7 | 1.80 | 12AX4GTA | 2.40 |
| IH6GT | 3.50 | $5 \times 46$ | 2.05 | 6BY5G | 3.30 | 6SQ7GT | 1.80 | 12AX7 | 2.30 |
| IJ6GT | 3.50 | SY3GT | 1.25 | 6BZ7 | 3.40 | 6SR7 | 1.90 | 12AZ7 | 2.60 |
| IL4 | 2.15 | 5Y46 | 1.85 | 6C4 | 1.50 | 6SR7GT | 1.80 | 12B4A | 2.45 |
| IL6 | 2.90 | $5 \mathrm{Z3}$ | 2.00 | 6C5 | 2.00 | 6SS7 | 2.90 | 128A6 | 1.80 |
| ILA4 | 2.95 | 6A3 | 4.10 | 6C5GT | 2.15 | 6SV7 | 3.35 | 12BA7 | 2.80 |
| ILA6 | 2.75 | 6 A7 | 2.75 | 6C6 | 2.55 | 674 | 3.45 | 128D6 | 1.80 |
| ILB4 | 2.95 | 6A8 | 2.90 | 6C8G | 3.90 | 678 | 2.90 | 128E6 | 1.90 |
| ILC5 | 2.75 | 6A8GT | 2.75 | 6CB6 | 2.00 | 6U5 | 2.25 | 128F6 | 1.60 |
| ILC6 | 2.75 | 6AB4 | 1.70 | 6CD6GA | 4.70 | 6U7G | 2.40 | 128H7A | 2.55 |
| ILDS | 2.75 | 6AC5GT | 3.10 | 6CF6 | 2.15 | 648 | 2.85 | $12 \mathrm{BK5}$ | 2.65 |
| ILE3 | 2.75 | 6AC7 | 3.10 | 6CL6 | 3.10 | 6V3A | 3.90 | 128Q6GA | 3.65 |
| ILH4 | 2.75 | 6AD7G | 3.90 | 6CM6 | 2.30 | 6V6 | 4.80 | 12BY7A | 2.70 |
| ILN5 | 2.75 | 6AF4A | 3.40 | 6CR6 | 2.05 | 6V6GT | 1.80 | $12 \mathrm{BZ7}$ | 2.55 |
| IN5GT | 2.40 | 6AF6G | 3.15 | 6CS6 | 1.90 | 6W4GT | 1.70 | 12 C 8 | 3.65 |
| I P5GT | 2.90 | 6AG5 | 2.05 | 6D6 | 2.55 | 6W6GT | 2.25 | 12CA5 | 2.20 |
| IPSGT | 3.05 | 6AG7 | 3.50 | 6D8G | 3.50 | $6 \times 4$ | 1.40 | I2F5GT | 1.90 |
| IR5 | 2.25 | 6AH4GT | 2.40 | 6E5 | 2.35 | 6X5GT | 1.40 | 12 H 6 | 2.00 |
| 154 | 2.55 | 6AH6 | 3.90 | 6 F5 | 2.20 | $6 \times 8$ | 2.75 | 12J5 | 1.85 |
| 155 | 1.90 | 6AJ4 | 4.45 | 6F5GT | 1.85 | 6Y6G | 2.60 | 12J5GT | 1.80 |
| 174 | 2.15 | 6AK5 | 4.25 | 6F6 | 2.45 | 7A4/XXL | 2.05 | 12J7GT | 2.60 |
| ITSGT | 2.80 | 6AK6 | 2.35 | 6F6G | 2.00 | 745 | 2.60 | 12K7GT | 2.35 |
| 104 | 2.10 | 6AL5 | 1.55 | 6F6GT | 2.00 | 7A6 | 2.15 | 12K8 | 3.20 |
| IUS | 1.85 | 6AL7GT | 4.25 | 6F7 | 3.90 | 7A7 | 2.20 | 12 KBGT | 2.95 |
| IV | 2.60 | 6AM4 | 4.45 | 6F8G | 3.90 | 7A8 | 2.10 | 12L6GT | 1.90 |
| IV2 | 1.55 | 6AM8 | 2.75 | 6G6G | 2.90 | 7AD7 | 4.70 | 12Q7GT | 2.10 |
| IVs | 3.70 | 6AN8 | 2.85 | 6H6 | 1.85 | 7AF7 | 2.40 | I2SA7 | 2.15 |
| 1×2A | 2.45 | 6AQ5 | 1.80 | 6H6GT | 2.15 | 7AG7 | 2.55 | 12SC7 | 2.50 |
| 1X28 | 2.45 | 6AQ6 | 1.70 | 6 J 5 | 1.75 | 7AU7 | 2.25 | 12SF5 | 1.95 |
| 2 A 3 | 4.40 | 6AQ7GT | 3.05 | 6J5GT | 1.80 | 7B4 | 2.00 | 12SF7 | 2.90 |
| $2 \mathrm{A5}$ | 2.35 | 6AR5 | 2.05 | 6 J 6 | 2.35 | 785 | 1.90 | 12SG7 | 2.35 |
| 2 A 6 | 2.85 | 6AR8 | 3.55 | 6.77 | 2.45 | 7B6 | 2.05 | 12SH7 | 2.90 |
| 2AF4A | 3.50 | 6AS5 | 2.00 | 6J7GT | 2.50 | 787 | 2.05 | 12557 | 2.00 |
| 287 | 3.55 | 6AT6 | 1.50 | 6J8G | 3.85 | 788 | 2.30 | 12SK7 | 2.00 |
| 2 V 2 | 4.65 | 6AU4GT | 2.75 | 6K6GT | 1.65 | 7C5 | 2.15 | 12SL7GT | 2.65 |
| $3{ }^{3} 2$ | 2.90 | 6AUSGT | 3.25 | 6K7 | 2.30 | 7C6 | 1.90 | 12SN7GTA | 2.15 |
| 3 A 3 | 2.90 | 6AU6 | 1.70 | 6K7G | 2.40 | 7C7 | 2.15 | 12SQ7 | 1.80 |
| $3{ }^{3} 4$ | 2.50 | 6AU8 | 2.90 | 6K7GT | 2.35 | 7E6 | 3.00 | 12SR7 | 2.00 |
| 3A8GT | 5.00 | 6AVSGA | 3.30 | 6K8 | 3.10 | 7F7 | 2.55 | 12V8GT | 1.85 |
| 3AL5 | 1.60 | 6AVS | 1.50 | 6 L 6 | 4.35 | 7F8 | 3.45 | I2WSGT | 2.30 |

[^1]
## G-E RECEIVING TUBES - continued

| Type | List Price | Type | List Price | Type | List Price | Type | List Price | Type | List Price | Type | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $12 \times 4$ | \$1.40 | 1978 | \$3.15 | 30 | \$2.35 | 38 | \$2.35 | 50Y6GT | \$2.15 | 117L7/M7GT | \$6.95 |
| 1273 | 2.70 | 19AU4GT | 2.75 | 32 | 3.85 | 39/44 | 2.85 | 50Y7GT | 2.10 | 117N7GT | 4.80 |
| 14 A 7 | 2.25 | 24A | 2.75 | 32L7GT | 3.35 | 41 | 2.05 | 56 | 1.90 | 117P7GT | 4.80 |
| 14AF7/XXD | 2.45 | 25AV5GT | 3.35 | 33 | 3.50 | 42 | 1.95 | 57 | 2.15 | 11723 | 1.65 2.95 |
| 1486 | 2.25 | 25AX4GT | 2.55 | 34 | 3.65 | 43 | 2.10 | 58 | 2.15 | 1172661 | 2.95 |
| 14 C 5 | 3.00 | 25BK5 | 2.60 | 35/51 | 2.40 | 45 | 2.25 | 70L7GT | 6.95 | SELENIUM | RECTIFIERS |
| 14 C 7 | 2.45 | 258P6GA | 3.65 | 35A5 | 2.25 | 46 | 3.05 | 714 | 2.55 |  |  |
| $14 \mathrm{E7}$ | 3.35 | 25CAS | 2.20 | 35B5 | 2.10 | 47 | 3.05 | 75 | 2.00 | 6RS5GHIA | \$1.60 |
| 14 F 7 | 2.55 | 25CD6G8 | 4.70 | 35C5 | 1.90 | 49 | 2.85 | 76 | 1.70 | 6RS5GH2 | 1.60 |
| 14F8 | 3.45 | 25L6GT | 1.90 | 35L6GT | 1.90 | 50A5 | 2.25 | 77 | 2.20 | SPECIA | TYPES |
| 14H7 | 2.45 | 25W4GT | 2.05 | 35W4 | 1.25 | 5085 | 1.90 | 78 | 2.20 |  |  |
| 14.57 | 3.65 | 25W6GT | 2.40 | ${ }^{35 Y 4}$ | 1.80 | 50C5 | 1.90 | 80 | 1.55 | 6AS7G | \$6.55 |
| 1497 | 2.60 | 2575 | 1.80 1.85 | 3573 | 1.80 | 50L6GT | 1.90 | 82 | 2.85 | 7F8/TV | 4.00 |
| $14 \mathrm{R7}$ | 3.50 | 25Z6GT | 1.85 2.30 | 35Z5GT | 1.25 | 50X6 | 2.25 | 83 | 2.70 | 12A6 | 2.30 |
| 198G6G | 6.05 | 26 | 2.30 1.80 | 37 | 1.85 | 50Y6G | 1.80 | 84/624 | 1.80 | 28 D 7 | 3.60 |

## GERMANIUM PRODUCTS




[^2]

# RCA ELECTRON tubes REPLACEMENT DIRECTORY <br> for INDUSTRY and COMMUNICATIONS 

## Direcł Replacement Types

RCA types shown below are direct replacements under all circumstances for corresponding types to be re－ placed．Tube types covered include：Vacuum Power

Tubes，Rectifier Tubes，Thyratrons，Ignitrons，Voltage Regulators，Phototubes，Cathode－Ray Tubes，and Special Types．

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline Type to be Replaced \& Replace by RCA Type \& Type to be Replaced \& Replace by RCA Type \& Type to be Replaced \& Replace by RCA Type \& Type to be Replaced \& Replace by RCA Type \\
\hline \& OA3 \& \(\mathrm{FG}-104\) \& 5.51 \& W＇T－261 \& \(6 \mathrm{H6}\) \& UE－905 \& \\
\hline OC3／VR105 \& OC3 \& VR105－30 \& \(\mathrm{OC}^{\text {a }}\) \& W＇E－261 \& 835 \& 905 \& 905－A \\
\hline OD3／－R150 \& （）D3 \& H1F120 \& 211 \& W＇T－262 \& 866－A \& \(906-11\) \& \[
1-A
\] \\
\hline CE－1（ C －D） \& 868， 918 \& VR150－30 \& （））3 \& W＂I＇－263 \& \({ }_{67}^{674}\) \& 908 \& 914－A \\
\hline 11＇32 \& 927 \& W＇T－210－（0001 \& 2 D 21 \& W＇T－269 \& OC3 \& \& 914－ \\
\hline 2AI＇1 \& 2Al＇1－A \& WT－210－0003 \& 884 \& W＇T－270 \& 80 \& \[
931
\] \& 931－A \\
\hline 2134 \& 885 \& WTT－210－0004 \& 2050 \& W＇T．270． \& 523 \& CE－949 \& 849 \\
\hline 2． \(2 / 879\) \& \(2 \mathrm{X} 2-\mathrm{A}\) \& W゙T－210－1006 \& 6116 \& FG－271 \& 5551 \& UE－966A \& 866.4 \\
\hline \(3 \mathrm{Al1}\) \& 3 AlP
\(31-\mathrm{A}\)
P1－A \& WT－210－0008
WT－210－0109 \& 8661
\(84 / 6 / 4\) \& W T－272 \({ }^{\text {W }}\)－ \& 5R4．GY \& UE－967 \& 5557 \\
\hline 3131 \& \(313 P 1-A\) \& W－210－0，\({ }^{\text {a }}\) \& \& \& \& LiE．972A \& 872－A \\
\hline 41）21 \& 4－125A／4D21 \& WT－210－0011 \& （）
80 \& \begin{tabular}{l}
WTT－294 \\
WF．295A
\end{tabular} \& 0D3 203 － \& CE．975 \& 575－A \\
\hline 4－250A \& 4－250N／5D22 \& W＇T－210－0012
W＇T－210－0013 \& 80
\(5 \%\)

5 \& $$
\begin{aligned}
& \text { WF-295A } \\
& \text { W'T-301 }
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& 2013-N \\
& 83
\end{aligned}
$$
\] \& 1642 \& 2C21／1642 <br>

\hline 513 P 1 \& $513 P 1-A$
$5 C P 1-A$ \& W＇T－210－0013
W＇T－210－0015 \& 573
555 \& WE－301 \& 203－A \& 1802－I＇1 \& $5 \mathrm{BP1}$－ <br>
\hline $5 C 1$
5 Cl \& $5 \mathrm{CP1}-\Lambda$
5 CP
－ \& WT－210－0015
WT－210－0018 \& （0） 53 \& WE－304］ \& 8.34 \& 1803－14 \& 12AP4 <br>
\hline 5D22 \& 4．250A／5D22 \& W＇T－210－0019 \& 8.3 \& F－317 \& 207 \& 1804－I＇4 \& 9AP4 <br>
\hline 5 FP 7 \& 5FP7－A \& WT－210－0021 \& 6.5 \& WT－308 \& 6－5．CTT \& 1811－P1 \& 7CP1 <br>
\hline 511P1－A \& 513P1－At \& W＇T－210－0025 \& 117\％6－GT \& CE， 319 \& 5557 \& 1850 \& 1850－ － <br>
\hline 71317 \& ${ }_{5556} 1317$ \& WT－210－0027 \& $572 . \mathrm{A}$
$30 . \mathrm{GT}$ \& C¢E－311 \& 211 \& 2051 \& 2050 <br>
\hline PJ－8 \& 5556 \& WT－210－1\％128 \& ？ Q －．GT \& （1E， 311 \& 211 \& \& <br>

\hline G9 \& 868 \& W＇T－210－0029 \& 615 \& じE－311C \& 835 \& $$
\begin{aligned}
& 2525 \mathrm{~A} \\
& 5728 /: ;-67
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& 513 P 1 \cdot \Lambda \\
& 1904
\end{aligned}
$$
\] <br>

\hline BW－11 \& 834 \& W＂T－210－00．31 \& 902－A \& （VE－317C \& $217-\mathrm{C}$ \& $$
8001
$$ \& ＋ $\mathrm{E} 27 / 8001$ <br>

\hline CE－11V（A－D） \& 917 \& WT－210－00137 \& 1171．7／M7－GT \& WE－322A \& 803 \& 8016 \& 1133－GT <br>
\hline RK－11 \& 1623 \& W゙T－210－003．34 \& $17{ }^{17}$ \& W10， 3751 A \& 375－A \& WTT 100 \& $6 \times 4$ <br>
\hline 12Dリ7 \& 12DP7．A \& W＂T－210－0）（4） \& 6.54 \& 375－4 \& 3／5－A \& \& <br>

\hline FG－17 \& 5557 \& W T－210－（W） $\mathrm{H}^{2}$ \& 5）3－GT \& WT－377 \& 1177．6－GT \& \[
$$
\begin{aligned}
& \text { WTTT-102 } \\
& \text { WT' - } 103
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 5 \mathrm{H} .3-\mathrm{GT} \\
& 6 \mathrm{H} 6
\end{aligned}
$$
\] <br>

\hline CE－20） \& 927 \& W．T．210－00）－4 \& 575－A \& WT－389 \& 305－CT \& WTr＂－104 \& 575－A <br>
\hline RK－20） \& 804 \& WT－210－0045 \& ${ }_{5114}$ \& WT－390 \& ${ }_{11} 129$ \& WTT－105 \& 892 <br>
\hline CE－21（A－D） \& 920 \& WT－210－10）48
W＇T－210－0152 \& 5U4－G

$2 \mathrm{~A} \mathrm{I}^{\prime} 1-\mathrm{A}$ \& $$
\begin{aligned}
& \text { FJ }-401 \\
& \text { WF:403A }
\end{aligned}
$$ \& 6．1ビ5 \& WT＇T－111 \& 5559 <br>

\hline （E－23（ $A$－D） \& 923 \& 11T－210－00）52 \& 2AI＇1－A \& （1）F．403s \& 6．\に， \& \& <br>

\hline 1］－23 \& 868 \& W T－210－0053 \& 31P1－A \& G1． 415 \& 5550 \& $$
\begin{aligned}
& 1 V^{\prime \prime} T-112 \\
& 1 v^{\prime} T-113
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& 5560 \\
& 676
\end{aligned}
$$
\] <br>

\hline CF， $2.5(\mathrm{~A}-\mathrm{D}$ ） \& 927 \& 15T－210－（M）56 \& 5559 \& GI．－451 \& 80201 \& WTT－114 \& 024 <br>
\hline RK゙－25 \& 802 \& WT－210－（1）．57 \& 5560 \& WT－616 \& 2 O 21 \& 17TT－115 \& 117N7－CT <br>
\hline RK゙－2513 \& 802 \& WTT－210．（10）58 \& 676
074 \& W $[.-630$
WL．-6.31 \& 2050
5559 \& W＇T¢－117 \& 5557 <br>
\hline CE． 28 （ $\mathrm{A}-\mathrm{D}$ ） \& 928 \& W T－ 210.0060 \& 07.4 \& W1．－6．11 \& 5559 \& \& <br>

\hline KK゙－28 \& 803 \& W＇T－210－1061 \& 117N7－GT \& K1．－634 \& $6 \%$ \& \[
$$
\begin{aligned}
& \text { W'T「-118 } \\
& \text { W'T-119 }
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& 105 \\
& 172
\end{aligned}
$$
\] <br>

\hline RK－28A \& 803 \& WT－210－00162 \& 5557 \& WIL． $651 / 656$ \& 3553 \& \[
$$
\begin{aligned}
& \text { НTT-119 } \\
& 1 . T T-122
\end{aligned}
$$

\] \& \[

6 S J 7
\] <br>

\hline （E－29（A－D） \& 929， 1 P39 \& W T－210－0069 \& 5557 \& WTL－652／657 \& 5551 \& w＇TT－123 \& 6 V 6 <br>
\hline CE－30（A－D） \& 930，11＇40 \& W T－210－0170 \& 5550 \& W＇1．－65313
W＇$-6.55 / 658$ \& 5555
555. \& WTT－124 \& $7 \mathrm{K7}$ <br>
\hline CE－30V \& 925 \& W＇T－210－01771 \& 5551 \& W＇1．－655／658 \& 555.3 \& \& <br>

\hline Rド－30 \& 800 \& W゙T－210－0072 \& 5552 \& $6 \% 2$ \& 672－A \& WTT－125 \& | 6．17－GT |
| :--- |
| 50 P5 | <br>

\hline FG－32 \& 5558 \& W゙T－210－0073 \& 5553 \& W1．－679 \& 5554 \& い「ツ－127 \& $833-\mathrm{A}$ <br>
\hline RK－33 \& 2C21／1642 \& WT－210－0074 \& 105 \& W $1 .-681 / 686$ \& ${ }_{5}^{5557}$ \& W'Tr-128 \& GK8－GT <br>
\hline CEF－34 \& 934 \& W＇T－210－1078
W＇T－210－0079 \& 172
105 \& N1，－715
W1，－735 \& 5557
868 \& и＇Т＂Г－129 \& 6J5－GT <br>
\hline RK－39 \& 807 \& W＇T－210－0039 \& 105 \& W1，－735 \& 808 \& \& <br>

\hline CE－41 \& 921 \& W＇T－210－0）081 \& 6 S 17 \& 801 \& 801－ \& WTTT-130 \& $$
\begin{aligned}
& \text { 6G6-G } \\
& \text { oC6 }
\end{aligned}
$$ <br>

\hline CE -42 \& 922 \& WT－210－00182 \& 616 6 \& 811 \& $811-A$
$812-A$ \& WTT－132 \& On4－G <br>
\hline RK゙－44 \& 837 \& WT－210－（1）83 \& 7 K 7
$6 \times 7 . \mathrm{GT}$ \& 812
829 \& $812-A$
$829-13$ \& W T＇T－135 \& 5じ4－G <br>
\hline RK－47
l－H－50 \& 814
834 \& WT－210．0084
W＇T－210－0085 \& 6N7．GT \& 829
$829 . \lambda$ \& $829-13$
829.13 \& W＇T＇T－136 \& 2AP1－A <br>
\hline （1）H－5） \& 834 \& WT－210－0085 \& \& 829．4 \& \& \& <br>

\hline R51A \& 927 \& WT－210－01086 \& 833－4 \& 8.32 \& 8．3－A \& $$
\begin{aligned}
& \text { WTT-137 } \\
& \text { w'T" } 149
\end{aligned}
$$ \& \[

$$
\begin{aligned}
& \text { 3.A1 } \\
& 172
\end{aligned}
$$
\] <br>

\hline CE．5．5 \& 924 \& W－T－210－（1087 \& 6K8－GT \& 833 \& 8，3，3－A \& \& <br>
\hline FG－57 \& 5559 \& 11＇T－210－0088 \& 655．GT \& C．833 \& 833－A \& \& <br>
\hline RK゙－57 \& 805 \& W＇T＇－210－00189 \& 6，6－G \& 857 \& 857－11 \& \& <br>
\hline RK－58 \& 838 \& WT－210－0090 \& 6 C 6 \& 862 \& $862 \cdot \mathrm{~A}$ \& \& <br>
\hline CE．59 \& 5581 \& WTT－210－（1091 \& （）A4－G \& 866 \& 8651．${ }^{1}$ \& \& <br>
\hline 1259A \& 868， 918 \& 211－D \& 211 \& 8661－ $1 / 866$ \& 8661.1 \& \& －a conulete <br>
\hline R61）A \& 920 \& FG－235A \& 5552 \& 869－A \& 869－1： \& See next paig \& a complete <br>
\hline II－ $61 / 807$ \& 807 \& FG－ 2381 \％ \& 55.55 \& 872 \& $872-A$
$873-A$ \& listing and \& ested user＂s <br>

\hline R61A \& 930 \& 242 A \& 211 \& 872－N／872 \& 873－${ }^{\text {A }}$ \& prices of mo \& $$
\text { an } 340 \mathrm{KCA}
$$ <br>

\hline CE－64 \& 5583 \& 24213 \& 211 \& F－87213 \& $$
872-\Lambda
$$ \& Non－Receiv \& Tube Types <br>

\hline F＇C－67／5728 \& 1904 \& WT－245 \& 884 \& 879 \& 2，2－ \& \& <br>
\hline VR75．30 \& OA3 \& WT－246 \& 2051 \& 889 \& 889 A \& \& <br>
\hline FC． 95 \& 5560 \& $\mathrm{FG}-258-\mathrm{A}$ \& 35.53 \& 89.3 \& 893－A \& \& <br>
\hline CE－98 \& 5582 \& JFG－25913 \& 55.54 \& 902 \& 902－A \& \& <br>
\hline \multicolumn{5}{|l|}{$\ddagger$ Excent in high－attitude service．} \& \multicolumn{3}{|l|}{For complete technical information on RCA} <br>
\hline \multicolumn{5}{|l|}{\multirow[t]{3}{*}{NOTE：For additional replacement data on RCA Tubes for Industry and Com－ muthications，refer to the 20 －page RCA Interchangeability Directory（Form 1D－1020）which lists 1600 tube type numbers used by 24 manufacturers．}} \& \multicolumn{3}{|l|}{\multirow[t]{3}{*}{Commercial Engineering，RCA Tube Depar ment，Harrison，New Jersey．}} <br>
\hline \& \& \& \& \& \& \& <br>
\hline \& \& \& \& \& \& \& <br>
\hline
\end{tabular}

rCA ELECTRON TUBES

- POWER - CATHODE-RAY - PHOTO
- INDUSTRIAL RECEIVING TYPES

| Type | Sugg'd <br> Industrial Price | Type | Sugg'd Industrial Price | Type | Sugg'd <br> Industrial Price | Type | Sugg'd Indus: trial Price | RCA <br> Type | Sugg'd Dis'r. Resale Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | POWER | CATHODE-RAY |  | PHOTO |  |  | Industrial Types (Cont.) |  |
| $11 \mathrm{2l}$ | \$ 50.00 | $710{ }^{\text {P }}$ | \$6,30.00 | 912 | \$155.00 | 6.326 | \$565.00 | 957 | \$4.97) |
| 1 P 22 | 14.75 | 81) ${ }^{1} 1$ | 1.300 .00 | 91+-A | 145.00 | 6,328 | 9.70 | 958-A | 8.9 7.5 |
| $1 P 28$ | 22.00 | $9 \mathrm{C}, 21$ | 922.00 | 917 | 4.65 | 63.42 | 69.00 | 9598 | $7{ }^{\circ}$ |
| $11{ }^{129}$ | 2.95 | $9{ }^{9} \cdot 22$ | 130000 | 918 | 3.10 | 6, 3,72 | . 144.00 | 959 | 7.9 |
| 1137 | 2.85 | 9C25 | 1080.00 | 919 | 4.65 | 6.383 | 122.00 | 991 | . 87 |
| 1 139 | 1.75 | 10 Kl 7 | 55.00 | 920 | 4.15 | 6+105/1640 | 7.15 | 1609 | 14.50 |
| $1 \mathrm{P}^{4} 40$ | 2.60 | 10SP4 | 64.50 | 921 | 2.65 | 6448 | 4200.00 | 1612 | 3,0 |
| $11{ }^{1} 1$ | 2.80 | 10 Y | 3.95 | 922 | 2.60 | 6474/1854 | 1700.00 | 161.3 | 2.45 |
| 11'42 | 11.00 | 121)P7-A | 72.50 | 923 | 2.35 | 6472 | 10.20 | 1614 | 2.45 |
| 2A11-A | 10.85 | 121) 12 B | 72.50 | 924 | 3.30 | 6524 | 15.75 | 1614 | 2.55 |
| 21311 | 11.00 | 16.1 DP7 | 55.00 | 925 | 2.85 | 6570 | 7.60 | 1619 | 2.50 |
| 213111 | 12.50 | 105 | 48.00 | 926 | 2.95 | 6571 | 57.50 | 1620 | 6.25 |
| 2C.39A | 25.00 | 172 | 6.5 .90 | 927 | 2.70 | 6655 | 55.00 | 1621 | 1.95 |
| 2E24 | 4.65 | 207 | 240.00 | 928 | 3.35 | zuch | 14.50 | 1622 | 2.9.) |
| 2L26 | 3.85 | 211 | 13.75 | 929 | 1.50 | 8003 | 14.00 | 1626 | 1.85 |
| 2 F 21 | 144.00 | 217.C | 21.17 | 930 | 2.45 | 8005 | 8.55 | 1629 | 1.85 1.40 |
| 2150 | 192.00 | 575-A | 20.00 | ${ }_{9}^{931}$ - A | 8.60 | 8008 | 8.20 | 16.31 | 1.40 3.20 |
| 2 K 26 | 56.50 | 579-B | 15.00 | 934 | 3.40 | 8012-A | 15.50 | 16,31 | 3.20 |
| 2x2-A | 2.15 | 637 | 22.00 | 9.35 | 7.80 | 8911.3-A | 10.30 | 16.32 | 3.35 |
| 3AP1-A | 19.50 | 639 | 13.00 | 1616 | 8.65 | 8120 | 24.00 | 16,33 | 1.95 |
| 31325 | 5.9) | $672 \cdot \mathrm{~A}$ | 35.00 | 1623 | 4.05 | 8025-A | 12.35 | 16.34 | 1.55 |
| 31128 | 7.15 | 673 | 20.00 | 1624 | 4.00 |  |  | 1635 | 2.00 |
| ${ }_{3} \mathbf{3} \mathrm{C} 231-\mathrm{A}$ | 16.50 | 676 | 35.00 | 1625 1699 | 2.65 |  |  | 1654 | 5.9 |
| 3 C 33 | 21.25 | 800 | 11.50 | $1850-\mathrm{A}$ | 565 | INDUSTRIAL |  | 1945 |  |
| 3 C 45 | - | $801-\mathrm{A}$ | 5.60 | 1850-A (See 6474) | - | RECEIVING |  | 2050 | 35.00 1.85 |
| 3 D 22 | 16.40 | 802 | 5.15 | 1914 | 0 | TYPES |  | 5618 | 4.12 |
| 3 E 22 | 8.30 | 803 | 24.30 | $19+6$ | 10.90 |  |  | 56.51 | 2.24 |
| 3129 | 20.25 | $8(1)$ | 17.50 | 1947 | 13.15 |  |  | 56.54 | 2.24 3.50 |
| 3F17-A | 23.00 | 805 | 1.3 .50 | 1949 | 11.30 |  | Sugg'd | sost | 3.50 |
| 3 JPl | 20.50 | 806 | 34.25 | 1950 | 7.80 | RCA Type | Distr. | 5675 | 13.55 |
| 3117 | 23.50 | 807 | 2.50 | 2020 | 88.00 |  | Resale | 5693 | 9.35 |
| 3 KPl | 16.70 | 808 | 12.85 | 5527 | 150.00 |  | Price | 5691 | 8.45 |
| 3 Klll | 18.60 | 809 | 4.20 | 5550 | 45.00 | OA2 | \$ 1.26 | 56,92 | 8.15 |
| $3 \mathrm{MJ1}$ | 22.50 | 810 | 16.25 | 5551 | 72.00 | OA2 013 |  | 569.3 | 6.40 |
| 3RP1 3R11-A | 16.45 22.80 | 811-A $812-\mathrm{A}$ | 5.00 5.00 | 5552 5553 | 110.00 2.39 .00 | $0.14 \cdot \mathrm{G}$ |  | 56,96 |  |
| 312 I'4 | 18.50 | 81.3 | 18.00 | 5554 | 171.50 | O122 <br> ()C. 3 | $1 . .39$ | 5718 | 5.95 |
| $4 \cdot 65 \mathrm{~A}$ | 20.00 | 814 | 14.25 | 5555 | 333.50 |  | $1.27$ | 5719 | 5.85 |
| 4-125: / 4 D 21 | 30.25 | 815 | 12.35 | 5556 | 13.50 | (1)3 | 1.27 | 5726 | 1.65 |
| 4-250A1/5D22 $4-1010 \mathrm{~A}$ | 41.25 1.32 .00 | 816 826 | 1.65 | 5557 | $\begin{array}{r}8.50 \\ \hline 5.50\end{array}$ | 1121 | 3.85 | 57.34 | 18.60 |
| $4 \mathrm{C} 3,3$ | 182.00 | $826 . \mathrm{R}$ | 12509 | 5559 | 15.50 | $\begin{aligned} & 2 \mathrm{~A}+-\mathrm{G} \\ & 2(-21 / 1642 \end{aligned}$ |  |  |  |
| 4E27/8001 | 24.50 | 828 | 195.07 15.00 | 5566) | 22.00 28.00 |  | $2.40$ | 5751 | 3.80 1.93 |
| 4 E 37 A/5-125B | 35.75 | 829-B | 16.25 | 5561 | 40.00 | 2C40 | 26.80 | $\begin{aligned} & 5763 \\ & 5794 \end{aligned}$ | 1.93 12.40 |
| 4.515 | 350.00 | 8.0 - B | 11.50 | 556,3-A | +7.00 | $2(4.3$ | 21.50 | 5814-A | 12.40 3.90 |
| 4]53 | 270.00 | $8.32-\mathrm{A}$ | 12.90 | ${ }_{5581}$ | 2.25 | 2 D 21 | 21.50 2.00 | $5814-\mathrm{A}$ 5823 | 3.90 1.44 |
| 4.150A | 35.40 | 8.33- 4 | 49.50 | 5582 | 4.30 | 3 , 4 | 2.00 1.20 | 58. | 1.44 |
| 4. 150 D 4 S 50 A | 48.00 121.00 | 8.34 836 | 14.50 9.00 | 5583 5584 | 3.70 4.15 | 3, ${ }^{\text {A }}$ | 1.20 1.30 | 5840 | 8.85 |
| $5 \mathrm{ABP1}$ | 29.50 | 8.3 | 5.80 | 5588 | 4.15 130.00 | 5R4.GY | 1.72 | 5876 | 13.55 |
| 5 AlPr | 35.00 | 8.38 | 13.75 | 5592 | 1229.00 |  | 235 | 5879 | 1.75 |
| 5ABP11 | 35.25 | 841 | 4.85 | 5604 | +540.00 | 6, $6.7-\mathrm{Y}$ 60.56 | 2.35 | 5893 | 19.49 |
| 5AUP24 | 93.00 | 842 | 4.05 | 5652 | 6.55 | $6 \pm .66$ 6.157 G | 3.46 | 5915 | 1.20 |
| 5AV'P4 | 47.50 | 84.5 | 13.75 | 5653 | 1.15 | 6iS7 6 F 4 | 4.45 | 5963 | 1,40 |
| $5 A \% \mathrm{P}$ | 81.50 | 846 | 250.00 | 5671 | 1250.00 | $6 F 4$ 614 | 7.00 | 5964 | 1.56 |
| 5RP1-A | 23.80 | 849 | 1.38.09 | ${ }_{5738}^{571.3}$ /FG-67/1904 | 176.00 | 6) 4 | 6.22 | 5965 | 2.55 |
| (C1) 17 | 27.00 .31 .40 | 851 $857-\mathrm{B}$ | 3.30 .00 318 | 5728/FG-67/1904 5762/7C24 | 26.00 195.00 | $6 \mathrm{~L}, 4$ | 6.80 | 6012 | 5.95 |
| (C111-A | \$1.40 | 860 | $\begin{array}{r}218.50 \\ \hline 34.50\end{array}$ | 5770 | 995.00 | 6S. $17 . \mathrm{Y}$ | 1.35 | 6126 | 2.95 |
| (C112 | . 31.40 | 861 | 178.25 | 5771 | 54.3.00 | 12.16 12.197 | 1.64 3.23 | 6,073 | 3.41 |
| 5FP4-A | +1.75 | 862-d | 1.322 .00 | 5786 5819 | 887.50 | $13 \mathrm{I} 8 \cdot \mathrm{GT}$ | 3.23 2.35 | 6074 | 3.85 |
| FFip-A | 27.50 39 | 86.5 | 11.50 | 5819 5820 | 55.00 120000 | 128.GT | 2.35 | 6080 | 3.85 6.09 |
| 5UP1 | 29.50 17.50 | $866-\mathrm{A}$ 868 | 2.45 2.85 | 5822 | 1250.00 130.00 | 12SW7 | 1.45 | 6082 | 5.30 |
| T1י\% | 25.40 | 869-B | 1.38.00 | 5825 | 13.00 | 12SY7 | 1.75 1.60 | 6101 | 7.25 |
| SUP11 | 25.40 | 872- ${ }^{\text {A }}$ | 18.020 8.20 | 5890 | 44.09 | $26.16$ | 1.60 3.20 |  |  |
| 5W Pl1 | 87.00 10200 | 878 | 12.75 | 5894 | 24.75 | 26, 66 $26.17-G T$ | 3.20 6.75 | 6173 6197 | 12.10 2.55 |
| \%P16 | 102.00 | 880 | 510.00 | 5946 | 115.00 | 26, 7 -GT | 6.75 | 6211 | 2.55 2.85 |
| 1 IP 7 - | 40.00 | 889R.A | 210.00 | 61.013C45 | 17.80 | 26 Cb 2606 | 2.25 | 6263 | 20.6 |
| $\mathrm{C24}^{4}$ | 40.00 | 891 | 295.00 237.00 | 6145 6159 | 4.90 4.90 | 26126 $502-\mathrm{A}$ | 3.00 185 | 6264 | 20.09 |
| $7 \mathrm{CP1}$ | 30.75 | 891 - R | 285.00 | 6159 6161 | 4.90 115.00 | $502-\mathrm{A}$ 864 | 1.85 5.00 |  |  |
| CP4 | 40.00 | 892 | 337.00 | ${ }_{61} 616$ | 15.00 915.00 | 864 874 | 5.00 | 6417 | 1.93 |
| M17 | 38.00 | 892-R | 385.00 | 6181 | 885.00 | 874 | . 1.10 | $9 \times 1$ | 3.95 |
| $\mathrm{MP14}^{\text {d }}$ | 40.00 | 893.A | (164.00 |  | 315.00 | 884 | 1.85 | 9002 | 2.85 |
| NP4 | 600.00 | 893. A-R | 1212.00 | 6198 | 315.00 50.00 | 885 | 2.00 | 9003 | 3.80 |
| O1'4 | . 39.50 | 898.A | 1.322 .00 | 6217 | 50.00 70.00 | 954 | 6.95 | 9004 | 3.35 |
| TP4 | 54.00 | $902-1$ | 12.50 | 6293 | 70.00 5.65 | 955 | 4.90 | 9005 | 4.05 |
| P1 | 25.00 | 908- $\boldsymbol{A}$ | 24.40 | 6.323 | 7.95 | 956 | 7.20 | 9006 | 1.90 |

[^3]- ENTERTAINMENT RECEIVING TYPES
- SEMICONDUCTOR DEVICES

MAY 1, 1955


[^4]DEALER PRICE SCHEDULE
MARCH 1， 1955

| RCA <br> Type | Suggested List Price | Suggested Distributor Resale Price | DESCRIPTION |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Shape | Envelope | Faceplate | Focus | Deflection | $\begin{gathered} \text { Nom. Def. } \\ \text { Angle } \end{gathered}$ |
|  |  |  |  |  |  |  |  |  |
| ジリ＇ | $\$ 35.50$ | －14．15 | K． 127 | Gla， | Clear | Electrostatic | Electrustatic | None |
| －5754 | 78． 25 | 58， 6. |  | Glans | Clear | Electrostatic | Magnetic | 50 |
| 7111＇4 | 39.75 | － | R．mard | Elam | Clear | Electrostatic | Magnetic | 50 |
| 7．11＇4 | 27.75 | 20.8. | R．unt ${ }^{\text {a }}$ | Gilats | Clear | Electrostatic | Electrostatic | None |
| 1013124．A | 19.25 | 14.15 | Riund | Glan | Filtergliss | Magnetic | Magnetic | 52 |
| －10FPras | 2.5 .40 | 18．1： | Remed | Gla－s | Filterglas： | Magnetic | Magnetic | 5 |
| －12にけ4－A | 29.75 | －1．35 | Round | Glaw | Filterglass | Magnetic | Magnetic | 54 |
| 121．14－A | 24.25 | 17．35 | K．．．17］ | Glats | Filterglass | Magnetic | Magnetic | 57 |
| $14 \mathrm{Er}^{2}+1+\mathrm{Cl}^{2} 4$ | 26.75 | 9．35 | R．çangutar | Gla－ | Filterglass | Magnetic | Magnetic | 70 |
| 141134 | 27.75 | 31.65 |  | Glass | Filterglass | Electrostatic＊ | Magnetic | 70 |
| 16．1 $\mathrm{P}^{\text {d }}$－ A | 44.55 | －3，50 | Kınms | Metal | Filterglass | Magnetic | Magnetic | 53 |
| 161）${ }^{\text {d }}$－A | 44.75 | （3．5） |  | Glaws | Filtergiass | Magnetic | Magnetic | 60 |
|  | 44.75 | 23．50 | Rombd | Metal | Frosted Filterglass | Magnetic | Magnetic | 70 |
| 161．1＇4－A | 41.50 | ．31．0） | Kumat | Glass | Filterglass | Magnetic | Magnetic | 52 |
| 16RI＇4／16KP4 | 32.60 | 24.00 | Rectangilar | Glass | Filterglass | Magnetic | Magnetic | 70 |
| 16 TP 4 | 32.00 | 24.10 | Rectanghlar | Glass | Filterglass | Magnetic | Magnetic | 70 |
| $16 \mathrm{WP}+\mathrm{A}$ | ＋1．50 | 31．40 | R1und | Glass | Filterglass | Maguetic | Magnetic | 70 |
| 17AVP4 | 34.00 | 25.50 | Rectengulat | Glass | Filterglass | Electrostatic＊ | Magnetic | 9 |
| 1731＇4－A | ．32．109 | 24．0） | Rectangular | Glass | Fitterglass | Magnetic | Magnetic | 70 |
| －171319－13 | 37.50 | 23.00 | Rectangular | Glass | Filterglass | Maguetic | Magnetic | 70 |
| $17 \mathrm{CrP}_{4}$ | 40．19） | 310．0］ | KıCtarigular | Metal | Frosted Filterglass | Magnetic | Magnetic | 70 |
| 1／GP4 | 44.75 | $\bigcirc$ | Rucrangular | Metal | $\begin{aligned} & \text { Frosted } \\ & \text { Filterglass } \end{aligned}$ | Electrostatic | Magnetic | 70 |
| 17HP＇4／17RP4 | 34．00 | 25．5） | Ruetangular | Culass | Filterglass | Electrostatic＊ | Magnetic | 70 |
| $17 \mathrm{JP4}$ | 34.10 | 25．59 | Ructangular | Glass | Filterglass | Magnetic | Magnetic | 70 |
| 17LP ${ }^{17} / 17 \mathrm{VP}^{4} 4$ | 34.00 | 25.50 | Rectangilar | Glass | Filterglass | Electrostatic＊ | Magnetic | 70 |
| 17Qr4 | 32.00 | －4．00 | Rectangular | Glass | Filterglass | Magnetic | Magnetic | 70 |
| 17TI＇4 | 40.00 | ．3i）${ }^{\text {a }}$ | Rectargular | Metal | Frosted Filterglass | Electrostatic＊ | Magnetic | 70 |
| 19AP4－B | 48．75 | 36， 50 | R．）unc | Metal | Frosted Filterglass | Magnetic | Magnetic | 66 |
| $20 \mathrm{Cl}_{4}$ | 39.00 | 29.29 | Fectangulat | Glass | Filterglass | Magnetic | Magnetic | 70 |
| 20．1194 | 57.75 | ＋3．25 | R心ctangular | Glass | Filterglass | Electrostatic＊ | Magnetic | 70 |
| －21ALP4．A | ＋6，00 | 3， 4.54 | Ructangular | Glass | Filterglass | Electrostatic＊ | Magnetic | 90 |
| －21AMP4－A | 44.25 | －3．24 | Rectangular | Glass | Filterglass | Magnetic | Magnetic | 90 |
| 21AP＇4 | 47．10 | （35．2） | Wietangular | Metal | Frosted Filterglass | Magnetic | Magnetic | 70 |
| －21．1TP4 | ＋5，100 | 34.55 | Rectanxular | Glass | Filterglass | Electrostatic＊ | Magnetic | 90 |
| －21AUP4－A／21AVP4－A | 46.00 | 34.50 | Ractangnlar | Glass | Filterglass | Electrostatic＊ | Magnetic | 72 |
| －21AWP4 | 44.25 | 3 3.20 | Rectangular | Glass | Filterglass | Magnetic | Magnetic | 72 |
| 21EP4－A | 39.00 | 39.30 | Fectangular | Glass | Filterglass | Magnetic | Magnetic | 70 |
| － $21 \mathrm{EP} 4-\mathrm{B}$ | 44.25 | 33．27 | Rrectangular | Glass | Filterglass | Magnetic | Magnetic | 70 |
| 21 FP 4 －A | 40.75 | ．30．56 | R－ctamatular | Glass | Filterglass | Electrostatic＊ | Magnetic | 70 |
| $21.11{ }^{\text {P4 }}$ | 48.75 | 3.3 .50 | Rectangular | Metal | Frosted Filterglass | Electrostatic＊ | Magnetic | 70 |
| 219\％4 | 40.75 | 31.50 | Ructamgular | Crlass | Filterglass | Electrostatic＊＊ | Magnetic | 70 |
| － $211 \mathrm{Pr} 4-\mathrm{A}$ | 46.00 | $\begin{array}{r}34.50 \\ \hline 20\end{array}$ | Rectangular | Glass | Filterglass | Electrostatic＊ | Magnetic | 70 |
| $217 \mathrm{P} 4-\mathrm{A}$ $-21 Z \mathrm{P} 4-\mathrm{B}$ | 39.00 | 29．21） | Rectangular | Glass | Filterglass | Magnetic | Magnetic | 70 |
| － 217 P P－${ }^{2}$ | 44.25 | 33．29 | Rictangular | Glass | Filterglass | Magnetic | Magnetic | 70 |
|  | 65.60 | 59.75 5.35 | Renctamgular | Glass | Filterglass | Magnctic | Magnetic | 9 |
| $\begin{aligned} & \text { 24DI'4-A } \\ & 24 \mathrm{Y}^{\prime} 4 \end{aligned}$ | 71.10 | 53.49 | Rectangular | Glass | Filterglass | Electrostatic | Magnetic | 90 |
| －${ }^{247124} 4$ | $\begin{array}{r}71.10 \\ 152 \\ \hline\end{array}$ | 53．47） | Roctangular | Glass | Filterglass | Electrostatic | Magnetic | 90 |
| Color Picture Tubes | 152.50 |  | Rectangul | Metal | Frosted Filterglass | Magnetic | Magnetic | 90 |
| －15GP22 | 265.00 | 235.09 | R．amed | Glass | Clear ${ }^{\text {4 }}$ | Electrostatic | Magnetic | 45 |
| － 21.1 .0 P 22 | 175.00 | 145.90 | Round | Metal | Filterglass | Electrostatic | Magnetic | 70 |

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－Aluminized
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## RADIO and TV RECEIVING TUBES

SUGGESTED LIST PRICES Effective Oct. 11, 1954

| Type Price | Type Price | Type Price | Type Price | Type Price | Type Price | Type Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OY4 …- $\quad \$ 5.00$ | 3A8GT | 6AU4GT - $\$ 2.70$ | 6K6GT - $\$ 1.65$ |  | 12J5GT $\quad \$ 1.80$ | $26 \quad \square \quad \$ 2.25$ |
| O24 _ _ 1.40 | 3AL5 -- 1.50 | 6AU5GT - 3.25 | $6 \mathrm{K7}$ - 2.10 | 7 7 $7 \times \quad 2.20$ | 12J7GT - 2.55 | 27 - $\quad 1.80$ |
| OZ4G - 1.65 | $3 \mathrm{AU6}$ - 1.65 | 6 AU6 -- 1.65 | 6K7G ---.... 2.40 |  | 12K7GT ---.-. 2.35 | $30 \times 2.30$ |
| $1 \mathrm{~A}^{3} \mathrm{H}-2.50$ | 387/1291 $\quad 5.70$ | 6AV5GT | 6K7GT _- 2.35 | 7AD7 - - 4.60 | 12 K 8 - 3.15 | 31 - 3.8 |
| $1 \mathrm{~A} 4 \mathrm{P}-4.05$ | $38 \mathrm{C} 5 \ldots-1.95$ | 6AV6 - 1.45 | $6 \mathrm{K8} \ldots$ | 7AF7 - 2.40 | 12K8GT $\quad 2.90$ | 32 - |
| IA5GT _- 2.10 | 30N6 - 2.70 | 6AW8 - 3.10 |  | 7AG7 - - - 2.50 | 12L6GT - 1.85 | 32L7GT $\ldots 3.35$ |
| $1 \mathrm{~A} 6 \mathrm{CH}-3.60$ | $3{ }^{3} 6 / \mathrm{XXB}$ - 3.75 | 6AX4GT-2.35 | 6K8GT - 2.75 | 7AH7 $\cdots 2.50$ | $12 \mathrm{P7GT}$--.. 2.10 | $33-\ldots 3.50$ |
| IA7GT - 2.45 | 3C86 - 1.95 | 6AX5GT - 1.85 | 6L5G --- 2.85 | 7AU7 $\quad 2.20$ | 1258 GT | $34-\quad 3.60$ |
| IAG4 - 2.85 | 3CF6 - 2.20 | 684G - - 3.35 | 6L6 ------- 4.35 | $784 \times 2.00$ | 125A7 - 2.10 | 35/51 _-- 2.40 |
| IAH4 -- 2.85 | 3D6/1299 - ${ }^{-1.80}$ | $685 \cdots 3.50$ | 6L6G - 3.10 | 785 - 1.85 | 125A7GT - 2.10 | 35A5 - 2.25 |
| 1AJ5 - -m- 2.90 | 3LF4 | 6B6G -- 2.45 | 6L6GA .-..... 3.35 | 786 | 125C7 --. 2.50 | 35E5 - 2.10 |
| $1 \mathrm{AK}^{\text {a }}$ - -6.00 | 304 - 2.20 | 687 - - 3.50 | $6 \mathrm{L7}$-.........- 2.90 | $787 \times 2.00$ | 12SF5 - 1.95 | $35 \mathrm{C} 5-1.85$ |
| IAK5 - - - 6.00 | 3Q5GT $\ldots 2.80$ | 688 - - - 3.50 | 6L7G - 3.40 | 788 | I2SF5GT - 2.10 | 35L6GT __ 1.85 |
| IAX2 - 2.45 | 354 - 2.10 | $688 \mathrm{G}-3.60$ | 6N7 - - - - - 2.90 | $7 \mathrm{7C4}$ - -3.3 .6 | 12SF7 ---w-... 2.40 | $35 \mathrm{~W} 4 \ldots 1.25$ |
| 183GT/8016-2.45 | 3V4 $-\quad 2.10$ | 6BA6 --- 1.80 | 6N7GT - 2.85 | $7 \mathrm{C5} \ldots 2.15$ | $12567 \ldots 2.35$ | $35 \mathrm{Y4}$ - 1.80 |
| 184P | 4897A -3.25 | A7 | 6 P | $7 \mathrm{C6} \ldots \ldots 1.85$ | 125H7 - 2.50 | $3573 \ldots \ldots$ |
| 185/255 $\quad 3.60$ | $4827 \times 3.50$ | $6 \mathrm{BC5}$ - - - 1.95 | 6 67 -..- 2.40 | 7 - $\quad 2.15$ | $125.17 \times 2.00$ | 35Z4GT .-... 1.50 |
| IB7GT -3.50 | 5AM8 - - 2.70 | 68C7 - - 3.20 | 6¢7G --- 2.10 | $7 E 5$ - | $125 J 7 \mathrm{GT}-2.00$ | 3525GT - 1.25 |
| IC5GT - 2.60 | 5ANB -- 2.90 | 6BD4A - 14.25 | 6Q7GT - 2.10 | 7E6 - - 2.90 | $125 K 7-2.00$ | 36 |
| IC6 - $\quad 3.50$ | 5AU4 -2.90 | 6BD5GT - 3.60 | 6R7 | $7 E 7 \ldots 3.35$ | 125K7GT | $37-1.85$ |
| IC7G _- 3.50 | 5AU8 $\cdots$ - - 2.92 | 6BD6 ...-- 1.80 | 6R7G - | $7 F 7$ - - | T -2.65 | $38 \ldots$ |
| ID5GP | 5AV8 - 2.90 | $68 \mathrm{E} 6 \ldots \ldots$ | 6R7GT - 2.75 | 778 - 3.50 | 12SN7GT - 2.15 | 39/44 …- |
| ID7G --- 3.60 | 5AZ4 …-...... 1.55 | $68 \mathrm{F5}$ - 2.25 | 6R8 …- 3.35 | 767/1232 -- 2.90 | 12567GTA - 2.15 | $41 \times 2.00$ |
| ID8GT _-_ 4.05 | $5 \mathrm{J6}$ - - - 2.45 | $6 \mathrm{6FG}$ - 1.55 | $654 \times 1.75$ | 7H7 $\cdots 2.25$ | $12507-1.75$ | $42 \ldots \ldots$ |
| IE5GP -- 4.05 | $554 \ldots 5.00$ | 68G6G .-. 5.25 | 654A $\quad 1.75$ |  | 12597GT _-_ 1.75 | $43 \ldots$ |
| IE7GT ...- 4.05 | 5U4G-- 1.55 | $6 \mathrm{HH6}$ - | 657 |  | 125R7 - 2.00 | $45 \sim-\quad 2.25$ |
|  | 5U4GA - | 6 E | 657G - 3.50 | $7 \mathrm{77} \ldots 2.9$ | VVGGT - 1.80 | 4523 _ 1.80 |
| IFSG - 2.85 | 5U4GB -- 1.80 | $68 \mathrm{J7} \times 2.45$ | 6S8GT $\ldots 2.75$ | 7N7 | 12W6GT - 2.25 | 45Z5GT ........ 1.80 |
| IF6 - - 4.05 | 5U8 - $\quad 2.90$ | $68 \mathrm{K5}-\mathrm{\square}-2.55$ | 6SA7 --. 2.10 | $797-2.60$ | $12 \times 4 \cdots-1.35$ | 46 - 2.90 |
| IF7G _- 4.05 | 5V4G - | 68K7A - 3.35 | 6SATGT - 2.10 | 7R7 .-..------ 3.50 | $1223-2.65$ | 47 - |
| IG4GT $\quad 2.55$ | 5V6GT _-.-_ 1.85 | 68L7GT ......... 3.50 | 6587Y --- ${ }^{\text {6.-. }} 2.90$ | $757-3.50$ | $14 \mathrm{~A} 4 \times-2.75$ | 49 -- 2.85 |
| IG5G - 3.25 | 5W4GT -- 1.75 | 6BN6 - 2.65 | 65C7 - - 2.15 | 7 7 7 - | 14A5 - 3.90 | $50-5.25$ |
| IG6GT - 2.90 | $5 \times 4 \mathrm{G}$ - 2.00 | 6BO6GA - 3.50 | 6SD7GT - | 7W7 - - 3.50 | 14 A7/1287 - 2.25 | $50 \wedge 5$ - 2.25 |
| IH4G - 2.35 | $5 \mathrm{SX}^{2} \ldots 2.70$ | 6BQ6GT - 3.50 | 6SF5 - 1.85 | $7 \times 6 \ldots-\ldots$ | 14AF7/XXD ... 2.45 | $5085 \ldots 1.85$ |
| IH5GT _ 1.95 | 5Y3G | 68¢7A - | 6SF5GT | 7X7/XXFM - 2.75 | 1486 | $50 \mathrm{C} 5 \ldots-1.85$ |
| IH6G | 5Y3GT $\ldots 1.25$ | 6BX7GT $\ldots$ | 6SF7 - ${ }^{\text {ch }}$ 2.30 | $7 Y 4 \ldots . . .-\cdots \cdots \cdots \cdots$ | 1488 | 50C6G $\quad 3.30$ |
| IJ6G - 3 - 3 , | 5Y4G $\ldots 1.70$ | 3.25 | 6SG7 _-_ 2.30 | TZ4 | $14 \mathrm{C5}$ - | 50CD6G - 6.60 |
| IJ6GT | 5Y4GT _-... 1.55 | 8Y6 --- 1.85 | 6SH7 - 2.35 | 10Y _-...-. 3.90 | $14 \mathrm{C7}$ - 2.45 | 50L6GT - 1.85 |
| $1 \mathrm{L4}$ - - 2.15 | 523 - 2.00 | BZ6 - 2.25 | 65H7GT - 2.50 | 12 AC - 2.90 | $14 E 6$ - | $50 \times 6 \ldots$ |
| 1L6 - - 2.85 | $524 \times 3.30$ | 6827 - 3.50 | $65 \mathrm{J7}$ - 1.80 | 12A6GT - 2.90 | 1457 - | 50Y6GT ___ 2.15 |
| ILA4 | 6A3 - 3.90 | 6C4 | $\underline{65 J 76 T} \ldots 1.65$ | 12 A 7 -------3.90 | F7 - 2.50 | 50Y7GT -- 2.10 |
| ILA6 - - 2.75 | ${ }_{6 A 6}$ | $6 \mathrm{C} 5 \cdots \cdots \quad 1.95$ | $65 \mathrm{K7}$ - 1.60 | 2ABGT - 2.75 | $14 \mathrm{F8}$ - ${ }^{\text {d }}$ - 3.50 | $53 \ldots 3.60$ |
| ILB4 -- 2.90 | 6 67 - 2.75 | CC5GT -- 2.10 | 6SK7GT --... 1.80 | 12AH7GT -3.05 | $14 \mathrm{H7}-2.45$ | 55 _-_ 2.30 |
| ILC5 - - 2.75 | 6 68 -2.70 | 6C6 -- 2.50 | 6SL7GT -- 2.40 | 12AL5 - 1.60 | 14.47 | $56 \ldots 1.90$ |
| ILC6 - 2.75 | 6ABG - 2.75 | 6CEG | 6SN7GT - 2.15 | 12A55 - 2.15 | 14N7 | 57 - 2.10 |
| ILD5 - 2.75 | 6ABGT - 2.75 | . 95 | 6SN7GTA $-\quad 2.15$ | 12AT6 - -1.45 | 2.60 | 58 - |
| ILE3 - 275 | 6 AE4 - 1.80 | D6G - 4.80 | 6SN7GT8 - 2.30 | 12 AT7 - 2.60 | $14 \mathrm{R7}$-- 3.50 | $59-3.80$ |
| ILG5 - 2.75 | 6A85/6N5 - 3.15 | CF6 - - 2.15 | 65 ¢7 -- 1.55 | $12 \mathrm{AU6}-1.65$ | $1457-3.50$ | 70L7GT .-. $\quad .6 .60$ |
| ILH4 - - 2.75 | 6A87/1853-3.60 | 6CL6 - 3.10 | 6SO7GT - 1.55 | $12 \mathrm{AU7}$-- 2.20 | $14 W 7$ | 71 A - 2.50 |
| ILN5 - 2.75 | 6AC5GT - 3.10 | 6CM6 $\quad 2.25$ | 6SR7 $\ldots \ldots \ldots$ | 12AV6 - 1.45 | $14 \times 7 \times 2.75$ | $75 \ldots 2.00$ |
| IN5GT -_-_ 2.40 | 6AC7/1852 - 3.10 | 6CS6 .-.....-n 1.85 | $6557 \times 2.40$ | . 90 | $14 Y 4$--- 2.45 | $76 \ldots-1.70$ |
| IP5GT - 2.90 | 6AD7G - 3.90 | ${ }^{6} \mathrm{CU6}$ - 3.80 | $6557-2.80$ | 12AW6 - 2.40 | 19 - 3.50 | 77 - 2.20 |
| IQ5GT - 3.05 | 6AF4 - 3.50 | 6D6 - 2.50 | $65 \mathrm{V7}-3.60$ | 12AX4GT - 2.40 | 198G6G - $\quad 6.00$ | 78 - 2.25 |
| IR4/1294 - 2.85 | 6AF6G | 6D8G $\quad 3.50$ | $6 \mathrm{~T} 4 \times-\quad 3.50$ | 12AX4GTA - 2.55 | $19 \mathrm{C8}$ - | 79 -_- 2.90 |
| IR5 -- 2.25 | 6AG5 .-..- 2.00 | 6DEG - 2.10 | 6T7G/6Q6G ... 3.50 | 12AX7 [- 2.3 .3 | 1956 -_- 2.45 | 80 - |
| 154 _-----.-2.50 | 6AG7 - 3.30 | 6DG6GT .-..... 1.85 | 6T8 - $\quad 3.05$ | 12AY7 -- 6.00 | $1978 \quad 3.10$ | 81 -m-a-m- 4.80 |
| $155 \ldots 1.85$ | 6AH4GT -2.60 | 6E5 - 2.35 | 6U5/6G5 | 12AZ7 -- 2.55 | 19X8 --- 3.10 | $82 \times \ldots$ |
| $174 \ldots \ldots$ | 6AH6 - 3.90 | 6F5 - 2.20 | 6U6GT --..... 2.45 | 1284 --- 2.20 | $22 \ldots 3.35$ | $83 \times 2.65$ |
| IT5GT -- 2.80 | ${ }^{6}$ AH6V | 6F5GT | 6U7G - 2.40 | $128 A 6$---m 1.80 |  | $83 \mathrm{Y}-\quad 3.40$ |
| IU4 .-...-.- 2.05 | 6AJ4 - | 6F6 - .-n.......- 2.45 | $6 \mathrm{U8}$ …- 2.85 | $128 \mathrm{~A} 7 \times 2.60$ | 25A6 | 84/6Z4 …... 1.80 |
| IU5 ------- 1.80 | 6AK5 …- 4.05 | 6FGG $\quad 2.00$ | $6 \mathrm{CJ3A}-\quad 3.90$ | $128 \mathrm{D6} \times 1.80$ | 25A6G -- 2.85 | 85 - - $\quad 2.30$ |
| IV - $\quad 2.55$ | 6AK6 - 2.35 | 6F6GT $\ldots 2.00$ | 6V6 - -m.....-- 3.30 | 128E6 $\quad 1.85$ | 25A7GT - 6.60 | $89 Y$ - .-.... 2.30 |
| IV2 $\ldots$ - 1.50 | 6AL5 - 1.50 | 6F7 _- 3.90 | 6V6GT - 1.80 | $12856-1.55$ | 25AV5GT | V99 _- 3.35 |
| IV6 - 3.65 | 6AL7GT -- 3.90 | 6F8G - - 3.90 | $6 \mathrm{V8} \quad 3.75$ | $12 \mathrm{BH7} \cdots 2.50$ | $25 A \times 4 \mathrm{GT}-2.75$ | X99 - $\quad 3.35$ |
| 1X2A | 6AM4 - $\quad 4.40$ | $6 \mathrm{G}-2.85$ | 6W4GT | 128H7A -...-. 2.70 | 250K5 - 2.75 | 117L/M7GT - 6.60 |
| $1 \times 2 \mathrm{~B}-\mathrm{-} 2.45$ | 6 6M8 -- 2.90 | 6H6 - 1.80 | 6W6GT _- 2.25 | $128 \mathrm{~K} 5-2.50$ | 25BQ6GT - 3.65 | II7N7GT .--- 4.80 |
| $2 \mathrm{A3}-4.05$ | ${ }^{6}$ AN4 $-\quad 4.40$ | 6H6GT - 2.10 | 6W7G -- 2.85 | 128R7 -- 2.25 | $25 \mathrm{C5} \ldots 2.05$ | 117P7GT --. 4.80 |
| 2A4G - -5.00 | 6ANB - 2.85 | ${ }^{6} \mathrm{~J} 5$ - 1.50 | $6 \times 4 \cdots \cdots$ | $128 Y 7$-- 2.50 | 25 CD 6 G - 6.60 | $117 \mathrm{Z3}-1.65$ |
| 2 A 5 - -2.30 | $6 \mathrm{AQP5}^{-\cdots-1.80}$ | $6 \mathrm{~J} 5 \mathrm{GT}-1.80$ | 6X5GT --- 1.40 | 128Y7A - 2.50 | 25CD6GA - 4.80 | 11724 GT _-2.90 |
| 2A6 | 6AQ6 - 1.65 | $6 \mathrm{J6}$ - 2.35 | 6X8 -- $\quad 2.70$ | $12 \mathrm{BZ7}$ - 2.50 | 25CU6 | IITZ6GT |
| 2 AT - | 6AQ7GT _ 3.15 |  | 6Y6G - $\quad 2.35$ | 12C8 -...-...... 3.60 | 25L6GT - 1.85 | CK705 … $\quad 1.70$ |
|  | 6AR5 - 2.00 | 6J7G-- 2.50 | 677 C - - 4.05 | 12CA5 --- 2.00 | 25W4GT | CK706A $\cdots$ …- .80 |
| 2E5 ........... 2.85 | 6AS5 -- $\quad 1.95$ | 6J7GT - | 6ZY5G | $12 \mathrm{CU6}-3.50$ | $25 \mathrm{Y} 5 \ldots \ldots . .3 .10$ | CK710 $\quad 1.95$ |
| $2 \mathrm{~V}^{2}-2.60$ | 6ATS - 1.45 | $6 \mathrm{~J} 8 \mathrm{G} \times 3.80$ | 7A4/XXL - 2.00 | 12F5GT $\quad 1.00$ | $2525-1.80$ | CK731 - 1.90 |
| $3 \mathrm{~A} 3-2.90$ | 6АT8 - 2.70 | 6K5GT $\quad 2.65$ | 7A1/XXL -- 2.00 | $12 \mathrm{H6}$ - 2.0 | 2526GT __ 1.80 | 5642 _- 2.65 |

Tube prices listed above are for your conrenience and do not necessarily indicate type availability.

SUGGESTED LIST PRICES - EFFECTIVE FEBRUARY 15, 1955

| COLOR TUBE TYPE | ALUMINIZED SCREEN | ENVELOPE | FACE | TYPE OF FOCUS | TYPE CF DEFLECTION | $\begin{aligned} & \text { EXTERNAL } \\ & \text { CONDUCTIVE } \\ & \text { COATING } \end{aligned}$ | $\begin{aligned} & \text { ION } \\ & \text { TRAP } \end{aligned}$ | SUGGESTED <br> LIST PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { I5GP22 } \\ & \text { 19VP22 } \end{aligned}$ | Yes Yes | Glass Glass | Color Dot Color Dot | Elect. Elect. | Mag. Mag. | $\begin{aligned} & \text { Yes } \\ & \text { Yes } \end{aligned}$ | None None | $\begin{array}{r} \$ 265.00 \\ 265.00 \end{array}$ |
| BLACK AND WHITE TUBE TYPE | ALUMINIZED SCREEN | ENVELOPE | FACE | TYPE OF FOCUS | TYPE OF DEFLECTION | $\begin{aligned} & \text { EXTERNAL } \\ & \text { CONDUCTIVE } \\ & \text { COATING } \end{aligned}$ | $\begin{aligned} & \text { ION } \\ & \text { TRAP } \end{aligned}$ | SUGGESTED LIST PRICE |
| 7.JP4 <br> 8BP4 <br> IOBP4A <br> IOFP4 <br> 10FP4A <br> $12 \mathrm{KP4A}$ | No <br> No <br> No <br> Yes <br> Yes <br> Yes | Glass Glass Glass Glass Glass Glass | Clear <br> Clear <br> Filter <br> Clear <br> Filter <br> Filter | Elect. <br> Elect. <br> Mag. <br> Mag. <br> Mag. <br> Mag. | Elect. <br> Elect. <br> Mag. <br> Mag. <br> Mag. <br> Mag. | No <br> No <br> Yes <br> Yes <br> Yes <br> Yes | None <br> None <br> Double <br> None <br> None <br> None | $\begin{array}{r} \$ .7 .75 \\ 32.00 \\ 19.25 \\ 19.25 \\ 25.40 \\ 29.75 \end{array}$ |
| $\begin{aligned} & \text { 12LP4A } \\ & * 148 P 4 \\ & \text { *14CP4 } \\ & 16 A P 4 A \\ & 16 D P 4 A \\ & 16 G P 4 \end{aligned}$ | No <br> No <br> No <br> No <br> No <br> No | Glass <br> Glass <br> Glass <br> Metal <br> Glass <br> Metal | Filter <br> Filter <br> Filter <br> Filter <br> Filter <br> Filter | Mag. <br> Mag. <br> Mag. <br> Mag. <br> Mag. <br> Mag. | Mag. Mag. Mag. Mag. Mag. Mag. | Yes <br> Yes <br> Yes <br> No | Double <br> Double <br> Single <br> Double <br> Double <br> Single | $\begin{aligned} & 24.25 \\ & 2.6 .75 \\ & 26.75 \\ & 44.75 \\ & 44.75 \\ & 44.75 \end{aligned}$ |
| $\begin{aligned} & 16 \mathrm{GP} 48 \\ & \text { * } 16 \mathrm{KP} 4 \\ & \text { } 16 \mathrm{KP} 4 \mathrm{~A} \\ & \text { \#16RP44 } \\ & \text { \#16TP4 } \\ & 16 \mathrm{ZP4} \end{aligned}$ | No <br> No <br> Yes <br> No <br> No <br> No | Metal <br> Glass <br> Glass <br> Glass <br> Glass <br> Glass | Filter <br> Filter <br> Filter <br> Filter <br> Filter <br> Filter | Mag. <br> Mag. <br> Mag. <br> Mag. <br> Mag. <br> Mag. | Mag. Mag. Mag. Mag. Mag. Mag. | Yes <br> Yes <br> Yes <br> Yes <br> Yes | Single <br> Single <br> Single <br> Double <br> Single <br> Double | $\begin{aligned} & 44.75 \\ & 32.00 \\ & 37.50 \\ & 32.00 \\ & 32.00 \\ & 34.00 \end{aligned}$ |
| *17AP4 <br> *17AVP4 <br> -17BP4A <br> *178P48 <br> *17CP4 <br> *17GP4 | No <br> No <br> Yes <br> No <br> No <br> No | Glass <br> Glass <br> Glass <br> Glass <br> Metal <br> Metal | Filter <br> Filter <br> Filter <br> Filter <br> Filter <br> Filter | Mag. Elect. Mag. Mag. Mag. Elect. | Mag. Mag. Mag. Mag. Mag. Mag. | Yes <br> Yes <br> Yes <br> Yes | Single <br> Single <br> Single <br> Single <br> Single <br> Single | $\begin{aligned} & 37.50 \\ & 34.00 \\ & 32.00 \\ & 37.50 \\ & 40.00 \\ & 44.75 \end{aligned}$ |
| $\begin{gathered} \text { *17HP4 } \\ \text { *17JP4 } \\ \text { *17LP4 } \\ \text { +17LP4A } \\ \text { +*179P4 } \\ \text { 19AP4A } \end{gathered}$ | No <br> No <br> No <br> Yes <br> No <br> No | Glass <br> Glass <br> Glass <br> Glass <br> Glass <br> Metal | Filter <br> Filter <br> Filter <br> Filter <br> Filter <br> Filter | Elect. <br> Mag. <br> Elect. <br> Elect. <br> Mag. <br> Mag. | Mag. Mag. Mag. Mag. Mag. Mag. | Yes <br> Yes <br> Yes <br> Yes <br> Yes | Single <br> Single <br> Single <br> Single <br> Single <br> Single | $\begin{aligned} & 34.00 \\ & 32.00 \\ & 34.00 \\ & 39.00 \\ & 32.00 \\ & 59.00 \end{aligned}$ |
| $\begin{aligned} & \text { 19AP4B } \\ & * 20 \mathrm{CP4} \\ & \text { *20CP4A } \\ & \text { *20DP4A } \\ & * 200 \mathrm{P} 4 \mathrm{C} \\ & * 20 \mathrm{HP} 4 \mathrm{~A} \end{aligned}$ | No <br> No <br> No <br> No <br> Yes <br> No | Metal Glass Glass Glass Glass Glass | Filter <br> Filter <br> Filter <br> Filter <br> Filter <br> Filter | Mag. <br> Mag. <br> Mag. <br> Mag. <br> Meg. <br> Elect. | Mag. Mag. Mag. Mag. Mag. Mag. | No <br> Yes <br> Yes <br> Yes <br> Yes | Single <br> Single <br> Single <br> Single <br> Single <br> Single | $\begin{aligned} & 59.00 \\ & 39.00 \\ & 39.00 \\ & 39.00 \\ & 44.25 \\ & 40.75 \end{aligned}$ |
| $\begin{aligned} & \text { *21ALP4 } \\ & \text { *21AP4 } \\ & \text { *21AUP4A } \\ & \text { *21AVP4 } \\ & \text { *21AVP4A } \\ & \text { *21AWP4 } \end{aligned}$ | No <br> No <br> Yes <br> No <br> Yes <br> Yes | Glass <br> Metal <br> Glass <br> Glass <br> Glass <br> Glass | Filter <br> Filter <br> Filter <br> Filter <br> Filter <br> Filter | Elect. <br> Mag. Elect. Elect. Elect. Mag. | Mag. Mag. Mag. Mag. Mag. Mag. | Yes <br> Yes <br> Yes <br> Yes <br> Yes | Single <br> Single <br> Single <br> Single <br> Single <br> Single | $\begin{array}{r} 40.75 \\ 47.00 \\ 46.00 \\ 59.00 \\ 46.00 \\ 44.25 \end{array}$ |
|  | No <br> Yes <br> No <br> Yes <br> No <br> No | Glass <br> Glass <br> Glass <br> Glass <br> Metal <br> Glass | Filter Filter Filter Filter Filter Filter | Mag. Elect. Elect. Mag. Elect. Elect. | Mag. Mag. Mag. Mag. Mag. Mag. | Yes <br> Yes <br> Yes <br> Yes <br> Yes | Single <br> Single <br> Single <br> Single <br> Single <br> Single | $\begin{aligned} & 39.00 \\ & 44.25 \\ & 40.75 \\ & 46.00 \\ & 59.00 \\ & 40.75 \end{aligned}$ |
| $\begin{aligned} & \text { *21YP4A } \\ & \text { *21ZP4A } \\ & \text { 2 } 21 Z P 4 B \\ & \text { *24CP4 } \\ & \text { *24CP4A } \\ & * 24 D P 4 \end{aligned}$ | Yes <br> No <br> Yes <br> No <br> Yes <br> No | Glass <br> Glass <br> Glass <br> Glass <br> Glass <br> Glass | Filter Filter Filter Filter Filter Filter | Elect. <br> Mag. <br> Mag. <br> Mag. <br> Mag. <br> Elect. | Mag. <br> Mag. <br> Mag. <br> Mag. <br> Mag. <br> Mag. | Yes <br> Yes <br> Yes <br> Yes <br> Yes <br> Yes | Single <br> Single <br> Single <br> Single <br> Single <br> Single | $\begin{aligned} & 46.00 \\ & 39.00 \\ & 44.25 \\ & 68.75 \\ & 70.00 \\ & 68.75 \end{aligned}$ |
| $\begin{aligned} & \text { *24DP4A } \\ & \text { *27EP4 } \\ & \text { *27RP4 } \end{aligned}$ | Yes <br> Yes <br> Yes | Glass Glass Glass | Filter <br> Filter <br> Filter | Elect. Mag. Mag. | Mag. Mag. Mag. | Yes <br> No <br> Yes | Single Single Single | 71.50 <br> 110.00 <br> 110.00 |

[^5]
## ELEGTRONIC TUBES

SUGGESTED RESALE PRICES Effective May 1, 1955

| TYPE | SUGG. PRICE | TYPE $\begin{gathered}\text { SUGG } \\ \text { RESALE } \\ \text { PRICE }\end{gathered}$ |  | TYPE |  | SUGG PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OA2 | \$ 1.26 | $3 \mathrm{B4}$ | \$ 2.75 | QK253 |  | \$609.00 |
| OA3/VR75 | 1.27 | RK3B24W | 11.25 | QK254 |  | 2375.00 |
| OA4G | 1.40 | RK3826 | 18.00 | QK288 |  | 513.00 |
| OB2 | 1.39 | RK3B29 | 10.55 | QK289 | ... | 384.00 |
| OB2WA | 4.75 | RK4B3I | 35.25 | QK290 |  | 384.00 |
| OB3/VR90 | 1.65 | 4C35 | 20.25 | QK291 |  | 384.00 |
| OC3/VR105 .............. | 1.27 | RK4D22 | 27.50 | OK292 |  | 384.00 |
| OD3/VRI50 | 1.27 | RK4D32 | 27.50 | QK293 |  | 384.00 |
| *OZ4A/CK1003 | 1.00 | RK4J31 | 225.00 | QK294 |  | 384.00 |
| *IAD4 | 1.95 | RK4J32 | 225.00 | QK295 | $\cdots$ | 513.00 |
| *\|AE4 | 1.55 | RK4J33 | 225.00 | QK306 |  | 384.00 |
| *IAG5 | 1.90 | RK4J34 | 225.00 | 310 A |  | 12.45 |
| 1890 | 14.25 | RK4J35 | 225.00 | OK329 |  | 320.00 |
| IN66 | . 65 | RK4J36 | 353.00 | QK366 |  | 577.00 |
| 1N67 | 1.57 | RK4J37 | 353.00 | OK367 |  | 192.50 |
| 1N67P | 2.00 | RK4J38 | 353.00 | QK381 |  | 150.00 |
| 1N68 | 1.57 | RK4J39 | 353.00 | QK390 |  | 225.00 |
| 2E24 | 4.19 | RK4J40 | 353.00 | QK404 |  | 67.85 |
| 2E26 | 3.47 | RK4J41 | 353.00 | QK414 |  | 98.50 |
| 2E30 | 2.60 | RK4J53 | 256.00 | CK501AX |  | 2.55 |
| *2E31 | 2.12 | RK4J57 | 270.00 | CK502AX |  | 2.10 |
| *2E32 | 2.12 | RK4J58 | 270.0 C | CK503AX |  | 2.05 |
| *2E35 | 2.17 | RK4J59 | 270.0 C | CK506AX |  | 1.50 |
| *2E36 | 2.17 | RK4J61 | 385.00 | CK5I0AX |  | 2.55 |
| 2E4) (Use IAG5) | - | RK4J62 | 385.00 | CK511X |  | 2.38 |
| $2 E 42$ (Use IAG5) | - | RK4J63 | 385.00 | CK512AX |  | 2.35 |
| *2G21 | 2.20 | RK4J64 | 385.00 | CK518AX |  | 2.15 |
| *2G22 | 2.20 | 5D23/RK65 | 45.00 | CK522AX | (Use CK6088) | - |
| RK2J25 | 192.00 | RK5J26 | 423.00 | CK525AX |  | 3.60 |
| RK2J26 | 192.50 | *5R4GY | 1.89 | CK526AX |  | 1.90 |
| RK2J27 | 192.50 | *5R4WGY | 7.25 | CK527AX |  | 2.55 |
| RK2J29 | 192.50 | * 6 AJ5 | 3.50 | CK528AX |  | 1.58 |
| RK2J30 | 147.45 | *6AK5W | 3.05 | CK529AX | ...... | 1.98 |
| RK2J31 | 147.45 | *6AL5W | 1.55 | CK53IDX |  | 2.55 |
| RK2J32 | 147.45 | 6AN5 | 3.65 | CK532DX |  | 2.55 |
| RK2J33 | 147.45 | 6AN5WA | 10.30 | CK533AX |  | 2.40 |
| RK2J34 | 147.45 | 6arb | 5.75 | CK534AX | - | 2.45 |
| RK2J36 | 150.00 | *6AS6 | 3.43 | CK535AX | $\cdots \cdots \cdots \cdots$ | 2.15 |
| RK2J42 | 102.65 | *AAS6W | 4.75 | CK536AX | $\cdots$ | 1.58 |
| RK2J49 | 131.00 | 6AS7G | 4.69 | CK537AX |  | 2.60 |
| RK2J50 | 131.00 | 6BL6 | 55.50 | CK539DX | $\cdots \cdots \cdots \cdots$ | 2.55 |
| RK2J51 | 317.00 | *6C4W | 8.05 | CK542DX |  | 2.55 |
| RK2J55 | 165.00 | * CC4WA | 12.00 | CK542DXS | - | 2.65 |
| RK2J56 | 164.50 | 6 D 21 | 320.00 | CK546DX | ...- | 2.55 |
| RK2J66 | 507.00 | * 6 J 4 | 8.09 | CK547DX |  | 2.55 |
| RK2J67 | 507.00 | *6J5WGT | 4.85 | CK548DX |  | 2.55 |
| RK2J68 | 506.00 | * bJow | 3.05 | CK549DX |  | 2.05 |
| RK2J70 | 145.00 | * 6 JWWA | 8.95 | CK556AX | (Use CK5676) |  |
| RK2J71 | 320.00 | * SSNTWGT | 2.45 | CK568AX | Use CK5677) |  |
| RK2K22 | 56.50 | *6X4W ${ }_{*}{ }^{6} \times 5 \mathrm{~W}$ ( | 1.80 | CK569AX | (Use CK5678) | - |
| RK2K25 | 41.00 | *6X5WGT | 1.89 7.75 | CK570AX | (Use CK5697) |  |
| RK2K26 | 56.50 | *7AK7 ${ }_{\text {*12J }}$ | 7.75 | CK571AX | (Use CK5886) |  |
| RK2K28 | 67.85 | *12J5WGT | 4.85 | CK573AX | (Use CK6029) |  |
| RK2K28. | 68.00 | RK61 | 3.30 | CK574AX |  | 2.25 |
| RK2K29 | 61.00 | RK65 (Use | - | CK605CX | [Use CK5702] |  |
| RK2K33 | 384.00 | RK72 - | 11.25 | CK606BX | (Use CK5704) |  |
| RK2K45 | 100.00 | RX120 | 29.00 | CK608CX | (Use CK5703) | - |
| RK2K56 | 98.75 | RXI20A | 30.50 | CK619CX | (Use CK5744) | - |
| 2 N 63 | 7.40 | QKI40 (U | - | CK705 |  |  |
| 2N64 | 7.85 | RX212 | 35.75 | CK705A |  | . 85 |
| 2N65 | 8.75 | RX215 | 24.30 | CK705A-P | - | . 70 |
| $2 \times 2 \mathrm{~A}$ | 2.17 | QK226 (U | - | CK705P |  | . 65 |
| *3A4 | 1.20 | QK227 (U | - | CK706 (Us | se CK706a) |  |
| 3 A5 | 1.10 | Qк241 | 2310.00 | CK706A | $\cdots \cdots \cdots \cdots \cdots$ | . 40 |

[^6]
## ELECTRONIC TUBES

## SUGGESTED RESALE PRICES (Continued)

| TYPE | TYPE | SUGG. RFSALE PRICE | TYPE |  | SUGG. <br> RESALE PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CK707 | CK1032 ... ......... ... ... ........ \$ | - 3.35 | CK5879 |  | \$ 1.75 |
| RK707B | CK1033 | 30.00 | CK5886 |  | 4.50 |
| CK707P | CK1034 | 7.50 | CK5889 |  | 11.30 |
| CK708 | CK1036 | 7.50 | CK5893 |  | 16.50 |
| CK708P | CK1037 | 7.50 | CK5910 |  | . 95 |
| CK709 | CK1038 | 7.50 | CK5962 |  | 11.30 |
| CK710 | CK1039 | 7.50 | CK5967 | .... | 15.00 |
| CK7II | CK1042 | 9.00 | CK5969 |  | 15.00 |
| CK713A | CK1044 | 7.50 | CK5971 |  | 5.25 |
| CK713A-P | CK1089 | 5.30 | CK5972 |  | 5.25 |
| CK715 | 1614 | 2.55 |  |  |  |
| RK715C | RK1625 | 2.65 | CK5975 |  | 3.75 |
| CK721 | 2050 | 1.85 | RK5976 |  | 68.00 |
| CK722 | 2051 | 1.90 | RK5981 |  | 115.00 |
| CK725 | CK5517 | 3.55 | RK5982 |  | 577.00 |
| RK725A | RK5551 ............ ..... | 72.00 | CK5995 |  | 7.50 |
| RK726C | RK5552 ........................... | 110.00 | RK6002 |  | 577.00 |
| CK727 | RK5586 | 417.00 | *CK6005 |  | 3.55 |
| CK730 | CK5608A | 3.15 | CK6021 |  | 11.85 |
| CK731 | RK5609 | 112.00 | CK6029 |  | 1.85 |
| CK732 | CK5651 | 2.30 | CK6029 |  | 4.50 |
| CK735 | CK565IWA | 4.00 | RK6043 |  | 67.85 |
| CK736 | *CK5654 | 3.00 | CK6050 |  | 3.85 |
| CK738 | 16AK5W | 3.00 | CK6088 |  | 2.60 |
| CK739 | *CK5656 | 20.55 | CK6096 |  | 8.25 |
| CK740 | RK5657 | 417.00 | CK6111 |  | 12.50 |
| CK741 | *CK5670 | 4.85 | CK6112 |  | 12.25 |
| CK742 | CK5670WA | 8.70 |  |  |  |
| CK745 | *CK5672 | 1.50 | RK6115 |  | 98.50 |
| CK746 | CK5675 | 13.25 | RK6116 |  | 417.00 |
| CK747 | CK5676 | 1.90 | RK6133 | (Use 2K28A) | - |
| CK760 | *CK5678 | 1.60 | *CK6135 |  | 1.90 |
| CK761 | *CK5686 | 3.30 | CK6146 |  | 4.15 |
| CK762 | CK5687 | 4.30 | CK6147 |  | 13.25 |
| RK807 | *CK5702 | 5.85 | CK6148 | (Use CK5702WA) |  |
| RK811A | CK5702WA | 9.30 |  |  |  |
| RK812A | CK5703 | 2.20 | CK6149 | (Use CKS703WA) - |  |
| RK813 | CK5703WA | 8.75 | CK6150 | (Use CK5784WA) | - - |
| RK814 | CK5704 | 2.85 | CK6151 | (Use CK5744WA) | - |
| RK816 | RK5721 | 229.00 | CK6152 | .................. | 8.70 |
| RK8298 | CK5725 | 3.25 | CK6174 |  | 3.40 |
| RK832A | *CK5726 | 1.45 | RK6178 |  | 577.00 |
| RK837 | *CK5744 | 2.70 | CK6213 |  | 7.50 |
| RK866A | *CK5744WA | 8.75 | RK6229 |  | 570.00 |
| RK872A | *CK5749 | 2.00 | RK6230 |  | 5.0 .00 |
| 884 | *CK5750 | 2.50 | RK6230 |  | 570.00 |
| 885 | *CK5751 | 3.35 | CK6245 |  | 11.85 |
| *954 | CK5755 | 9.85 | CK6247 |  | 14.65 |
| *955 | CK5763 | 1.93 | RK6254 |  | 385.00 |
| *956 | CK5783 | 5.60 | *CK6286 |  | 2.05 |
| -957 | CK5783WA | 7.90 | RK6294 |  | 417.00 |
| *CK1005 | CK5784 | 7.50 | RK6295 |  | 417.00 |
| *CK1006 | CK5784WA | 11.85 | RK6295 |  | 417.00 |
| *CK1007 | CK5785 | 2.35 | CK6397 |  | 8.50 |
| CK1017 | CK5787 | 7.50 | RK6406 |  | 1865.00 |
| CKIO18 | CK5787WA | 1.50 | RK6410 |  | 1763.00 |
| CKIO19 | CK5794 | 11.85 10.25 | *CK6485 |  | 1.60 |
| CK1020 | *CK5814 (Use CK5814A) | 10.25 | *9001 |  | 4.00 |
| CK1021 | *CK5814A | 3.25 | *9002 |  | 2.85 |
| CK1022 | CK5814WA | 5.25 | *9003 |  | 3.80 |
| CK1023 | *CK5829 | 480 | *9005 |  | 4.05 |
| CK1024 | *CK5829WA | 4.80 12.40 | *9006 |  | 1.90 |
| CK1026 |  | 12.40 |  |  |  |
| CK1027 | CK5851 | 8.70 | Subminiat | ture Tube Test Adapter |  |
| CK1029 | CK5854 | 2.05 | 5AX51 (For | For 5 Lead Tubes) --. | 7.50 |
| CK1030 | CK5875 | 2.10 | 7AX51 [For | For 6 Lead Tubes) ....1 | 9.80 |
| CK1031 | CK5876 ........................................... | 12.65 | 8CV50 (For | For 8 Lead Tubes) | 9.80 |

## Specially Designed wirn

 RADIATION MEHSURINE APPLICAIIONS IN MINDRAYTHEON RADIATION COUNTER (GEIGER-MULLER) TUBES (All Glass, Self-Que iching)

| TYPE | MAX. DIMENSIONS inthes |  | OPERATING voltage | Plategd | relative <br> plateau | GEIGER <br> THRESHOLD | BACK. GROUND | AMBIENT | WALL WEIGHT | EFFICIENCY | LIFE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Langth | Diam. | Volts de | Volis de | Per 100\% | max. | counts/min. | Cent. | mg./sa. mom | \% | counts |
| CK1020 | 6 | 1/4 | 850.950 | 150 | 3\% | 850 | 60 | -40 10 +55 | 35 | 90 | $>10^{6}$ |
| CK1021 | 51/4 | 21/12 | 850.950 | 150 | 3\% | 850 | 60 | $-4010+55$ | 35 | 90 | $>10^{6}$ |
| CK1026 | 3 | 3/4 | 850.950 | 150 | 30\% | 760 | 60 | $-7010+50$ | 75 |  | $>10^{8}$ |
| CK1029 | 51/4 | 21/82 | 850.950 | 150 | 3\% | 850 | 60 | $-4010+55$ | 35 | 90 | $>10^{6}$ |
| CK1034 | 2\% | 0.400 | 700 |  | 20\% | 585 |  | $-5510+70$ | Hry. |  | $>10^{17}$ |
| CK1044 | $18 / 6$ | 0.400 | 700 |  |  | 585 |  | $-5510+70$ |  |  | $>10^{18}$ |

## RAYTHEON SUBMINIATURE ELECTROMETER TUBES

| TYPE |  | FILA | MENT Type | MAX. <br> tength | DIMEN Inches Width | IONS <br> Thickness | $\begin{array}{\|l\|} \text { PLATE } \\ \text { VOLTS } \end{array}$ | $\begin{aligned} & \text { GRID I } \\ & \text { VOLTS } \end{aligned}$ | $\begin{aligned} & \text { GRID } 2 \\ & \text { VOLTS } \end{aligned}$ | plate CURR. ma | GRID 2 CURR. mo. | AMP. <br> FAC ${ }^{-}$ | plare RESSST. meg. | MUT. <br> COND. <br> $\mu$ mhos | GRIO CURRENT RATING |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CK5386 | 1.25 | 10 | Fil | 1.5 | . 400 | . 285 | 10.5 | $-3.0$ | Triod Con |  |  | 2 |  | 160 | Max. $1 c^{1}=$ $2 \times 10^{13} \mathrm{amp}$. |
| CK5189 | 3.25 | 7.5 | Fil | 1.6 | Diom. | $-.400$ | 12 | -2.0 | 4.5 | 0.005 | 0.005 |  | 18 | 14 | $\begin{aligned} & \text { Max. } 1 c^{1}= \\ & 3 \times 10^{18} \mathrm{omp} . \end{aligned}$ |

## RAYTHEON RECTIFIER TUBES

| TYPE | CONSTRUCTION | FILAMENT | MAX. DIMENSIONS Inches |  | MAX. PEAK INVE\&SE VOLIAGE | MAX. PEAK PLATE CURRENT PER PLATE | MAX. DC OUTPUT CUREENT |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Volts Amps | Meight | Diam. |  |  |  |
| CK1036 | Holf Wave - Gos | Cold Cathode | $11 / 16$ | 0.400 | 1500 | 10 mo . | 100 \%. |
| CK1041 | Holl Wave - High Vocuum | 1.250 .05 | 11/2 | 0.400 | 12.5 KV | $500 \mathrm{H}^{1} \mathrm{O}$. | 10 mu . |
| CK1042 | Half Wave - Gas | Cold Cathode | 21\% | 0.400 | 2800 | 40 mo . | 8 mo. |
| CKS517 | Half Wave - Gas | Cold Cathode | 21/4 | 3/4 | 2800 | 100 mo . | 12 mo . |
| CK5785 | Half Wave - High Vacuua | 1.250 .015 | 1.5 | $0.3 \times 0.4$ | 3500 | $450 \mu_{\mathrm{g}}$. | 100 но. |
| CK6174 | Holf Wave - Gas | Cold Corhode | $21 / 4$ | 1/4 | 2800. | 30 mo . | 3 mo . |



## TRANSISTORS MILIONS ORH:

## RAYTHEON IS FIRST AND FOREMOST IN

- mass production, Raytheon is long past the experiment and development stage in Germanium PNP Junction Transistors - for over 2 years has had the quantity production and quality control techniques and resources
- proved reliability in commercial opplication, based on billions of hours of actual field performance and a record of success exceeding that of many reliable vacuum tubes
- range of characterisflcs. Look at the tors that meet your specific requirements, how.



REVISED JUNE 1， 1955
This Price List Is Supplied For Your Convenience By Tung－Sol Electric Inc．
All prices are subject to change without notice．The listing of price for any fubes does not necessorily indicate availability．

| Tyae | Sugg．d Retail Price | Type | Sugg＇d Retail Price | Type | Sugg＇d Retail Price | Type | Suga＇a Retail Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| －11 | \＄4．80 | 1 lf | \＄3．15 | ti．lh， | \＄2．35 | ainatic | \＄2．75 |
| 10\％1 | 1.40 | 111： | 2.20 | ，idi．． | 1.50 | tiltar | 2.90 |
| 11\％＋1： | 1.65 | 1X2A | 2.45 | 4．11．761 | 3.70 | tillt | 1.80 |
| い1．1 | 1.50 | 10．13 | 2.45 | bisk： | 1.80 | \％${ }^{\text {a }}$ | 2.10 |
| 1．i： | 2.50 | 2．${ }^{\text {a }}$ | 4.15 | 1ishet | 1.65 | （id．） | 1.50 |
| 1．14 | 4.05 | －A46 | 3.30 | may？ | 3.05 | 4，5\％（\％ | 1.80 |
| 1．init | 2.05 | －1： | 2.30 | I．MR： | 2.00 | ti．lis | 2.35 |
| 1.17 | 3.50 | 2．15 | 2.80 | 6．15： | 1.95 | 6.15 | 2.30 |
| lioct | 2.45 | OS | 2.75 | Histi | 1.45 | 8．179T | 2.55 |
| 1．16\％ | 5.70 | －AF4 | 3.45 | 4.11160 | 2.70 | ¢， | 3.20 |
| 1．1F4 | 3.50 | セ日： | 3.40 | 8．atser | 3.25 | нК．） | 2.65 |
| 1.164 | 2.85 | ロロ゙い | 2.75 | $16 \pm 16$ | 1.65 | finidit | 1.65 |
| 1114 | 2.85 | 3A8：＇1 | 4.80 | ¢at＂ | 2.20 | 洨 | 2.10 |
| 1．1．15 | 2.70 | 3.11 .6 | 1.60 | 6AM゙うGT | 3.30 |  | 2.40 |
| 1入に゙ | 6.00 | 3AI\％ | 1.70 | filli | 1.45 | nKidit | 2.35 |
| 1．1k\％ | 6.00 | 3．小げ | 1.50 | 6.1 .840 | 2.35 | riks | 3.05 |
| 11336 | 2.45 | 385 12：41 | 5.70 | 6AX56＇ | 1.85 |  | 3.40 |
| 1 $1141^{\circ}$（1 $\mathrm{H} 4 / 951$ ） | 4.05 | 3 KC | 2.05 | BMN | 2.35 |  | 2.75 |
|  | 3.35 | 3131：6 | 1.95 | till 14： | 3.20 | dit．il： | 2.75 |
|  | 3.50 |  | 3.75 | 4ifit | 3.35 | MiLa； | 4.35 |
| 11：0． | 2.60 | $3{ }^{\text {＇hai }}$ | 2.00 | Hishic | 2.45 | －iLitig | 3.10 |
| 118 | 3.35 | 31） 120 \％ | 4.65 | 13147 | 3.35 | 615icia | 3.35 |
| 11 T | 3.35 | 3R， | 4.05 | fills | 3.35 |  | 2.90 |
| 11 \％ | 2.40 | 3145 | 3.10 | nHEG | 3.60 | HIAG | 3.30 |
| $110.061{ }^{\circ}$ | 4.05 | 364 | 2.15 | GBAB | 1.80 | ${ }^{6}$ Nim： | 3.90 |
| 110： | 3.50 | 34．19\％ | 2.80 | n¢： | 2.50 | ＊x： | 2.95 |
| 110－1：T | 4.05 | 3 SH | 2.10 | nitscis | 1.95 |  | 2.85 |
| 11：3011 | 4.05 | 314 | 2.10 | dibl | 3.20 | ＊P5＊＇T | 2.40 |
| 115：96＇m | 4.05 | ＋169：A | 3.30 | （1）1bst＇t | 3.60 | ＊id： | 2.40 |
| 1F゙1 | 2.75 | $413 \%$ | 3.45 | mililu | 1.80 | tiep：G | 2.10 |
| 1\％\％ | 2.75 | 5ハバ | 2.85 | 6ilftr | 1.85 | mildr | 2.10 |
| $1{ }^{106}$ | 4.05 | 5 Ass | 2.85 | ARF5 | 2.05 |  | 2.80 |
| 1ド大 | 4.05 | $\therefore .114$ | 2.70 | mart | 1.55 | HRT（ ${ }^{\text {R }}$ | 2.65 |
| 11：11：\％ | 2.55 | Sintaic | 1.25 | ¢ HC dif： | 5.20 | 615－ | 3.35 |
| 16．is | 3.15 | －5\％4 | 1.55 | ＂ H （1） | 2.30 | 6－4 | 1.75 |
| 16atic | 3.00 | $\therefore 1$ | 5.00 | eifinti | 1.95 | 納A | 1.75 |
| 11110 | 2.30 | 58 | 2.90 | milis\％ | 3.20 | Hat | 3.25 |
| 111．8：9 | 1.95 | 514： | 1.55 | 61467 | 2.85 |  | 3.35 |
| 1114； | 3.35 | 5－49 | 2.55 | 1013，－6＇t | 3.25 | 182（it | 2.65 |
| 1．tin： | 2.65 | 二W： | 1.65 | milst | 2.65 | Bis．a： | 2.10 |
| 1．1：4： | 3.20 | 5WH：T | 1.75 | GHupurit | 3.55 | ASMigt | 2.10 |
| 1．16：4＇1 | 3.35 | 或16 | 2.00 | diku？ | 3.50 | 的活可 |  |
| 11.1 | 2.15 | is：310 | 1.35 |  | 3.25 | 6sco | 2.15 |
| 11.6 | 2.75 | isper | 1.20 | ＊kNig | 3.20 3.25 |  | 2.00 3.35 |
| 11.14 | 2.80 | क） 31 | 1.70 |  | 3.25 | tisbarit | 3.35 |
| 11.111 | 2.65 | \％\％ | 2.00 | 61\％ |  | EF: |  |
| 11.111 | 2.80 | $5 \% 4$ | 3.30 |  | 1.45 | 6xpsot | 1.95 |
| 11．8\％ | 2.65 2.65 | nisis（1．4） | 3.35 <br> 3.20 | tifty | 1.95 2.10 | miskition | 2.30 1.80 |
| 11.60 11.10, | 2.65 2.65 |  | 3.20 5.70 | ticht | 2.10 2.50 |  | 1.80 2.30 |
| 11．E： | 2.65 | di．16 | 2.75 | 40\％${ }^{\text {a }}$ | 3.90 | niscitir | 1.80 |
| 11.0 \％ | 2.65 | fini | 2.75 | tiche | 1.95 | tsili | 2.35 |
| 11．151 | 2.65 | 4i－ | 2.70 |  | ．．． 4.70 | 6sllict | 2.30 |
| 11.5 | 2.65 | Hi．A） | 2.75 | tictis | 2.15 | cis， | 1.85 |
| 1泿\％ | 2.40 | Cilat | 2.75 | （f） 1.6 | 3.10 | As．rime | 1.65 |
| 1 Nit\％ | 2.00 | fiAlt | 1.70 |  | 2.25 | 6SK7 | 2.00 |
| 1rowr | 2.65 | 6its | 3.15 |  | 2.05 | 6SKうCI | 2.00 |
| 10：4\％9 | 3.05 | 6．18： 18.3 | 3.60 | firsh | 1.85 | 6SLTGT | 2.40 |
|  | 2.20 | fisc：\％ | 3.00 |  | 3.55 | mintert | 2.15 |
| 1 ta | 2.25 | 6iA（＇\％／1852 | 3.10 | （i1）${ }^{\text {d }}$ | 2.50 | 的ご大 | 2.15 |
| $1: 4$ | ．．． 2.50 | fialsig | 3.90 | G108G | 3.35 | 6Su） | 1.75 |
| 1s： | 1.85 | GAF＇4 | 3.45 | （iE5 | 2.15 | GRG：GT | 1.75 |
| 11. | 2.10 | 6AFtig： | 3.15 | 6F\％ | 2.20 | 6 SR 7 | 1.85 |
| 1150 | 2.80 | BiAl： | 2.25 | AFrot | 1.85 | 4isc7 | 2.40 |
| 111 | 2.25 | 6iAt\％ | 3.50 | Bra | 2.45 | （ist 7 | 2.70 |
| 11\％ | 1.80 | GAII4GT | 2.40 | 6rbit | 2.00 | 6SP7 | 3.60 |
| 11 | 2.55 | GAJIG： | 3.90 | 6F6GT | 2.00 | G887 | 2.45 |
| 11 | 1.50 | GAIISV | ．． 3.40 | ${ }^{65}$ | 3.90 |  | 3.35 |
| $11 \%$ | 2.20 | 6AK： | ．．． 4.20 | （i） $\mathrm{H}_{6}$ | 3.90 | 6.6 | 2.85 |

all pilces sunject to change without notice

| Type | Sugg＇d Retail Price | Type | Sugg＇d Retail Price | Type | Sugg＇d Retail Price | Type | Sugg＇d Retai Pric |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| diJtGr | \＄2．55 | 12．110 | $\$ 1.65$ | $140 \%$ | \＄2．60 | 315. | \＄1．90 |
| \％U5／bdi | 2.25 | 12．11\％ | 2.20 | 14 RT | 3.35 |  | 2.10 |
| \％ 106 GT ． | 2.45 | $1 \cong$ | 1.45 | $14 \begin{gathered} \\ \\ \text { ，}\end{gathered}$ | 3.25 |  | 2.10 |
| 8 CHG | 2.40 | 10．115 | 3.60 | 1 fいこ | 3.35 | $5: 1$ | 3.70 |
| 610＇s | 2.85 | 12.15 | 2.65 | 14 C | 2.65 |  | 6.60 |
| 6193 | 3.70 | $1 \because A \mathrm{~A}$（\％T | 2.40 | 1＋1゙ | 2.40 | i1． | 2.35 |
| div3A | 3.90 .3 | $1 \because .10415$ | 2.40 | $1:$ | 3.20 | 75 | 2.00 |
| tiv6 | 3.30 |  | 2.30 | 19 | 3.35 | 76 | 1.70 |
| G609T | 1.80 | 12．195 | 6.00 | 1 13mitg | 6.00 |  | 2.15 |
| 61\％ | 3.55 | 121\％ | 2.50 | 1：4＊ | 3.20 | \％ 8 | 2.15 |
| ovic | 2.00 | 10 HA | 2.20 | 1 10， 4 | 2.45 | 79 |  |
| AWHGT | 1.70 | 10ibie | 1.80 | 1：10． | 3.10 | 80．．． | － 1.55 |
| G川゙ら\％T | 2.25 | $12 \mathrm{BI}$ | 2.50 |  | 3.20 | 81. | 4.65 |
| 6W7 | 2.75 | 12 Blni | 1.80 | 24.1 | ． 2.70 | 8 | 2.75 |
| cist | 1.35 | $1 \because 13: 14$ |  | 2 Sh | 3.40 | 83 | 2.65 |
| ${ }_{6} \mathrm{X} 5$ | 3.10 | $1: B F^{5}$ | 1.55 | 2．nnif； | 2.75 | s3V | 3.40 |
| 6x59T | 1.40 | 12 BH －13 | 2.55 | 2incmit | ． 2.90 | $84 / 6724$ | 1.80 |
| tixs | 2.70 | 12Buns＇r | 3.60 | 2．jburac | 3.65 | ＊5 | 2.30 |
| ${ }_{6}^{69 \% G}$ | 2.35 4.05 | $101897$ | 2.50 2.55 | 20，隹 | 3.00 | \％！ | 2.30 |
| H27G <br> （iZM5G | 4.05 | 10817 10187 | 2.55 2.50 |  | 4.70 | 11\％LJ／M7GT |  |
| －．14／XN1． | 2.00 | 129 ${ }^{1}$ | 3.90 | －2．8．ti | 3.90 |  | 4.80 |
| －A5 ．．．． | 2.50 |  | 2.20 |  | $\underline{1.85}$ | 11\％106T | 4.80 |
| 7．19； | 2.10 | 12FFisT | 1.90 | 25\％ | 3.05 | 11178 | 1.65 |
| 7 A 7 | 2.00 | 12 IIf | 2.00 | 2\％\％ | 1.80 | 11：\％6GT |  |
| 718 | 2.10 | 13．JT：T | 1.80 | 2．7\％ |  |  |  |
| 7AD7 | 4.70 | 12JJTit | 2.55 | $25 \% 0 \mathrm{GT}$ | 1.80 | FM1000 | 3.20 |
| TAF＇7 | $2.40$ | 10K7CT | 2.35 | 213 ．．．．．． | 2.25 | XXD／ $1+\mathrm{AF}$ | 2.40 |
| $\begin{aligned} & 7 A G 7 \\ & 7 \mathrm{AH} \end{aligned}$ | 2.45 2.50 | 12に\％ | 3.15 2.80 |  | 1.75 | XXFM／X | 3.30 |
| 7184 | 2.00 | 12Lfiat | 1.85 |  |  |  |  |
| 7115 | 1.85 |  | 2.10 |  | 3.75 | SPECIAL PU |  |
| 786 | 2.00 | 10 Sat | 2.65 | 3ご，－GT | 3.20 |  |  |
| $\begin{aligned} & 7137 \\ & 7188 \end{aligned}$ | $\begin{aligned} & 2.00 \\ & 2.25 \end{aligned}$ | 12SA7 | 2.10 2.10 | 33 ．．．．．． | 3.35 |  |  |
| $7 \mathrm{C} 4 / 1203$ | 3.50 | 125 C | 2.50 | 34 | 3.50 | ${ }_{2}^{1}{ }^{1} 51$ | \＄2．05 |
| 7 C 5 | ． 2.15 | 1 2 NF | 2.10 | 35／51 | 2.35 | 2上22＊ | 6.00 |
| 7 （＇6） | ． 1.85 | 12SF5GT | 2.00 | 35A． | 2.20 | 3 At ＊ | 1.20 |
| 7 7 7 | ． 2.15 | $1 \geq \mathrm{SF}$ | 2.40 | ${ }^{3515}$ | 2.10 | 3.15 | 1.30 |
| 2E5／1201 | 2.80 | 12SFTGT | 2.40 | 3 SLfGT | 1.85 | ${ }^{51} 6^{*}$ | 5.50 |
| 7 E 6 | 2.90 | 108 St | 2.35 | 35 W 4 |  | SR4G1 | 1.89 |
| 7 F 7 |  | 128117 |  | $3{ }^{35} \mathrm{Y}_{4}$ | 1.80 | 6AJS＊ | 3.50 5 |
| $\begin{aligned} & 7 F 7 \\ & 7 F 8 \end{aligned}$ | $\begin{aligned} & 2.45 \\ & 3.25 \end{aligned}$ | 105．J | 2.00 2.00 | $35 \% 3$ | 1.80 | GASTG＊ | 5.75 4.87 |
| 707／1232 | 3.00 | 12sk7 | 2.00 | 3574 GT | 1.45 | 61． 3 WGB | 5.75 |
| 7117 | 2.20 | 12Skう（t | 2.00 | 357．59 |  | 6SMGGTY＊ | 3.25 |
| $7 \mathrm{J7}$ | 3.50 | 12sİ\％T | 2.65 | ${ }_{3}^{35750}$ | 1.80 | 6sCigTy＊ | 4.25 180 |
| \％ 7 | 3.15 | 108NOTT | 2.15 |  |  | －5AFGT |  |
| 717 | 3.00 3.35 | 12 SO | 1.75 |  | 1.85 230 | 2ancit | － 4.00 |
| 7N7 | 2.35 | 12SQami | 1.75 | $38 / 44$ | 2.35 2.75 | 2686 W | 9.50 4.00 |
| $7 \mathrm{O7}$ | 2.60 | 12 SR 7 | 2.00 | 41. | 1.90 | 1603. |  |
| 127 88 | 3.35 | 12S1R7tiT | 2.20 | 41 | 1.90 | $5608 \mathrm{~A}^{*}$ | 3.15 |
| － | 3.25 3.35 | 12069T | 1.80 2.30 | 43 | 2.05 | 5636 | 12.85 |
| 7W7 | 3.35 | 12x4 | 1.35 | 45 | 2.10 | $5654 / 6.145 \mathrm{~W}$ | 3.15 |
| X6 | 2.20 | 1273 | 1.35 2.60 | 4578 | 1.80 | $5665 / 6 \mathrm{AK} 5 \mathrm{~W} / 6096$ | 8.25 |
| X7（XXFM） | 2.75 | 14 A 4 | 2.65 | 45\％5GT（40Z5GT） | 1.80 | 5670 |  |
| $\mathrm{V}^{4}$ | 1.80 | $1+4.0$ | 3.90 | $4{ }^{4} 8$ | 2.90 | 5675＊ | 1.90 |
| 7.4 | 1.80 | 14AT／1－B | 2.20 |  | 2.90 | 詚78 | 1.60 |
| U8 | 3.00 | $14.4 \mathrm{~F}^{\prime}$（XX1） | 2.40 |  | 4.80 | 5687＊ | a． 50 |
| 10 | 3.90 | 14Bis ．．．．．．．．．．． | 2.20 | 49 |  | 5687 Wa | 8.75 |
| 2 A 6 | 2.90 | 14188 | 2.20 | 50 | 5.15 2.20 | $5725 / 6 \mathrm{AN} 6 \mathrm{~W} / 6187$ | 9.50 |
| 2 A GT | 2.90 | 14 C 5 | 2.90 |  |  | $5726 / 6.115 W$ ．．． | 1.45 |
| $2 \mathrm{~A} /{ }^{\text {a }}$ | 3.90 | $1+17$ | 2.40 | 5 | 1.85 | $5749 / 0 \mathrm{BAFW}$ | － 2.00 |
| 2 ABGT | 2.75 | $1 \pm \mathrm{Ec}$ | 2.90 | 50cisy | 2.80 | 5751 ．．．．．．．． | 3.35 |
| 2AIf6GT | 2.20 | 1＋E7 | 3.20 | 50 LHGGT | 1.85 |  |  |
| AM17C＇ | 3.05 | 1 1F5 | 2.45 | 50 Xt － | 2.20 | 5875＊＊＊＊＊＊＊＊ | 2.10 3.50 |
| \％AL．5 | 1.60 1.85 | 1 14＊ | 3.25 | 50YtGT | 2.15 | 5998 | 11.00 |
| $2 \mathrm{AQ5}$ | 1.85 1.45 | 14117 | 2.40 3.25 | ${ }_{53} 5 \mathrm{Y}$ \％GT | 2.10 | 6188 | ． 4.25 |
| 2AT7 | 2.60 | 145： | 2.65 | 5 | 2.75 2.30 |  | 4.35 |

TUNG－SOL RADIO DIAL LAMPS

| $\begin{aligned} & \text { Tung-Sol } \\ & \text { Lamp No. } \\ & \hline \end{aligned}$ | Bulb Type | Base | Bead Color | Volts | Amperes | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 40 | T－31／4 | Miniature sirrew | Brown | 6－8 | ． 15 | \＄0．12 |
| 41 | T－31／4 | Miniature Screw | White | 2.5 | 30 | ． 12 |
| 42 | T－31／4 | Miniature siorew | Green | 3.2 | ．in | ． 13 |
| 43 | T－3 ${ }^{1 / 4}$ | Miniature Bayonet | White | 2.5 | $\bigcirc 0$ | ． 12 |
| 44 | T－31／4 | Miniature Bayonet | Blue | 16.3 | ．25 | ． 12 |
| 45 | T－31／4 | Miniature Bayonct | iriren | 3.2 | 0 | ． 13 |
| 46 | T－31／4 | Miniature Srrew | Mlue | 6．8 | 25 | ． 12 |
| 48 | T． $31 / 4$ | Minature Bayonet | Brown Pink | 6－8 0.0 0.0 | ． 15 | ． 12 |
| 49 | T－31／4 | Miniature Bayonet | D＇ink | $\stackrel{3}{2.0}$ | .06 | .16 |
| 50 | 9．312 | Miniature sorew | White | 6－8 | ．20 | ． 12 |
| ＊51 | 9．8． | Miniature Bayonet | White | 4－8 | ． 20 | ． 11 |
| ${ }^{3} 5$ | －$\cdot$－$+1 / 2$ | Miniature Rayon＇t | White | 6－8 | ． 40 | ． 11 |
| 291 | T－31／4 | Miniature Rayonet | White | 2.9 | .17 | ． 17 |
| 1490 | $\mathrm{T}-31 / 8$ | Miniature Bayonet | White | 2.9 3.2 | ．17 | ． 17 |

[^7]

EFFECTIVE JUNE 1, 1955

| Type | Suggested Dealer Price | Suggested List Price | Shape | Material | Face | Focus | Deflection | Nom. Def. Angle |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10BP4A | \$14.15 | \$19.25 | Round | Glass | Filter | Magnetic | Magnetic | 50 |
| 12LP4A | 17.35 | 24.25 | Round | Glass | Clear | Magnetic | Magnetic | 54 |
| 14BP4 | 19.35 | 26.75 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| $14 \mathrm{CP4}$ | 19.35 | 26.75 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 16AP4A (M) | 33.50 | 44.75 | Round | Metal | Clear | Magnetic | Magnetic | 53 |
| 16GP4B (M) | 33.50 | 44.75 | Round | Metal | Fil.-Fr. | Magnetic | Magnetic | 70 |
| $16 \mathrm{KP4}$ | 24.00 | 32.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 16RP4 | 24.00 | 32.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| $16 \mathrm{TP4}$ | 24.00 | 32.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 17AVP4 | 25.50 | 34.00 | Rec. | Glass | Filter | E* | Magnetic | 90 |
| $17 \mathrm{AVP4A}$ (A) | 29.25 | 39.00 | Rec. | Glass | Filter | E* | Magnetic | 90 |
| 17BP4A | 24.00 | 32.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 17BP4B (A) | 28.00 | 37.50 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 17 CP 4 (M) | 30.00 | 40.00 | Rec. | Metal | Fil.-Fr. | Magnetic | Magnetic | 70 |
| 17 GP 4 (M) | 33.50 | 44.75 | Rec. | Metal | Fil.Fr. | E | Magnetic | 70 |
| 17HP4/17RP4 | 25.50 | 34.00 | Rec. | Glass | Filter | E | Magnetic | 70 |
| 17HP4B (A) | 29.25 | 39.00 | Rec. | Glass | Filter | E | Magnetic | 70 |
| 17LP4/17VP4 | 25.50 | 34.00 | Rec. | Glass | Filter | E | Magnetic | 70 |
| 17LP4A (A) | 29.25 | 39.00 | Rec. | Glass | Filter | E | Magnetic | 70 |
| 17QP4 | 24.00 | 32.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 19AP4B (M) | 36.50 | 48.75 | Round | Metal | Fil.-Fr. | Magnetic | Magnetic | 66 |
| 20CP4A | 29.20 | 39.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 20CP4D (A) | 33.20 | 44.25 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 20DP4A | 29.20 | 39.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 20HP4A/20LP4 | 30.50 | 40.75 | Rec. | Glass | Filter | E | Magnetic | 66 |
| 21ALP4 | 30.50 | 42.75 | Rec. | Glass | Filter | E* | Magnetic | 90 |
| 21ALP4A (A) | 34.50 | 46.00 | Rec. | Glass | Filter | E* | Magnetic | 90 |
| 21AUP4 | 30.50 | 42.75 | Rec. | Glass | Filter | E | Magnetic | 72 |
| 21AUP4A (A) | 34.50 | 46.00 | Rec. | Glass | Filter | E | Magnetic | 72 |
| $21 A P 4$ (M) | 35.20 | 47.00 | Rec. | Metal | Fil.-Fr. | Magnetic | Magnetic | 70 |
| 21EP4A | 29.20 | 39.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| $21 E P 4 B$ (A) | 33.20 | 44.25 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 21FP4A | 30.50 | 40.75 | Rec. | Glass | Filter | E | Magnetic | 70 |
| $21 \mathrm{MP4}$ (M) | 36.50 | 48.75 | Rec. | Metal | Filter | E | Magnetic | 70 |
| $21 \mathrm{YP4}$ | 30.50 | 40.75 | Rec. | Glass | Filter | E | Magnetic | 70 |
| 21YP4A (A) | 34.50 | 46.00 | Rec. | Glass | Filter | E | Magnetic | 70 |
| 21ZP4 | 29.20 | 39.00 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |
| 212 P 4 B (A) | 33.20 | 44.25 | Rec. | Glass | Filter | Magnetic | Magnetic | 70 |

ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE

[^8]
# LIST PRICES OF CBS TUBES 

Effective March 7, 1955
CBS-HYTRON
Originator of the famous Bantam GT
A Division of Columbia Broadcasting System, Inc.
Main Office: Danvers, Massachusetts
Original Mirror-Back Picture Tubes

| TYPE | LIST | TYPE | LIST | TYPE | L18t | TYPE | LISt | type | LIST | TYPE | LISt |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 024 | \$1.40 | 6A8 | 2.70 | 65GT | 1.80 | 7 757 | 3.35 | 24A | 2.70 | 16AEP4 | 33.00 |
| 0246 | 1.85 | ${ }^{6 A B G}$ | 2.75 | 66 | 2.30 | 7 FF | 2.55 | 25AV5GA | 3.30 | 1SAP4A | 46.00 |
| 1 A4P | 4.20 | 6ABGT | 2.75 | $6{ }^{6} 7$ | 2.30 | ${ }^{758} 8$ | 3.45 |  |  |  |  |
| \|A5GT | 2.10 | 6A84 | 1.70 | 6.77 G | 2.50 | 767/1232 | 3.00 | 25AV5GT | 3.30 2.75 | $16 \mathrm{GP4}$ $16 \mathrm{GP4B}$ | 46.00 |
| \|ATGT | 2.50 | 6 6B7 | 3.60 | 6.J7GT | 2.55 | ${ }_{7} \mathrm{H7}^{\text {7 }}$ | 2.25 | 25AX4GT | 2.75 | $16 \mathrm{GP4B}$ | 46.00 |
| \|AG4 | 2.85 | 6AC5GT | 3.10 | ${ }_{6} \mathbf{J} 8 \mathrm{G}$ | 3.85 | 737 | 3.60 | 258K5 | 2.60 | $16 \mathrm{KP4}$ | 31.25 |
| 1 AH 4 | 2.85 | $6{ }^{6}$ C7 | 3.10 | 6K6GT | 1.65 | $7 \mathrm{L7}$ | 3.00 | 258@SGT | 3.60 | ISRP4 | 31.25 |
| lAJ5 | 3.00 | 6AD7G | 3.90 | $6 \mathrm{6K7}$ | 2.10 | $7 \mathrm{N7}$ | 2.35 | 25CDSGA | 4.70 | 16TP4 | 31.25 |
| \|AX2 | 2.50 | 6AF4 | 3.40 3.40 | ${ }_{6}^{6 K 76}$ | 2.40 | 797 | 2.60 | 25 CUS | 3.60 | $17 \mathrm{BP4A}$ | 31.75 |
| $1836 T$ | 2.50 | 6AF4A | 3.40 | 6K7GT | 2.35 | $7 \mathrm{P7}$ | 3.50 | 25L6GT | 1.85 | $\ddagger 178 \mathrm{P48}$ | 37.25 |
| $\begin{aligned} & 1 C 5 G T \\ & \hline \end{aligned}$ | 2.60 4.20 | SAG5 SAG7 | 2.05 3.50 | $6 K 8$ 6 L 6 | 3.10 4.35 | $7 \times 7$ $7 W 7$ | 3.50 3.50 3 | 25W4GT | 2.05 | $17 \mathrm{CP4}$ | 42.00 |
| IG4GT | 2.55 | 6AH4GT | 2.40 | ${ }^{6 L 6 G}$ | 3.10 | $7 \times 7$ (XXFM) | 3.30 | 2525 | 1.80 | 17GP4 | 51.00 |
| IH5GT | 1.95 | SAH6V | 3.45 | 6L6GA | 3.10 | $7 \mathrm{Y}_{4}$ (XXFM) | 1.80 | 25Z6GT | 1.80 | $17 \mathrm{HP4}$ |  |
| IH6GT | 3.50 | SAK5 | 4.20 | 6L6G8 | 3.10 | 724 | 1.80 | 26 | 2.25 | (17RP4) $\dagger$ | 33.25 |
| $1 \mathrm{L4}$ | 2.15 | 6AK6 | 2.35 | 6 L 7 | 2.90 | 12 A 4 | 2.20 | 27 | 1.75 | $\ddagger 17 \mathrm{HP48}$ | 39.00 |
| $1{ }^{16}$ | 2.85 | ${ }^{\text {6AL5 }}$ ( ${ }^{\text {dat }}$ | 1.50 | ${ }^{627 G}$ | 3.40 | 12 ABGT | 2.75 | 32L7GT | 3.35 |  |  |
| ILAA | 2.95 2.75 | 6AL7GT* ${ }_{\text {6AM4 }}$ | 3.75 <br> 4.45 <br> 2. | 6N7 6N7GT | 3.00 3.85 2.85 | 12 AH 7 GT | 3.05 1.60 1.0 | 35A5 | 3.35 2.25 | $17 \mathrm{JP4}$ $17 \mathrm{LP4}$ | 31.75 |
| lles | 2.75 2.95 | SAM4 | 4.45 2.70 | 6N7GT | 2.85 2.50 | ${ }_{12 A}^{1245}$ | 1.60 1.90 | 3585 | 2.10 | (17VP4) $\dagger$ | 33.25 |
| ILC5 | 2.75 | 6AN8 | 2.80 | 607 | 2.25 | 12AT6 | 1.50 | $35 \mathrm{C5}$ | 1.85 | $\ddagger 17 \mathrm{LP4A}$ | 39.00 |
| $1 \mathrm{LC6}$ | 2.75 | ${ }^{64} Q^{5}$ | 1.80 | 6 67G | 2.10 | 12 AT7 | 2.60 | 35L6GT | 1.85 | 17984 | 31.75 |
| ILD5 | 2.75 | 6AOS | 1.65 | ${ }_{6} 676$ | 2.10 | 12 aub | 1.65 | 35 W 4 | 1.20 | \$ 17084A | 37.25 |
| ILE3 | 2.75 | 6A ${ }^{\text {6AP5 }}$ | 3.05 |  | 2.80 | $12 \mathrm{AU7}$ | 2.20 | 35 Y 4 | 1.80 | ITP4 | 42.00 |
| ILG5 | 2.75 | 6AR5 | 2.05 1.95 | SR7GT 654 | 2.75 <br> 1.75 | 12 AV8 12 12 | 1.45 <br> 3.00 | $35 \mathrm{Z3}$ | 1.80 | $17 \mathrm{PP4}$ | 31.75 |
| ILN5 | 2.75 | 6AT6 | 1.50 | ${ }_{6 S 4}$ 6 | 1.75 | ${ }_{12 A X 4 G T}$ | 3.40 | 35Z4GT | 1.50 | 19APAA | 59.00 |
| IN5GT | 2.40 | 6 6AT8 | 2.60 | 6S7G | 3.50 | $12 A X 4 G T A$ | 2.40 | $35 Z 56 T$ | 1.25 | $19 \mathrm{AP4B}$ | 59.00 |
| 1P5GT | 3.05 | 6AU4GT | 2.70 | 658GT | 2.75 | 12AX7 | 2.25 | 36 | 2.85 | $20 \mathrm{CP4} 4$ | 40.00 |
| 124 | 2.85 | 6AU5GT | 3.15 | $65 A 7$ | 2.10 | 12AZ7 | 2.55 | 37 | 1.85 | $20 \mathrm{CP4A}$ | 40.00 |
| 185 154 1 | 2.25 | ${ }^{6 A}$ 6AVG | 1.65 | 6SATGT | 1.95 | 1284 | 2.20 | 38 | 2.35 | - 20CP48 | 46.00 |
| 154 | 2.55 1.85 | 6AV5GT | 3.25 | $6587 \%$ | 2.90 | $1284 A$ | 2.20 | 39/44 | 2.85 | $\ddagger 20 \mathrm{CP4D}$ | 48.00 |
| $1{ }^{155}$ | 1.85 2.10 | 6AV5GA | 3.30 1.45 | $65 C 7$ $65076 T$ | 2.15 3.35 | $128 A 6$ 12847 | 1.80 2.60 | 41 | 1.95 | 20DP4 | 40.00 |
| ITSGT | 2.80 | 6AW8 | 1.45 3.10 | 6SD761 | 3.35 1.85 | $128 A 7$ 12806 | 2.60 1.80 | 42 | 1.95 | 20DP4A | 40.00 |
| 104 | 2.05 | 6AX4GT | 2.35 | 6SF5GT | 1.95 | 128 E 6 | 1.85 | 43 | 2.10 |  |  |
| $1{ }^{1} 5$ | 1.80 | 6AX5GT | 1.85 | 6SF7 | 2.35 | 128 Fb | 1.60 | 45 | 2.10 | \$ 20DP48 | 46.00 |
| IV | 2.55 | ${ }_{687}^{684}$ | 3.35 | ${ }^{6567}$ | 2.30 | $128 \mathrm{H7}$ | 2.55 | 47 | 3.00 | \# 20DP4C | 46.00 |
| lve $\begin{aligned} & \text { IV } \\ & \text { IV }\end{aligned}$ | 1.50 3 3 | ${ }_{687}^{887}$ | 3.50 | $65 \mathrm{H7}$ | 2.35 | $128 \mathrm{H7A}$ | 2.55 | 50A5 | 2.25 | $20 \mathrm{HP4}$ | 42.25 |
|  | 3.70 2.50 | 688 G | 3.60 | 6S.37 | 1.60 | 128 K 5 | 2.55 | 5085 | 1.90 | 20HP4A (20LP4) |  |
| 1928 | $\begin{aligned} & 2.50 \\ & 2.50 \end{aligned}$ | 68A6 6847 | 1.80 2.60 | 6SJ7GT $65 K 7$ | 1.95 1.80 | $128 \mathrm{PY7}$ | 2.55 2.55 | 50C5 | 1.85 | $20 \mathrm{HP4C}$ | 42.25 47.75 |
| 2 A 3 | 4.20 | ${ }_{6 B C 5}$ | 1.95 | 6SK7 6 ST | 1.80 | ${ }_{12887}$ | 2.55 2.55 | 50 L6GT $50 \times 6$ | 1.85 | $20 \mathrm{HP4D}$ | 47.75 |
| 246 | 2.85 | 68D4A | 20.40 | 6SL7GT | 2.40 | $12 \mathrm{CA5}$ | 2.05 | 50X6 | 2.25 | 21 ALP4 | 46.00 |
| 2AF | 2.85 | 68D6 | \%.80 | 6SN7GT | 2.15 | 12 CU 6 | 3.55 | 50 Y 6 GT | 2.15 | $\ddagger 21 \mathrm{ALP4A}$ | 51.50 |
| 3AFAA | 3.45 2.90 | ${ }^{\text {SBEG }}$ | 1.85 | 6SNTGTA | 2.15 | 12 J GT | 1.80 | 50 Y 7 GT | 2.10 | 21 AMP4 | 44.00 |
| $3{ }^{\text {a }}$ | 2.90 | 6BF6 | 2.05 1.80 | 6SN7GTB | 2.15 | 12 J 7 GT | 2.55 | 56 | 1.90 |  |  |
| $3 \mathrm{AL5}$ | 1.60 | 68G6G | 5.20 | 6S¢7GT | 1.60 |  | 2.35 <br> 3.15 | 57 | 2.10 | $\ddagger$ 21AMP4A | 49.50 |
| 3AU6 | 1.70 | ${ }_{68 \mathrm{H} 6}$ | 2.10 | 6SR7 ${ }^{\text {6S }}$ | 1.60 | ${ }_{12 \mathrm{l}}^{12 \mathrm{~L}} \mathrm{~L}$ ( 6 GT | 3.15 1.85 | 58 | 2.10 | 21AP4 | 61.00 |
| 38C5 | 2.00 | ${ }^{68156}$ | 1.95 | 6557 | 2.40 | 1297GT | 2.10 | ${ }_{714} 70 \mathrm{LGT}$ | 6.95 2.40 | \# ${ }^{\text {21ATP4 }}$ | 51.50 51.50 |
| 38 N 6 3 BY 6 | 2.70 1.90 | 68 CK 68 BKA | 2.55 | ${ }_{6 S V} 65$ | 3.35 | 12547 | 2.10 | ${ }_{75}$ | 2.40 2.00 | + 21 AVP4A | 51.50 |
| $3 \mathrm{C86}$ | 2.00 | ${ }_{68 \text { L7 }}{ }^{681}$ | 2.85 3.25 | 674 6776 | 3.45 3 3 | 125A7GT | 2.10 1.95 | 76 | 1.70 | $\ddagger 21$ AWP4 | 49.50 |
| $3 \mathrm{3C56}$ | 1.90 | $6_{681} 6$ | 2.65 | ${ }_{677} 6$ | 2.85 | 12SF5GT | 1.95 2.05 | 77 | 2.20 | 21 EP4A | 48.25 |
| ${ }^{3 L F 4}$ | 3.10 2.20 | 68P6GT | 3.50 | 845* | 2.25 | $125 \mathrm{F7}$ | 2.40 | 78 | 2.20 | \$ 21EP48 | 53.75 |
| ${ }^{3045 G T}$ | 2.80 2.80 | 6897 A $68 \times 7 \mathrm{~T}$ | 3.25 <br> $\begin{array}{l}3.35\end{array}$ | 6 676 | 2.40 | $12 \mathrm{SG7}$ | 2.35 | 80 | 1.55 | 21 FP4 | 50.00 |
| 354 | 2.10 | ${ }_{6}^{68 Y} 6$ | 3.35 3.30 | SU8 ${ }_{\text {SV3A }}$ | 2.85 3 3 | 12SH7 | 2.55 2.00 | 81 | 4.80 | 21 PP4A |  |
| $3{ }^{3} 4$ | 2.10 | 68Y5GA | 3.30 | 6V6 | 3.90 3.30 | ${ }_{1}^{12557}$ 125GT | 2.00 2.00 | 83 | 2.65 | (2ILP4) | 50.00 |
| 4B97A | 3.30 | 6827 | 3.40 |  |  | $12 \mathrm{SK7}$ |  | 84/6Z4 | 1.80 | + 21 FP4C | 55.00 |
| $4 \mathrm{BZ7}$ | 3.45 | ${ }^{6} \mathrm{C} 4$ | 1.45 | SW4GT | 1.70 | $12 \mathrm{SK7GT}$ | 1.80 | 85 | 2.35 | $21 \mathrm{MP4}$ | 64.00 |
| 5AM8 | 2.75 | ${ }^{6} \mathrm{C} 5$ | 1.95 | SW6GT | 2.25 | $12 \mathrm{SL7GT}$ | 2.65 | 117L/M7GT | 6.95 | 21 WP 4 | 42.00 |
| 5ANB | 2.85 | ${ }^{6} \mathrm{C} 56 \mathrm{GT}$ | 2.10 | ${ }_{6 \times 4}$ | 1.35 | 12SN7GT | 2.15 | IITN7GT | 4.80 | \$ 21WP4A | 47.75 |
| 5AT8 | 2.65 | ${ }^{6} \mathrm{C} 8 \mathrm{BG}$ | 2.55 | ${ }_{6 \times 56 T}$ | 1.40 | 12507 | 1.75 <br> 175 | 117P7GT | 4.80 | $21 \times 84$ | 44.09 |
| 5AV8 | 2.95 | ${ }^{6 C 86}$ | 3.90 1.95 | $6 \times 8$ $6 Y 6 \mathrm{G}$ | 2.70 2.35 | 12 S 97 GT 12 V 6 GT | 1.75 | 11723 | 1.65 | $\ddagger$ 21XP4A | 49.50 |
| 5AW4 | 2.75 | ${ }^{6 C D 6 G}$ | 4.70 | ${ }_{744}(\mathrm{XXL})$ | 2.35 2.05 | $12 \times 4$ | 1.80 1.35 | $117 Z 4 G T$ | 3.00 | 21YP4 | 46.00 |
| 5AZ4 | 1.55 | ${ }^{6 C F 6}$ | 2.15 | $7 \mathrm{7A5}$ (XXL) | 2.05 2.55 | 12 L | 2.65 | IITZ6GT | 3.00 | $\ddagger$ 21YP4A | 51.50 |
| 556 | 2.35 | 8CG7 | 2.20 | 7Ab | 2.15 | 14A4 | 2.75 | 5642 | 2.65 | 21ZP4A | 44.00 |
|  | 1.60 | ${ }^{6} \mathrm{CL6} 6$ | 3.10 2.05 | 747 $7 A 8$ | 2.20 2.10 | 14A7/12B7 | 2.25 | 75 P 4 | 26.00 | \# 212P48 | 49.50 |
| 5 U 8 | 1.75 2.85 | ${ }^{6} \mathrm{CS6}$ | 2.05 1.85 | 7A8 $7 A D 7$ | 2.10 4.70 | $14 \mathrm{AF7}$ ( PXD ) | 2.50 2.25 | 108P4A | 19.25 | \% 24TP4/24CP4A | 70.00 |
| 5 V 4 G | 2.55 | ${ }_{60}{ }^{\text {Cub }}$ | 3.50 | 7AF7 | 2.40 | 1487 | 2.25 2.50 | ${ }_{14884}$ | 24.25 | - 24VP4A | 70.00 |
| 5V4GA | 2.55 | ${ }^{606}$ | 2.55 | $7 \mathrm{7AG7}$ | 2.55 | 14 E 6 | 3.00 | $148 \mathrm{P4} 4$ | 26.75 | \& 27EP4 | 126.00 |
| 5V6GT $5 \times 4 \mathrm{G}$ | 1.85 | ${ }^{6} 65^{*}$ | 2.35 | $7 \mathrm{AH7}$ | 2.55 | 14 EF | 3.35 | $14 \mathrm{CP4}$ | 26.75 | \$ 27RP4 | 126.00 |
| ${ }_{5 \times 8}{ }_{5 \times 4}$ | 2.05 | ${ }_{6}^{\text {SF5 }}$ SFST | 2.20 | 7407 | 2.20 | 1457 | 2.55 |  |  |  |  |
| ${ }_{5 Y}{ }_{5} \times 6$ | 2.65 1.30 | ${ }^{6} \mathrm{CFG} 6$ | 2.85 | 784 785 | 2.00 | 14 F 8 | 3.45 2.50 | 中 For 17RP4, order 17HP4. For ITVP4, order 17LP4. For 20LP4, order 20HP4A. For 2ILP4, |  |  |  |
| 5 Y 3 GT | 1.20 | ${ }^{6} 666$ | 2.00 | 786 | 2.05 | 14 NT | 2.75 |  |  |  |  |
| 5Y4G $5 Z_{3}$ | 1.70 2.00 | 6F6GT 6F8G | 2.00 3.90 | 787 788 | 2.05 | 1497 | 2.60 | order 21F |  |  |  |
| 524 | 3.30 | 6G6G | 2.85 | $7{ }^{7} 5$ | 2.15 | 1457 | 3.45 | \# New CBS-Hytron Mirror-Back Screen (alu-minixed).* Non-taxable. |  |  |  |
| ${ }_{6}^{643}$ | 4.05 | ${ }^{6} \mathrm{H} 6$ | 1.60 | ${ }_{7}^{7} \mathrm{Cb}_{6}$ | 1.90 | 198G6G | 6.00 |  |  |  |  |
| 6A6 6 647 | 2.85 | ${ }_{6}^{6 H 6} 51$ | 2.10 | 7 76 | 2.15 | 1956 | 2.50 |  |  |  |  |
| 6A7 | 2.75 | $6 J 5$ | 1.50 | 7E6 | 3.00 | 1978 | 3.15 |  |  |  |  |

# RECTIFIER CORPORATION <br> World's Lacgest smpplier of 2nolity Indentival Rectipens 

## Diodes

## GERMANIUM DIODES

These xetmanium diocles are the result of extensive research to provide high quality components. The athility of our semi-conductor division to produce exceptionally. fine germanium crystals has assured a maximum uniformity of characteristics. Morenver, the resistance of INTERNATIONAL diodes to humidity. stock and temperature-cycling has been rignousty demonstrated. You ate thus doulbly: alssured of an excellent rectifying unit having long lite and dependable operation.

| Type | Description | Fwd. MA of 1 V . | Mox. D.C. Inverse V. $25^{\circ} \mathrm{C}$ |
| :---: | :---: | :---: | :---: |
| 1N34 | General Purpose | 5.0 | 60 |
| 1N34A | General Purpase | 5.0 | 60 |
| IN38A | 100 Volt Diade | 5.0 | 100 |
| 1 N 48 | Generol Purpase | 4.0 | 70 |
| 1N. 52 | High Back Resistance | 4.0 | 70 |
| 1 N54 | High Bock Resistonce | 5.0 | 35 |
| INS4A | High Back Resistance | 5.0 | 50 |
| 1N56 | High Canductance | 15.0 | 40 |
| 1N58A | 100 Volt Diade | 4.0 | 100 |
| 1N63 | High Back Resistance | 4.0 | 100 |
| INO4 | Video Detector |  |  |
| 1N65 | DC Restarer | 2.5 | 70 |
| 1N69 | General Purpase | 5.0 | 60 |
| 1N75 | High Bock Resistance | 2.5 | 100 |
| 1N81 | Discriminotar Diade | 3.0 | 40 |
| G02A* | UHF Mixer Diade | *Camplete Specificotions in Bulletin GD-2 |  |
| G02M. | Meter Pratection Diade |  |  |
| 1N265 | High Temperoture Red Dot Diade |  |  |
| IN266 IN267 | High Temperature Red Dat Diade High Temperature Red Dot Diade |  |  |

## SELENIUM DIODES

These subminiature selenium diodes have been developed for use in electronic equipment where space is at a premium and ambient temperature is high They are designed for stable operation in ambient temperatures from minus 50 C to plus 100 C. Small and compact in size each unit is proviled with pigtail leads of facilitate wiring into a crowded chassis. Potting within a thermosetting com pound affords protection against corrosive atmosphere moisture

| Type | DC Output* |  | Max Inpui Volts (RMS] | Max. Freq. | Dimensions Inches Tolerance . 015 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Volts | MA |  |  | 1 | W |
| \|\$1 | 20 | 0.1 | 26 | 200 kc | $0.120^{\prime \prime}$ | $0.210^{\prime \prime}$ |
| 251 | 40 | 0.1 | 52 | 200 he | $0.150^{\prime \prime}$ | $0.210^{\prime \prime}$ |
| 111 | 20 | 0.2 | 26 | 200 kc | $0.120^{\prime \prime}$ | $0.210^{\prime \prime}$ |
| 2 T | 40 | 0.2 | 52 | 200 kc | $0.150^{\prime \prime}$ | $0.210^{\prime \prime}$ |
| $11^{1}$ | 20 | 1.5 | 26 | 100 he | $0.160^{\prime \prime}$ | $0.250^{\prime \prime}$ |
| 201 | 40 | 1.5 | 52 | 100 kc | $0.175^{\prime \prime}$ | 0.250" |
| 301 | 60 | 1.5 | 78 | 100 kc | $0.175^{\prime \prime}$ | $0.250^{\prime \prime}$ |
| 4U1 | 80 | 1.5 | 104 | 100 kc | 0.250 " | $0.250^{\prime \prime}$ |
| 501 | 100 | 1.5 | 130 | 100 ke | $0.250^{\prime \prime}$ | $0.250^{\prime \prime}$ |
| 6U1 | 120 | 1.5 | 156 | 100 kc | $0.330^{\prime \prime}$ | $0.250^{\prime \prime}$ |
| 701 | 140 | 1.5 | 182 | 100 ke | $0.330^{\prime \prime}$ | $0.250^{\prime \prime}$ |
| 8 Ul | 160 | 1.5 | 208 | 100 kc | $0.330^{\prime \prime}$ | $0.250^{\prime \prime}$ |
| 1 VI | 20 | 5.0 | 26 | 25 be | $0.300{ }^{*}$ | $0.320^{\prime \prime}$ |
| 2V1 | 40 | 5.0 | 52 | 25 kc | $0.305^{\prime \prime}$ | $0.325^{\prime \prime}$ |
| 3 VI | 60 | 5.0 | 78 | 25 kc | $0.305^{\prime \prime}$ | $0.325^{\prime \prime}$ |
| 1 Y 1 | 20 | 11.0 | 26 | 10 he | $0.115^{\prime \prime}$ | $0.460^{\prime \prime}$ |

 18 diodes are available

## the WIDEST RANGE in the INDUSTRY

|  |  | Type | Size | Average ${ }^{\circ}$ Outpur ( $\mu, 1$ ) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | A. 15 | -Unmounted | 2 " diom. | 750 |  |
|  | A. 10 | - Unmounted | $13_{4}$ " diom. | 500 |  |
|  | A. 5 | -Unmounted | 11/8" diam. | 250 |  |
|  | B. 15 | -Unmounted | 1"10" $\times 1$ ", " | 750 |  |
|  | B. 10 | - Unmounted |  | 350 |  |
| *At 100 ft . condles illumination | B. 5 | -Unmounted |  | 220 |  |
| and 100 ohm external resistance. | B-2 | -Unmounted | ${ }^{23} 17^{\prime \prime} x^{7} 100^{\prime \prime}$ | 75 |  |
| **At 100 ft . candles illumination | B-2.M | - Maunted |  | $\begin{aligned} & 60^{* *} \\ & 350 \end{aligned}$ |  |
| - and 55 ohm external resistance. | B. $10 . \mathrm{mA}$ | - Mounted | $2^{13} 44^{\prime \prime} \times 11 / 8^{\prime \prime} \times 174^{4 \prime}$ |  |  |

HI VOLTAGE CARTRIDGE

| Circuits | Assembly | Terminals |
| :--- | :--- | :--- |
| Holf Wave - Voltage Doublers | Triple "X" Phenolic | Pigtoil <br> Full Wave - Triplers <br> Full Wave Bridge, Center Taps |
| Ferrule <br> 150 mieroamperes -300 MA -20 volts -6000 volts and up. Over 500 types to meet spe. |  |  |



- Descriptive Literature Available on Request-Write Dept. M-on your letterhead, please



## For maintenance or original equipment Specify Sylvania Tubes

"GOLD-ERAND" SUBMINIATURES-for extra premium performance in tubes built to close design centers



RELIABLE AND RUGGEDIZED TUBES-for reliability under severe environmental conditions

GAUOWA SJ6WA. 12AT7WA. 5654/6AK5W. 5654/6AK5W/6098 5670 . 5670WA . medium mu double triod 5725/OASOW....... dual control shorp cut-off pentode 5725/6AS6W/6187. dual control shorp cut-off pentode 5726/6AL5W. .......................... . . . double diode 5726/6AL5W/6097. . . . . . . . . . . . . . . . . double diode
 5749 BBA6W . . . . . . . . . . semi-remate cut-off pentode

|  |  |
| :---: | :---: |
| 5751WA. | STIWA. | . high mu double triode 5751 WA . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .

 5814 A................................................................... 5814 A. ................................................................. mum mu double triode 6005/6AQ5W/6095 . . . . . . . . . . . . beam power pentode

 6SN7W 6819/12AU7WA... $\qquad$ medium mu double triode beam power pentode medium mu double triode
full-wave rectifier
6SJ7WGT. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . medium mu double triode full-wave rectifier

shorp cut-off pentod medium mu double triode high mu double triode shorp cut-off pentod shorp cut-off pentode shorp cut-off pentode medium mu double triode
high mu double triode . double beam power tube half-wave rectifier full-wave rectifier beom power amplifier beom power amplifier

GAS-FILEED TUBES-for important electronic control applications

"600 MA" TUBES - for 99.7 proof performonce in series-string TY

|  | $2 A F 4$ | 5AM8 | 6SN7GT8 |
| :---: | :---: | :---: | :---: |
|  | 274 | 5AN8 | 12AX4GTA |
|  | 3 AL5 | 5AQ5 | 12B4A |
|  | 3 3U6 | 5 AV8 | 12BK5 |
|  | 3 AV6 | 5BK7A | 12BQ6GA |
|  | $3 \mathrm{BC5}$ | 516 | 128Q6GTA |
|  | 3BE6 | 578 | 12BY7A |
|  | $3 \mathrm{BN6}$ | 548 | 12CU6 |
|  | $3 \mathrm{BY6}$ | 5VOGT | 12L6GT |
|  | $3 \mathrm{BZ6}$ | $5 \times 8$ | 12W6GI |
|  | 3CB6 | GAW8 | 25CD6GA |
|  | 4BQ7A | $6 A \times 7$ |  |
|  | 4B27 | 6S4A |  |


| "DOUBLE-DUTY" TYPES - for impraved tele |  |
| :---: | :---: |
| performance |  |
| $12 A U 7 A$ |  |
| SU4GB |  |
| $1 X 2 B$ | $6 S N G T G T B$ |
| $6 B Q 6 G T A$ | $6 C D 6 G$ |
|  | $6 L 6 G B$ |

Specify Syivania, too, for your special-purpose receiving and cathode-ray tubes. Address inquiries to Deportment J36P.


These are the Sylvania products which are making possible new and better ways to design commercial and military electronic equipment. For complete data on any of these products write to Dept. J-36R, Sylvania Electric Products Inc., 1740 Broadway, New York 19, N. Y.

MICROWAVE CRYSTAL DIODES

-These types ore ovailoble in reverse polorities and os motched pairs of either normol, reverse or mixed polorities.

## CRYSTAL DIODES



CRYSTAL DIODES (Continued


## PHOTO TUBES



## SILICON JUNCTION DIODES

IN137A. . . . . . . . . . . . 36 Volt $\mathbf{3} 0.3$ Microamps at -20 Volts) IN138A.
.. 18 Volt (.01 Microomps at -10 Volts)

## Electronic Products

## Magnetrons to Transistors



## MAGNETRONS


 R1111M............. .............. Matched Pair of R1111

## STROBOTRONS



TR \& ATR TUBES (Continged)


2C36 ..... . . . . . . . . Pulse-Madulated and C.W. Oscillatar
 Pulse-Madulated Oscillato Broad Band C.W. Oscillator C.W. Oscillator C.W Amplifier C.W. Oscillatar C.W. Oscillator, Amplifier and Multiplier

## PENCIL TUBES

. UHF Triode Fixed Tuned Inside Covity .. UHF Triode For C.W. Oscillatar Medium nu Plate Pulsed Oscillator Medium mu Power Amplifier . High mu Power Amplifier

## SELENIUM RECTIFIERS


*SYLVANIA

| GENERAL PURPOSE TYPES |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PARAMETERS |  | RR14 | RR20 | RR34 | RR115 | 2N34 | 2N36 | 2N37 | 2N38 | 2N39 | 2N40 | 2N42 |
| RECOMMENDED MAXIMUM RATINGS |  |  |  |  |  |  |  |  |  |  |  |  |
| Collector Current volts <br> Collector Voltage m.w. <br> Collector Oissipation ${ }^{\circ} \mathrm{C}$ <br> Junction Temperature Junction tem | $\begin{aligned} & 50^{\circ} \mathrm{C} \\ & 30^{\circ} \mathrm{C} \end{aligned}$ | $\begin{array}{r} \text { Li } \\ -25 \\ 50 \\ 75 \\ 75 \\ \text { increa } \end{array}$ | ted only <br> -25 <br> 50 <br> 75 <br> s approx | in term <br> - 25 <br> 50 <br> 75 <br> $0.5^{\circ}$ | $\begin{gathered} \text { of dis } \\ -25 \\ \ldots \\ 40 \\ 50 \end{gathered}$ bove a | pation <br> $-25$ <br> 50 <br> 75 <br> bient pe | $\begin{array}{r} -25 \\ 50 \\ \ldots \\ 75 \\ \mathrm{mw} \end{array}$ | $\begin{array}{r} -25 \\ 50 \\ \ldots \\ 75 \\ \text { dissip } \end{array}$ | -25 50 $\ldots$ 75 | -30 50 $\ldots$ 75 | -30 50 $\ldots$ 75 | -30 50 $\ldots$ 75 |
| CHARACTERISTICS AT $25^{\circ} \mathrm{C}$ (Emitter current: 1 ma . Frequency: 1000 cPs ) |  |  |  |  |  |  |  |  |  |  |  |  |
| Maximum Collector $\mu \mathrm{a}$ <br> Cutoff Current ( $\mathbf{1 ~ c o ~}^{\prime}$ $\mu \mathrm{a}$ | $\begin{array}{r} V c \\ -15 \mathrm{~V} \\ -25 \mathrm{~V} \\ \mathrm{Ico} \end{array}$ | 15 50 | 15 50 approx | 15 50 every 10 | 15 $\ldots$ crise | 15 50 | 15 50 ature | 15 50 | 15 50 | 15 50 | 15 50 | 15 50 |
| $\begin{aligned} & \text { Collector Resistance }\left(r_{\mathrm{C}}\right) \\ & \mathrm{r}_{\mathrm{C}}=\mathbf{R}_{22} \\ & \begin{array}{l} \text { (Open Circuit } \\ \text { Output Resistance) } \end{array} \quad \text { megohms } \end{aligned}$ | Vc Min. Avg. | -25 1 2 | -25 1 2 | -25 1 2 | -15 0.5 2 | -4.5 1 2 | -4.5 $\begin{array}{r}\text { - } \\ 1 \\ 2\end{array}$ | -4.5 1 2 | -4.5 1 2 | -4.5 1 2 | -4.5 0.7 2 | -4.5 0.5 2 |
| Collector Voltage Input Resistance ( $R_{11}$ ) |  | $-4.5$ | -4.5 | $-4.5$ | -4.5 | -6 | -6 | -6 | -6 | -4.5 | -4.5 | -4.5 |
| $\left.R_{L}=\infty: R_{11}=\frac{\left(\infty c_{b} r_{e}\right.}{2}+r_{b}\right) \text { ohms }$ | Avg. | 600 | 850 | 400 | 400 | 850 | 850 | 600 | 400 | 850 | 600 | 400 |
| Emitter Resistance ( $\mathrm{r}_{\mathrm{e}}$ ) ohms | Avg. | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| Current Ampl. Factor ( $\propto$ cb ) | Min. | $20$ | $35$ | 10 | 10 |  |  | $\cdots$ | $\ldots$ | 32 | 15 | 9 |
| (Grounded Emitter: $\mathbf{R}_{\mathbf{L}}=0$ ) | Avg. <br> Max. | $\begin{aligned} & 28 \\ & 34 \end{aligned}$ | $45$ | 15 19 | 15 $\ldots$ | 40 | 45 | 30 $\ldots$ | 15 | $\cdots$ | 32 | 15 |
| Noise Figure at $\mathrm{V}_{C}=-4.5 \mathrm{~V} \quad \mathrm{db}$ | Max. | 24 | 24 | 24 | 30 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| TYPICAL GROUNDED EMITTER OPERATING CHARACTERISTICS AT $25^{\circ} \mathrm{C}$ (FREQUENCY: 1000 CPS ) |  |  |  |  |  |  |  |  |  |  |  |  |
| Collector Voltage volts |  | -4.5 | -4.5 | -4.5 | -4.5 | -6 | -6 | -6 | -6 | -4.5 | -4.5 | -4.5 |
| Emitter Current ma |  | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Base Connection Current $\quad$ a |  | 10 | 5 | 25 | 25 | 25 | 10 | 20 | 50 | .... | .... | $\cdots$ |
| Power Gain db |  | 39 | 41 | 36 | 36 | 40 | 40 | 36 | 32 | 39 | 38 | 36 |
| Source Impedance ohms |  | 1.5K | 1.5K | 1.5K | 1.5 K | 0.5K | 1.0 K | 1.0 K | 1.0K | 0.5K | 0.5K | 0.5 K |
| Load Impedance ohms |  | 30K | 30K | 30K | 30k | 30K | 30K | 30K | 30K | 30K | 30K | 30k |

- Mounting: 1. Plug into Cinch $=54 \mathrm{~A} 14956$ socket or equivalent. Max. noise tigure of 16 db may be specified for above types by (cut leads to 0.020 inches). 2. Solder leads (using heat sink). ordering units marked with yellow dot.

Other RRco. Transistors
Computer Transistors: RR83, RR87, RR117, RR122 Photo Transistors: RR66, RR66A
Hearing Aid Transistors: RR14Z, RR20Z, RR342, RR38 Push-Pull Audio Pair: RR106
High Frequency Iransistors: RR160, RR161, RR162
Sub-Miniature Transistors in all the above types to meet special requirements.

New types and numbers are added constantly to Radio Receptor's expanding line of transistors. See your local distributor for information and prices on the latest units available.


In Radio and Electronics
Since 1922

[^9]Copsinht by U., C. I'.,Inc.


Redio Receptor's line of diodes is constantly expanding and
new numbers are odded all the time. See your local distributor for information on the latest units available and current prices.

## Semiconductor Division

## RADIO RECEPTOR COMPANY, INC.



In Radio and Electronics Since 1922

## WESTINGHOUSE RELIATRON® TUBES WESTINGHOUSE TUBE FACILITIES

Westinghouse RELIATRON 19 ceiving tubes, picture tubes, and power tubes are manufactured in these two giant modern plants which comprise the Electronit Tube Division of Westinghouse Electric Corporation. The Division offers manufacturers and distributors of electronic equipment the complete lines of tubes listed on the following pages. All are produced under rigid Westinghouse quality control stantards. In addition Westinghouse is conducting long-range deveopment programs on receiving and picture tubes for color television. For information concerning Westinghouse Electronic Tubes. contact one of the sales offices listed below:


CONVENIENTSALES OFFICES

Boston, Mass.
10 High Street
LIberty 2-0600
Providence, R. I. 51 Empire Street

GAspee 1-0818
Bloomfield, New Jersey
MaeArthur Avenue
BLoomfield 2-2200
Elmira, New York
P.O. Box 284

ELmira 9-3611
Atlanta, Gcorgia
1299 Northside Drive, N.W.
ATwood 1642
Charlotte, N. C.
210 East 6th Street
CHarlotte 6-6461

Philadelphia. Pa.
3001 Walmut Stred
EVergreen 2.120
Pitt-lurwh. Pat.
306 Fourth Avenue ATlantic 1-840n

Minneapolis 13. Mim,
2303 Kennedy Sireet, N.E. GRanville 3545
Cincimati. Ohio
207 W. 3rd Street CArfielal 2250)

Chicago, Illinois 2211 W. Pershing Rd. FRonticr 6-2346

Detroit, Miehigan
5757 Trumball Avenue TRinity 2-7010

Ditlias. Texas
1232 Fidelity Union Building RIverside 5231

Denver, Colorado
P.(). Box 614

Loz Angeles, California
11470 Tennesser Avenue
ARizona 7-1243

San Francisco, California
410 Bush Street
EXbrook 2-5353

St. Louis, Missouri
411 N. 7th Street
CEntral 1120

## Westinghouse RELIATRON ${ }^{\circ}$ TUBES



[^10]
## Westinghouse RELIATRON ${ }^{\oplus}$ tUBES

RECEIVING TUBES

prices subject to change without notice

## Westinghouse RELIATRON ${ }^{\circledR}$ tubes

PICTURE TUBES

| Type | Face Plate |  | Envelope |  |  | Focus |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Spherical Cylindrical | $\begin{aligned} & \text { Filter: Fil } \\ & \text { Frosted: Fr } \end{aligned}$ | Shape | Metal or Glass | External Cond．Coat． | Elcctrostatic Magnetic | User Price |  |
| 10BP4．A | splerical | Fil | round | Hlake | vis | $31: 2$ | \＄19．25 |  |
| $12 \mathrm{KP4}$－A | spherical | Fil＊ | round | glask | U＇s | 3 Slar | 29.75 |  |
| 22LP4．A | spherical | ril | ${ }_{\text {ratand }}$ | claes | \％ry | Natic | 24.25 |  |
| $14 \mathrm{CP4}$ $16 \mathrm{P} 4-\mathrm{A}$ | spherical | $\underset{\text { rid }}{ }$ | Ter mimintat | metil | v－k | 11：4 | 26.75 44.75 |  |
| 16GP4－B | sherical | Fil，Fr． | round | metal |  | Mar | 44.75 |  |
| 16KP4／16RP4 | spherical | Fil | reetamutar | clase | 118 | 3 Ma | 32.00 |  |
| 16LP4－A | spherical | Fil | round | trlase | ver | Matr | 41.50 | Reliatrong Piciure |
| $16 \mathrm{TP4}$ | spherieal | $\stackrel{\text { Fil }}{ }$ | rectangular | clase | yor | Mat | 32.00 41.50 |  |
| 1.6 WP4－A | spherical spherical | $\underset{\text { Fil }}{\text { Fil }}$ | round | $\underset{\text { clase }}{\text { chase }}$ | y | Lowivel | 41.50 34.00 | Tubes are available |
| $17 \mathrm{BP} 4-\mathrm{A}$ | apluerical | Yil | rectangular | ，jass | vers | 3 M | 32.00 | in both glass and |
| 178P4－B | 81urical | Fil＊ | rectamenlar | qlass | 3 ld | ${ }^{\text {Nater }}$ | 37.50 |  |
| 17CP4 | spierical | Fil， Fr | rectangular | metal |  | 11.1 Mas | 40.00 44.75 | metal coustructiou． |
| J\％HP4／17RP4 | sphiprieal spherical | Fil， F （il | rertangular | class | ＂Fs | 1．1w V．Dis | 34.00 |  |
| 17HP4－B | sulherical | Fil＊ | reelampular | claks | we | 1．aw \％10， | 39.00 | c |
| 17JP4 | sphurical | Fil | reertankular | ylass | \％ | Mal | 34.00 | or electrostitic |
| 17LP4 | crindrical | Fil | rectancular | slass | yes | bow Y．lia | 34.00 | or electrostinic |
| 27LP4－A | celindricat | ril | rectampular | cluas | $\cdots$ | $1.41 \%$ N\％ | 39.00 | focusing．Every thbe |
| 179P4 | rylindrical | Fil ${ }^{\text {ril }} \mathrm{Fr}$ ． | rectangular inctamrular | gmas | － | Mats | 32.00 <br> 40.00 |  |
| $17 Y P 4$ | eylindrical | ril | rectangular | ylask | （18） | ${ }^{11 \times 1}$ | 32.00 | er' |
| 19AP4－B | spherical | Fil．${ }^{\text {rr }}$ | round | metal | （1） | Mas | 48.75 39.00 | rigid Westinghouse |
| 20CP4 | spluerical | $\stackrel{+}{\text { Fil }}$ | rewtangular | ¢lase | nowe | Mater | 39.00 40.75 | qulity |
| 21AALP4 | sphurical splur ical | $\underset{\mathrm{Fi}}{\mathrm{Fi}{ }^{*}}$ | rertamzular | $\underset{\text { yrass }}{\substack{\text { clase }}}$ | yex |  | 40.75 46.00 | uality 0 ¢ 0 |
| $21 \mathrm{MMP4}$ | spherical | Vil | reetansular | wlass | irn | M：3 | 39.00 | trol standards and is |
| 21AMP4．A | fpherical | Fil＊ | rectancular | clask | \％ | Nam | 44.25 |  |
| $21 A P 4$ | spherical | Fil．Fr | weranurular | metal | － | Miter | 47.00 | guaranteed for a full |
| 21 ATP4 <br> 21 AUP4 | spherical | $\stackrel{\mathrm{Fil}}{\mathrm{Fil}}$ | mertinguar | \％alak | （10x | 1．ハ以1．18 | 40.75 |  |
| ：$\triangle A U P 4-A$ | spherical | Fil＊ | ¢retausular | whes | －＇8 | Iow ve 1：8 | 46.00 | ri |
| $2 J A U P 4-B$ | spherical | Fil | rectingular | class | yer | low İs | 46.00 | the Wpstins． |
| $21 / 2 V P 4$ | sitherical | $\mathrm{ril}^{\text {ril }}$ | rectahsigular | ¢ylaks | uk | 1，nw is | 40.75 |  |
| ：IAVP4－A | spherical spherical | $\underset{\text { Fil }}{\text { Fil }}$ | receampular reetangular | glass | י |  | 46.00 46.00 | house tube represell－ |
| $2{ }^{2}$ EP4－A | $\cdots$ | ril | rectanuxar | \％rlass | ， | Wa： | 39.00 | tative nearest vol |
| 21 EP4－B | cylindrical | Fil ${ }^{*}$ | raveraneular | ylase | $\cdots$ | M：\％ | 44.25 | tative nearest von． |
| 2］FP4－A | cylindrical | $\mathrm{Fil}^{\text {a }}$ | motanenlar | chans | yer | Low M．Jis | 40.75 |  |
| ：1FP4－C | exilindrical | Fil＊ | rectamumar | Hass | ves | lam 1． | 46.00 |  |
| $21 \mathrm{MP4}$ | spherical | Fil． Fr | rectanmular | metal | － | law 1．R | 48.75 |  |
| 2 YPP | sphrere：l | $\stackrel{\text { Fil }}{\text { Fil }}$ | rectangular | \％lase | \％8 |  | 40.75 46.00 |  |
| －1 YP4－A | spherical | $\mathrm{Pil}^{\text {l }}$ | rerchamular roctangular | \＃lass | yes | 1．011 Mar | 46.00 39.00 |  |
| $\begin{aligned} & \text { 2IZP4-A } \\ & \because Z Z 4-B \end{aligned}$ | spherimal spherical | ril＊ | reerranguar | \％lass |  | 1：32 | 44.25 |  |
| 24APG | spherical | Fil | round | metal | － | M：4 | 120.00 |  |
| $24 \mathrm{CP4}$ | spherical | Fil | rectanyular | clans | \％ | M1： | 69.25 |  |
| $2.4 \mathrm{CP4A}$ | spherical | ${ }_{\text {riol }}$ | ru－tillgitar rectamenlat |  | \％os |  | 75.50 71.00 |  |
| 2．5DP4－A | spherical spherical | $\xrightarrow{\text { riol }}$ | moramshlar | criann |  | 1．an 1． | 71.00 77.25 |  |

MISCELLANEOUS
VOLTAGE REGULATORS （Cold Cathode Type）

| Type | DC <br> Anode <br> Supply <br> Volts <br> （min．） <br> 保 |  |  | $\begin{array}{c\|} \hline \text { Regula- } \\ \text { tion } \\ \text { Volts } \\ 5-40 \\ \text { (ma.) } \\ \hline \end{array}$ | $\begin{aligned} & \text { User } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| WL．OA3 | 105 | －-411 | i， | ： | \＄2．65 |
| WL．OC3 | 13： | 5－411 | 111.5 | $\because$ | 2.65 |
| WL－003 | 18.5 | 5－1＂ | 1.34 | 4 | 2.65 |


|  | IONIZATION GAUGE |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Type | $\begin{aligned} & \text { Fila- } \\ & \text { ment } \\ & \text { V. A. } \end{aligned}$ | $\begin{gathered} \operatorname{lon} \\ \text { Coll. } \\ V . \end{gathered}$ | Grid Volts | Sensi－ tivity | User Price |
| WL－5966 | fi， $010 .$. | －$\because 11$ | 1．31） | $\begin{gathered} 1 \mu a m p . \\ 10-\bar{n} \\ 1 m \omega 1 \mathrm{H}_{2} . \end{gathered}$ | \＄25．00 |


|  | PROTECTOR |  | TUBE |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Volts． | RMS | Curren | nt，Am |  |
| Type | Break－ down | Max． Operat－ ind | $\begin{aligned} & \text { Max. } \\ & 2 \text { Sec. } \end{aligned}$ | $\begin{gathered} \text { Max. } \\ 10 \\ \min . \end{gathered}$ | User Price |
| WL－$\overline{\text { K }}$ 642 |  | －$:$ ： 0 | S1） | 7 | \＄12．60 |

## yOU CAN BE SURE．．．IF IT＇S <br> Westinghouse

# CETRON ELECTRONIC TUBES 

## Engineered and Manufactured by Continental Electric Co., Geneva, Illinois Specialists in Photo Emissive and Photo Conductive Tubes <br> CETRON PHOTOTUBES




 relay work, etc.

## CETRON RED SENSITIVE PHOTOTUBES (S1 Surface)




## CETRON BLUE SENSITIVE PHOTOTUBES (S4 Surface)


 write for our J'C $8 / 0$

## CETRON LEAD SULPHIDE PHOTOCELLS (Infra-red)


 enghemeng sumeifications, write for our lead sulfile literature.

## CETRON SPECIAL PURPOSE PHOTOTUBES





## PRICES



RED SENSITIVE TYPES, GAS-FILLED, RETMA SPECTRAL RESPONSE SI

blue sensitive types, gas-filled, retma spectral response sf
CE-59/5581

Q
$8!1111$ 110.60
(5-(i4/55) ${ }^{2}$
10.010
$1 \because .102$


16.010

| 10.100 |  |
| :--- | ---: |
| .1810 | 4.101 |

('F-8 + Bavomet Basu*
16.1101
$11: 1111$

BLUE SENSITIVE TYPES, VACUUM, RETMA SPECTRAL RESPONSE S4

## (1F-29/929

( 16.24
(V-87 Find TVue
(1)-9:

MINIATURE TYPES

\$1.00
10.100
10.00
!,:3:
16.110
110.11 .5
$1 \because 7$

CE-1645A 3 Anodrs Balanced ('atar-itatice

LEAD SULFIDE TYPES

CW-TOI Side Tym
Cli-zo: Doutble siule Tyue
( F -705 Enf TY!
(以-T11 Thrar-i"in side Typ


CE-702


CE-1
CE-91


CE-701

# CETRON ELECTRONIC TUBES © 

Engineered and Manufactured by Continental Electric Co., Geneva, Illinois Specialists in High Voltage and Inert Gas-Filled Rectifier and Grid Control Tubes


CE-202

| Present Type No. | Ref. <br> Type No. | $\overbrace{\text { Volts }}^{\text {Fila }}$ | $\begin{aligned} & \text { ament- } \\ & \text { Amps. } \end{aligned}$ | Volts Peak Inverse | Anode <br> Amps. Peak | Amps. Avg. | Base | Notes | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ('E-200A Mercury | 200 | 2.5 | 6.5 | y00 | 4 | 2 | A 4-10 | Full Wave | \$ 7.75 |
| (E-201. Mercurs | $\because 01$ | 2.5 | 1.5 | 900 | 4 | $\stackrel{\square}{2}$ | Special | Full Wave | 8.00 |
| (6-20213 Mureury | 202 | 2.5 | 20.0 | 900 | 45 | 15 | Mogul Screw | Half Wave | 35.00 |
| (EE-O\%3 Mercury |  | 2.5 | 20.0 | 500 | 45 | 15 | Mogul Screw | Half Wave | 11.60 |
| ('Fe-20.5 Mercury | 2-RA-\% | 2.0 | 12.0 | 900 | 15 | 5 | Mogul Screw | Half Wave | 12.60 |
| (E-204i Mercurs |  | 2.0 | 12.1 | 300 | 18 | ${ }^{\text {fi}}$ | Mogul screw | Hali Wave | 6.00 |
| ( E - - ${ }^{\text {Of }}$ Mercury |  | 2.5 | 20.0 | 900 | 45 | 15 | Mogul Serev | Half Wave | 35.00 |
| ( $\mathrm{E}-201.1$ Mereury | 210 | 2.5 | 6.5 | 800 | 4 | 2 | Stand. 4 P in | Full Wave | 7.75 |
| CE-211.1 | 211 | 2.5 | 6.5 | 800 | 4 | 2 | special | Full Wave | 8.00 |
| CE-213A Mercury |  | 2.5 | 7.0 | 5000 | 10 | 2.5 | A 4-10 | Half Wave | 7.50 |
| (E-20)/ヶセ Vacuum | 72 | 2.5 | 3.0 | 20000 | . 1001 | . 0120 | A 4.10 | Half Wave | 7.72 |
| (E-22] Xenon | 41325 | 2.5 | 17.0 | 725 | $25 . t$ | ti. 4 | Special | Full Wave | 19.00 |
| (EE-2.4. | 41324 | 2.5 | 11.5 | 725 | 10.0 | 2.5 | Special | Full Wave | 10.90 |
| CE-225 Argora | 41328 | 2.2 | 17.0 | 300 | $3+1.0$ | ti. 11 | Mogul (12-3 | Half Ware | 5.00 |
| CE-2?4 Arron | $41326, \mathrm{Rta}$ | 2.2 | 17.0 | 375 | 36, 0 | 6.11 | Mogul G2-3 | Half Wave | 5.00 |
| CE-22s Stenon | 31398 | 2.5 | 5.0 | 10000 | 1.0 | 0.25 | 14-10 | Half Wave | 8.00 |
| CE-2? ${ }^{\text {ce }}$ Xemon |  | 2.5 | 5.0 | 8000 | 1.0 | 0.2.5 | A $4-10$ | Half Wave | 7.00 |
| CE-230A Vacuum | 31324 | 5.0 | 3.0 | 20000 | . 300 | . 0 tio | 4 Pin A 4-10 | Hali Wave | 13.20 |
| CE-235 Argon | 12-15-1 | 2.5 | 25 | 230 | 90 | 15 | Mogul C2-3 | Half Wave | 10.75 |
| CE-235.1 Argon |  | 2.5 | 25 | 230 | 90 | 15 | Mogul $\mathrm{x}^{2}-3$ | Hall Wave | 10.75 |
| CFP $2+0$ S Xenon | 2 W 2 | 2.5 | 5.0 | 2500 | 2.5 | 0.65 | A 4.10 | Half Wave | 7.95 |
| CE-243 Mercury |  | 2.5 | 7.0 | 2000 | 10.0 | 2.5 | A $4-10$ | Hali Wave | 8.50 |
| CE-24\%C | 249 C | 2.5 | 7.5 | 7500 | 2.5 | 0.65 | A 4.10 | Half Wave | 9.00 |

## GRID CONTROLLED RECTIFIERS THYRATRONS

| Present <br> Type No. | Ref. Type No. | FilamentVolts Amps. |  | $\xlongequal[\text { Vats Conde__ }]{ }$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Volts <br> Peak Inverse | Volts Peak FWD | Amps. Peak | $\begin{aligned} & \text { Amps. } \\ & \text { Avg. } \\ & \hline \end{aligned}$ | Base | List Price |
| E.-303 Xenon | 3(31, C'1B | 2.5 | 13.0 | 700 | 450 | 8.11 | 1.0 | A 4.10 | \$13.25 |
| CE-304 Mercury |  | 2.5 | 23 | 1000 | 1060 | 12\% | 12.5 | 1ND \#4310 | 74.75 |
| CE-305 X ${ }^{\text {chon }}$ |  | 2.5 | 8.5) | 1700 | 850 | 12 | 2.0 | A 4.10 | 28.00 |
| CE-30¢ Xenon |  | 2.5 | 18.0 | 1250 | 750 | 75.0 | 6.4 | \# 412 ( NL ) | 33.60 |
| CE-309 Mercurs | Fi-17 | 2.5 | 5.0 | 5000 | 2500 | 3.0 | 0.5 | . $4 \cdot 10$ | 7.90 |
| CE-311 Mercury | 3 C 23 | 2.5 | 7.0 | 1250 | 1250 | 6, 0 | 1.5 | A 4.10 | 15.75 |
| DCE-393A Mercury | 393 A | 2.5 | 7.0 | 1250 | 1250 | 6.0 | 1.5 | Octal B7-12 | 15.75 |
| CE-3e9A Mercury | ( 3 R14 | 14.0 | 2.5 | 500 | 500 | 319.0 | 3.0 | S'pecial A $4 \cdot 81$ | 42.50 |
| CE-329C Xenon | (31) 4 | 14.0 | 2.5 | 1250 | 1250 | 80,0) | 3.0 | Special A 4-si | 39.90 |
| CE-3301B Xenon | $0^{-5} \mathrm{Fl} 4$ | 14.0 | 2.5 | 1250 | 500 | \$3.0) | 5.0 | Special A 4-81 | 45.00 |
| Ce-394 A Mercury | 394 A | 2.5 | 3.3 | 1250 | 1250 | 2.5 | 0.65 | Octal BT-12 | 7.90 |
| CE-627 Mercury | $1: 27$ | 2.5 | 5.0 | 5000 | 1200 | 2.5 | 0.65 | NDD. \#411 <br> A $4-15$ | 15.75 |

Detailed engineering specifications on all tubes are available upon request. The extensive engineering and manufacturing facilities which we have, make possible the development and production of many types of special tubes to your specifications. If you have a problem involving the use of any CETRON tubes you are invited to consult us.

## WARRANTY

We guarantee all products manufactured by us to be free from all material and manufacturing defects and to give satisfactory service when operated in accordance with instructions indicated for their use.
CONTINENTAL ELECTRIC co.
Geneva, Illinois



AX-9992/5868


5894


6360


6333


5924


ELECTRONIC AMPEREX

6339

AX-555I-A
 COMMUNICATION - RECTIFICATION - INDUSTRIAL - ELECTRO-MEDICAL - RADIATION DETECTION - SPECIAL PURPOSE

$\dagger 6268 / A \times 9911$ and $6279 / A X-9912$ are improved, interchangeable versions of $4 C 35$ and 5C22 respectively. Min.
imum ghisanteed life 1000 hrs. TUBE TYPE RENEWAL PRICES* ON RADIATOR TYPE FORCED AIR.COOLED TUBES:

 HELPFUL CHAl shipping container is refurned prepaid in good condition with the replacement order


2312 WABANSIA AVENUE, CHICAGO 47, ILLINOIS

TRANSMITTING TRIODES

| Type | Fllament |  | Max. Plate |  |  | Max. Grid |  |  | Max. Mc. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Dissipation | D.C. | D.c. | Drive | Amp. |  | for 100\% | Llst |
|  | Volts | Amps. | Watts | Volts | M.A. | Watts | Factor | Base | Input | Price |
| UX-CV11 | 10.0 | 2.5 | 75 | 1500 | 165 | S. 0 | 14 | Spec. | 30 | \$11.50 |
| T. 20 | 7.5 | 1.75 | 20 | 750 | 85 | 3.5 | 20 | A4-10 | 60 | 4.00 |
| T-40 | 7.5 | 3.0 | 40 | 1500 | 150 | 9.0 | 25 | A4-10 | 60 | 7.70 |
| TZ-40 | 7.5 | 3.0 | 40 | 1500 | 150 | 9.0 | 62 | A 4-10 | 60 | 7.70 |
| T-55 | 7.5 | 3.0 | 55 | 1500 | 150 | 7.0 | 20 | A4-10 | 60 | 9.50 |
| HF-60 | 10.0 | 3.0 | 60 | 1500 | 150 | 7.5 | 15 | A4-10 | 60 | 12.50 |
| T-60 | 10.0 | 3.0 | 60 | 1500 | 150 | 9.0 | 15 | A4-10 | 60 | 11.50 |
| T-200 | 10.0 | 5.75 | 200 | 2500 | 350 | 20.0 | 17 | A4-29 | 30 | 25.00 |
| T. 300 | 10-11 | 6.0 | 300 | 3000 | 300 | 18.0 | 23 | A4-30 | 30 | 30.00 |
| 468 | 10.0 | 4.5 | 150 | 2250 | 200 | 20.1 | 18 | A4-30 | 30 | 29.50 |
| 805 | 10.0 | 3.25 | 125 | 1750 | 210 | 10.0 | 45 App . | A4-29 | 30 | 13.50 |
| 810 | 10.0 | 4.5 | 125 | 2250 | 275 | 15.0 | 36 | A4-29 | 30 | 14.50 |
| 845 | 10.0 | 3.25 | 100 | 1230 | 175 | 10.0 | 5 | A4-29 | 20 | 13.75 |
| 8000 | 10.0 | 4.5 | 125 | 2500 | 250 | 20.0 | 16.5 | A4-29 | 30 | 14.50 |

GRID-CONTROLLED RECTIFIERS


## RECTIFIERS

| $\dagger$ ¢ | 2.5 | 9.0 | 1000 | 25.11 | 3.0 | A4-10 | \$ 9.60 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| +3828 | 2.5 | 5.0 | 10000 | 1.0 | 0.250 | A4-10 | 8.50 |
| †6B | 2.5 | 21.0 | 920 | 41.0 | 4.4 | A4-81 | 12.40 |
| TR-40M | 5.0 | 10.5 | 600000 | 1.0 | 1.25 | A4-29 | 20.00 |
| *249-B | 2.5 | 7.5 | 10000 | 1.5 | 0.375 | A4-10 | 9.00 |
| *249-C | 2.5 | 7.5 | 101000 | 1.5 | 0.875 | A 4-10 | 9.00 |
| *249-S, R | 2.5 | 7.5 | 50000 | 11.5 | 0.125 | A4-10 | 7.00 |
| *258-B | 2.5 | 7.5 | 100000 | 1.5 | 11.375 | Spec. | 11.00 |
| *866-A | 2.5 | 5.0 | 100000 | 0.5 | 0.250 | A4-10 | 1.95 |
| *866 Jr. | 2.5 | 2.5 | 50100 | 10.5 | 0.125 | A4-10 | 1.65 |
| *872-A | 5.0 | 6.75 | 100000 | 5.11 | 1.25 | A4-29 | 8.20 |
| *875-A | 5.0 | 10.0 | 150000 | 6.11 | 1.5 | A4-29 | 21.00 |
| +6484 | 2.5 | 11.5 | 725 | 10.10 | 2.5 | A4-81 | 10.36 |
| "8008 | 5.0 | 6.75 | 10000 | 5.11 | 1.25 | A4-18 | 8.20 |
| +6288 | 2.5 | 2.0 | 7500 | 2.5 | 1.175 | A4-5 | 6.80 |
| *8013-A | 2.5 | 5.0 | 40000 | 11.15 | 0.102 | A 4-9 | 10.30 |
| 8020 | 5.0 | 6.0 | 40000 | 0.75 | 0.10 | A4-10 | 22.00 |
| * R X-21A | 2.5 | 10.0 | 11000 | 3.0 | 0.750 | A $\overline{-11}$ | 9.00 |
| *Mercury Vapor <br> +Inert Gas |  |  |  |  |  |  |  |
| All others High Vacuum |  |  |  |  |  |  |  |



In addition to its many lines of standard power tubes, Taylor designs and manufactures special tube types for industrial and commercial applications. Special purpose fubes can be economically produced to your exacting requirements.

Contact our Application Engineering Department for information regarding standard or special tube types.

## NATIONAL ELECTRONICS, INC. <br> GENEVA•ILLINOIS•U.S.A.



NL-3C23 THYRATRON


NL-740 THYRATRON


NL-5552 IGNITRON


NL-1051 IGNITRON


NL-604 RECTIFIER
Prices and other data subject to change without notice. WRITE FOR INDIVIOUAL TUBE DATA SHEETS FOR FULL DETAILS.

QUICK-HEATING INDUSTRIAL ELECTRONIC TUBES

| \|GN|TRONS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE NUMBER | VOLTS | MAXIMUM RATINGS |  |  |  | PRICE |
|  |  | Maximum <br> Demand | Corresponding Current DC-Amps. | Maximum Current DC-Amps | Corresponding <br> Demand |  |
| NL-1001 | 250-600 | 150 Kva | 4.9 | 9.0 | 50 Kva | \$37.50 |
| NL-1005 | 250-600 | 600 Kva | 30.2 | 56 | 200 Kva | \$72.00 |
| NL-1051 | 250-600 | 600 Kva | 30.2 | 56 | 200 Kva | \$72.00 |
| NL-1052 | 250-600 | 1200 Kva | 75.6 | 140 | 400 Kva | \$110.00 |
| NL-1053 | 250-600 | 2400 Kva | 192 | 355 | 800 Kva | \$239.00 |
| NL-5550 | 250.600 | 300 Kva | 12.1 | 22.4 | 100 Kva | \$50.00 |
| NL-5551 | 250-600 | 600 Kra | 30.2 | 56 | 200 Kva | \$72.00 |
| NL-5552 | 250-600 | 1200 Kva | 75.6 | 140 | 400 Kva | \$110.00 |
| NL-5822 | 1500 peak | 1200 peak | 20 | 70 | 420 peak | \$130.00 |

THYRATRONS

| TYPE <br> NUMBER | GAS FILLING | $\begin{gathered} \text { DC } \\ \text { OUTPUT } \\ \text { AMPERES } \end{gathered}$ | PEAK AMPS. RATING | peak INVERSE VOLTAGE | $\begin{aligned} & \text { FILA. } \\ & \text { MENT } \\ & \text { VOLTS } \end{aligned}$ | $\begin{aligned} & \text { FILA- } \\ & \text { MENTT } \end{aligned}$ | PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NL-3C23 | Arg. \& Merc. | 1.5 | 6 | 1250 | 2.5 | 7 | \$12.50 |
| NL-3238 | Arg. \& Merc. | 1.5 | 6 | 1250 | 2.5 | 7 | \$13.25 |
| NL-393A | Arg. \& Merc. | 1.5 | 6 | 1250 | 2.5 | 7 | \$13.25 |
| $\begin{array}{r} \text { NL-710/ } \\ 6011 \end{array}$ | Arg. \& Merc. | 2.5 | 30 | 1500 | 2.5 | 9 | \$12.10 |
| NL-714 | Arg.\& Merc. | 1 | 3 | 1250 | 2.5 | 5 | \$8.50 |
| $\begin{array}{r} \text { NL-715/ } \\ 5557 \end{array}$ | Mercury | 1 | 3 | 5000 | 2.5 | 5 | \$8.50 |
| NL-716 | Arg. \& Merc. | 1.0 | 8.0 | 1250 | 2.5 | 6.3 | \$9.60 |
| NL-730 | Arg. \& Merc. | 3.2 | 40.0 | 1500 | 2.5 | 12 | \$23.80 |
| NL-740 | Arg. \& Merc. | 4 | 50 | 1500 | 2.5 | 16 | \$20.50 |
| NL-741 | Mercury | 4 | 50 | 5000 | 2.5 | 16 | \$20.50 |
| NL-760 | Arg. \& Merc. | 6.4 | 77 | 1500 | 2.5 | 21 | \$29.30 |
| NL-761 | Mercury | 6.4 | 77 | 5000 | 2.5 | 21 | \$29.30 |
| $\begin{aligned} & \text { NL-5559/ } \\ & \text { FG57 } \end{aligned}$ | Mercury | 2.5 | 15 | 1000 | 5 | 4.5 | \$22.00 |
| $\begin{aligned} & \text { NL-5560/ } \\ & \text { FG95 } \end{aligned}$ | Mercury | 2.5 | 15 | 1000 | 5 | 4.5 | \$28.00 |
| $\begin{aligned} & \text { NL-5720/ } \\ & \text { FG33 } \end{aligned}$ | Mercury | 2.5 | 15 | 1000 | 5 | 4.5 | \$23.00 |

HALF-WAVERECTIFIERS

| NL-614 | Xenon | 2.5 | 15 | 900 | 2.5 | 8.5 | $\$ 8.60$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NL-615 | Mercury | 2.5 | 10 | 2000 | 2.5 | 7 | $\$ 7.50$ |
| NL-617 | Mercury | 5 | 20 | 1000 | 2 | 12 | $\$ 11.60$ |
| NL-618 | Xenon | 6.4 | 40 | 750 | 2.5 | 18 | $\$ 11.05$ |
| NL-619 | Mercury | 6 | 20 | 300 | 2.0 | 13 | $\$ 10.00$ |
| NL-623 | Mercury | 15 | 45 | 500 | 2.5 | 20 | $\$ 11.60$ |
| NL-633 | Mercury | 30 | 225 | 900 | 2.5 | 50 | $\$ 52.00$ |
| NL-635 | Mercury | 6.4 | 77 | 1000 | 2.5 | 18 | $\$ 11.05$ |
| NL-643 | Mercury | 15 | 90 | 700 | 2.5 | 23 | $\$ 13.50$ |
| NL-649/ <br> 5834 | Mercury | 2 | 10 | 900 | 2.5 | 7 | $\$ 7.50$ |
| NL-653/ <br> 5835 | Mercury | 3 | 12 | 900 | 2.5 | 10 | $\$ 10.75$ |
| NL-5558/ <br> FG-32 | Mercury | 2.5 | 15 | 5000 | 5.0 | 4.5 | $\$ 14.00$ |

FULL-WAVERECTIFIERS

| NL- 600 | Arg. $\&$ Merc. | 1 | 4 | 900 | 2.5 | 6 | $\$ 8.20$ |
| :--- | :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| NL- 602 | Arg. $\&$ Merc. | 2 | 4 | 900 | 2.5 | 9 | $\$ 10.20$ |
| NL-604 | Arg. 8 Merc. | 2.5 | 10 | 900 | 2.5 | 12 | $\$ 8.90$ |
| NL-606 | Arg. 6 Merc. | 6.4 | 25.6 | 900 | 2.5 | 17 | $\$ 16.60$ |

## ELECTRRONS, INC., TUBE SELECTION GUIDE

RECTIFIERS
EL 1 C
FULL WAVE RECTIFIER
D. C. Output (Amps.).... $\quad 1.0$ Peak Anode Current...... 4.0 Peak Inverse Volts........ 725 Fliament Volts .............. 2.5 Filament Amperes ........ 6.0 Overall Length $\qquad$ 51/2"

## EL 3B

half wave rectifier
D. C. Output (Amps.).... 2.5 Peak Anode Current.... 20.0 Peak Inverse Volts........ 920 Filament Volts ............ 2.5 Filament Amperes ........ 9.0 Overall Length .............. 51/4"

## EL 3C

FULL WAVE RECTIFIER
D. C. Output (Amps.).... 2.5 Peak Anode Current...... 10.0 Peak Inverse Volts........ 725 Filament Volts .............. 2.5 Filament Amperes ........ 11.5 Overall Length $\qquad$

## EL 6C

Full wave rectifier
D. C. Output (Amps.).... 6.4 Peak Anode Current...... 25.6 Peak Inverse Volts........ 725 Filament Volts .............. 2.5 Filament Amperes ........ 17.0 Overall Length $\qquad$ 74/2"

## EL 6B \& EL 6F half wave rectifier

D. C. Output (Amps.).... 6.4 Peak Anode Current...... 40.0 Peak Inverse Volts........ 920 Filament Volts .............. 2.5 Filament Amperes ........ 21 Overall Length (6B)........ 81/2" Overall Length ( 6 F )......... $8^{\prime \prime}$

EL 6F (Panel Mounting)

## EL 16F

HALF WAVE RECTIFIER
D. C. Output (Amps.).... 16.0 Peak Anode Current.... 96.0 Peak Inverse Volts........ 620 Filament Volts ............... 2.5 Filament Amperes ........ 36 Overall Length ............155/8" (Panel Mounting)


## EL C3)

D. C. Output (Amps.).... 2.5 Peak Anode Current...... 30.0 Peak Forward Volts...... 900 Peak Inverse Volts....... 1250 Filament Volts .............. 2.5 Filament Amperes ........ 9.0 Overall Length $\qquad$ $53 / 4^{\prime \prime}$

## EL C4J \& EL C4J/F

D. C. Output (Amps.)...... 4.0 Peak Anode Current...... 30.0 Peak Forward Volts...... 900 Peak inverse Volts........ 900 Filament Volts .............. 2.5 Filament Amperes ...... 21.0 Overall Length (C4J) .... $9^{\prime \prime}$ Overall Length (C4I/F) $81 / 2^{\prime \prime}$ EL C4J/F (Panel Mounting)

EL C6J/A \& EL C6J/F
D.C. Output (Amps.).... 6.4 Peak Anode Current...... 77.0 Peak Forward Volts...... 1000 Peak Inverse Volts...... 1250 Filament Volts ............ 2.5 Filament Amperes ...... 21.0 Overall Length (C6J/A).. $9^{\prime \prime}$ Overall Length (C6J/F).. 81/2" EL C6J/F (Panel Mounting)

## EL C6C

D. C. Output (Amps.).... 6.4 Peak Anode Current..... 77.0 Peak Forward Volts...... 2000 Peak inverse Volts...... 4000 Filament Volts ............ 2.5 Filament Amperes ........ 24.0 Overall Length .............. 11"

ELECTRONS. IN CORPORATED
FOR SPECIAL APPLICATIONS

| EL C3H | EL C6J/KF |
| :--- | :--- |
| EL C3P14 | EL C6M |
| EL C3R14 | EL C6P |
| EL C5F14 | EL C16J/A |
| EL C6J/K |  |

D. C. Output........ 16.0 or 18.0 Pk. Anode Cur....... 160 or 100 Peak Forward Volts...... 1000 Peak Inverse Volts...... 1250 Filament Volts .............. 2.5 Filament Amperes ........ 31.0 Overall Length .............. 1 (Panel Mounting)
D. C. Output (Amps.).... 6.4 Peak Anode Current...... 77.0 Peak Forward Volts...... 750 Peak Inverse Volts..... 1250 Filament Volts .............. 2.5 Filament Amperes ........ 21.0 Overall Length ............. $9^{\text {- }}$


| IOS GATOS TYPE NUMBER | TUBE TYPE | USER PRICE | los gatos TYPE NUMBER | tube type | USER PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3B24W | Rectifier | \$11.80 | 250R | Rectifier | \$20.00 |
| 3C24/24G | Triode | 10.00 | 250TH | Triode | 30.00 |
| 4D21/4-125A | Tetrode | 30.25 | 250TL | Triode | 30.00 |
| 4E27/8001 | Pentode | 24.90 | 253 | Rectifier | 19.50 |
| 4E27A/5-125B | Pentode | 35.75 | 254 | Triode | 16.50 |
| 4E27TV | TV Pentode Special | 27.50 | 332A | Pentode | 32.00 |
| UH50 | Triode | 22.00 | 705A | Rectifier | 17.93 |
| 100R | Rectifier | 13.50 | 715C | Tetrode | 63.00 |
| 100TH | Triode | 16.50 | 719A | Clipper Diode | 32.00 |
| 100TL | Triode | 16.50 | 8020 | Rectifier | 14.93 |

Lse Gates Rrand Tubes in beth fiN and commerciat Wpes are setting new performance records throughome
 blanh-body surtate on Molbodenum anodes improses
heat dissipation, heeps whes hard during operation. Send for techatial data bulletins.
huguities are nelomed for special tules designed to your specifications.


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In Canada: RADIO VALVE COMPANY, LIMITED 189 Dufferin Street, Toronto 1, Ontario, Canada

## Cily fian zuscrionices

## Electronic Tubes and Equipment

Tubes listed on this page can usually be supplied direct from stock. Many other types are available for immediate delivery - write for catalog. CHATHAM also designs, develops and manufactures special tubes to exact customer specifications - inquiries are invited.


- Chatham ruggedized 2d21w thyratrdn

A ruggedized Xenon filled shield grid thyratron for grid controlled rectifier service. Permits use of high resistance in the grid circuit. Heater 6.3 volts, 6 amp. . . inverse peak plate voltage 1300 volts, average plate current 100 ma .

## - ChATHAM RUGGEDIZED 5RAWGY RECTIFIER

A ruggedized full wave high vacuum rectifier designed for high altitude operation. Heater voltage 5 volts, heater current 2 amps. Peak inverse voltage 2800 volts, peak plate current 650 ma .


- chatham bastg twin power triode Features plate current and GM characteristics held to within $\pm 10 \%$. Recommended for voltage regulation circuits. No grid current; greatly reduced plate current draft. Plate current 125 ma at 40 volts D.C. Amplification factor 2 .


## - Chatham 6336 TWIN triode

Specially suitable for voltage regulating applications. As a series tube will pass 150 ma per section at 40 volts D.C. Plate dissipation 30 watts; Amplification factor 2.7. Features hard glass envelope.

## - Chatham $1 z 2$ RECTIFIER

A small bulb high voltage vacuum rectifier. Low cathode heating power and low dielectric losses make tube suitable for radio frequency supply circuits. Filament 1.25 volts. . 275 amps. . . Inverse peak anode voltage 15,000 , average plate current 1.5 ma . peak anode plate current 8.5 ma .


- CHATHAM 3 B28 RECTIFIER

This rugged half wave Xenon filled rectifier will operate in any position and throughout an ambient temperature range of $-75^{\circ} \mathrm{C}$ to $+90^{\circ} \mathrm{C}$ Fil. 2.5 volts, 5.0 amp. . . . Inverse peak anode voltage 10,000 volts, 25 amp . average anode current.


## - Chatham 4 B32 Rectifier

A rugged half wave Xenon filled rectifier. Operates in any position throughout an ambient temperature range of $-75^{\circ} \mathrm{C}$ to $+90^{\circ} \mathrm{C}$ Fil. 5 volts, 7.5 amp . . . Inverse peak anode voltage 10,000 volts, 1.25 amp . average anode current.


## - Chatham 394a thyratron

A Mercury vapor and Argon filled thyratron for grid controlled rectifier service. Operates over a wide ambient temperature range. Heater 2.5 volts, 3.2 amps. . . . Inverse peak anode voltage 1250 , average anode current 640 ma .


- CHATHAM 395A CDLD CATHODE GAS TRIODE

Requires no filament supply and is used in many grid controlled rectifier and relay applications. Maximum DC anode current, 10 ma . Maximum DC anode voltage, 150 volts.

## Eustom-Buith <br> Equipment

CHATHAM specializes in the
development, design, and construction of custom-built electronic equipment to exactly meet customers' requirements. Our capable staff of engineers will furnish prompt estimates or, if desired, will call to discuss your problem personally. Call or write today for complete information.

Write today for the informative CHATHAM catalog. For free copy address requests on company lefterhead - no obligation.


- 5 Megawatts radar modu. lator built by CHATHAM to rigid government standards.


The MASTER - 20th Edition

## Smes <br> The Mark of Excellence <br> Since 1934 Eimac electron-power tubes have been specified by leading engineers for all

 types of military and commercial application. Incomparable performance, reliability and quality of Eimac tubes have made Eitel-McCullough, Inc., the world's largest manufacturer of transmitting tubes.

## in Electron-Power Tubes...


all prices subject to Change without notice
*Grid Controlled


## EITEL-McCULLOUGH, INC. san bruno, calitornia

Export Agents: Frazar \& Hansen, 301 Clay Street, San Francisco, California

TELEVISION PICTURE TUBES


Du Mont television picture tubes, for either replacement purposes or initial equipment, travel side by side throughout the entire assembly process and stringent testing procedures. As a result, every Du Mont picture tube has the same fine quality regardless of its intended end use. Since 1939 Du Mont picture tubes have consistently led the field in new developments for better viewing. Life-like pictures along with unsurpassed dependability and uniformity have made our tubes the choice of the most discriminating receiver manufacturers for original equipment, and the choice of the most conscientious TV servicemen for replacement.

TUBE TYPES OFFERED BY DU MONT AT TIME OF PRINTING


[^11] © Denotes aluminized tube.

Additional information and specifications on tubes or original television parts can be had upon request; or, we will be glad to supply the name of the Du Mont representative in your area.

# ALLEN B. DU MONT LABORATORIES, INC. 

Cathode-ray Tube Division



## DIFFUSED P-N-P JUNCTION TRANSISTORS


*All types are available with Maximum Noise Figure of 12 db . for use in first stage of multistage amplifier. Measurement is made @ 1000 cps . with a 100 cps . bandwidth and is compared with the noise of a 1500 ohm input resistor.
$\dagger$ All types are available with 150 mw Max. Dissipation@ $50^{\circ} \mathrm{C}$ for special applications.
Standard size is $344^{\prime \prime}$ wide x $.204^{\prime \prime}$ thick x $328^{\prime \prime}$ high and has standardized lead arrangement. Subminiature sizes are available for special applications.

## GENERAL TRANSISTOR CORP.

## Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

## The



## amplifiens

## A-339A MELODIST AMPLIFIER


 power amplifier inst ont enmpact mat monnted in a heantitul hadrwam
 record crossover selector, facilitios fom microphomes, taper machin's, ratho tuners or TV aumbere all extra peathes of the A-som. With its companiom piece, the 700 A lowlspeaker, the A-3 $3: 4$ forms the exciting new "Melondist" himh fidelity combination hy Altec. Nleqe lansime (orpmration uncomditionally
 the published suecitications.
 FREQUENCY RANGE: 0 - 0
 REOUIREMENTS: is watts, 110 , io eveles. INPUTS: 1 low level for mag. netic phono pickup or micruphone. 2 hinh level for ceramie or crystal phone bickup, tape reprolncer, radin tumer or TV audio. EQUALIZATION: 4 com. pensation curves: liuropean. I.P. new AES (NARTB, RIAA, RCA, ortho phonic), old RC.I. TONE CONTROL: Trulle, 15 dh hoost or droop at 10,100 evolis. Bass, 13 dh, boust or lroop at in ercles. VOLUME CONTROL: Imivilual wolume aljustments for all threr inputs. LOUDNESS CONTROL: ( 0 m mensated lomhess control, fiat at maximim bosition, approaches FletcherInnson curves at lower settinus. FACILITIES: 2110 b, fin evole ontlats controlled by amplifier power switch. PRICE: $\$ 129.00$

## 303C TUNER AND PHONOGRAPH CONTROL UNIT A-333A POWER AMPLIFIER





 detuctor. IFC assuras drift fror operatinn and simplitios tominar. lros ision is









NET PRICE: $\$ 279.00$

## A-333A POWER AMPLIFIER



 watts at less than $1 / 2 \%$ total harmonic distortion. NET PRICE: $\$ 90.00$

LANSING CORPORATION

A-326 AMPLIFIER


Ibrtable P.i. amplifier. 20 watts-2 mieronhone, 1 phono

 WT.: 21 lhs. ('Olook: Ahuminum hammortone
A.326A-IN: mic. 30, 150, , 000 ohms; phono, 500,000 ohms. :NIN: mic., lot dh; phono, 74 dls. Nonse: mic., -13 dhm A.326B-1N: mic., 100.000 olims; phono, 500,000 ohms.



NET PRICE: $\$ 165.00$

## A.440A PREAMPLIFIER A-340A AMPLIFIER

Here are Altec's latest developments in hirh fidelity control and amplification. Now you can have home music system components with the same conservative dosion and ratings found in the thousumb of Altec Lansing control consoles and amplifiers in use in liroalcast and recordinur studios through. out the world. Althongh specitienlly designed for home use, these units are trinly professional in concept, desifn, constructhen and flexitility. They offer more and finer contrul than any other home units availalne, I strikine fuature of design is the door of the A-4tod preamplifier. With the door closed. the unit is inconspienous and only the all important on-off volume rontrol is axbused. With the door open, the unit presonts controls to gratify the most particular. If rou want the finost pont want the n+w Altoce A-t 10.1 and A-340.


The A-440A-l'ive innolts with individual level contpols -
 <haracteristics - lombuess-volnme selection - full ranme
 from any inut. taw wayhek monituriner whil. rocoudine
 nois. tuhns.


The A-340A—35 waltis at 0.5\% distortion - $1 / 2$ the 5 to
 capacite * simple cirraitry excentional stability (no tuhe


PRICE:
A-440A Preamplifier
$\$ 139.00$
A-340A Amplifier
$\$ 159.00$

## 



## Model 2122C

10－Watt Implifier

Power Output： 10 watts with $2 \%$ distortion．Pcak jower 15 wat w． Frequency Response： 20 to 20,000 cycles，plus or minus＂， db with controls set for flat response．
Hum Level： 65 db below rated output．
Inputs（4）：Radio Tuner；Auxiliary Tape，TV or C＇rystal Picku！： 2 Magnetic Pickups．
Controls（4）：Equalization and Selector Swituh（5 positions－ I＇UNER，AUX），Gain Control，Buss Control（ -17 dl）to +16 d variation at 40 cycles）．Treble Control with AC switch（ -17 db to +13 db variation at 15 kc ）．
Outputs（4）：Rear Panel－4，8， 16 ohms．Chassis Deck－hish im－ pedance jack for disc or tape recorder．Socket for Model ？ pilot Light assembly．
Dower Consumption： 75 watts， 117 volts， $50-60$ cycles
Tubes（6）：2－6SC7，1－6SL7，2－6VGGT，1－5Y3GT．
size \＆Weight： $8^{\prime \prime}$ deep． $111 / 2^{\prime \prime}$ wide， $6^{\prime \prime}$ high， $10 \frac{1}{2}$ Ibs．


## Morlel RT－7．5

## 3 －Speed

 Tape RecorderPower Output：3．5 watts． Controls（7）：\＄peed change lever with eutuall－ ization；run－stop lever： volume：tone：and pushbutions for fast－ forward，fast－rewind． and record．
Outputs（3）：External spenker， 3.2 ohms ；nom－
itor． 500 ohms：and Hi－Z fur external anmpifier 1 bypasses out－ inut stase in recurder
Inputs（3）： 2 micro， 1 radio or phono fmicro and phono can be mixed）．
Forward Speeds： $1 \frac{1}{4}, 33 / 4$ ，and $71 / 2$ inches per second．
Fant－Forward： 90 seconds for 1200 ft ．reel．
＇ast－Rewind： 70 seconds for 1200 ft ．reel
Speaker： $6^{\prime \prime} \times 9^{\prime \prime}$ owal，wide range unit．
Record：Dual－track＇Jyne A tane．
Frequency Response： 50 to 0.0100 cycles at $71 / 2 \mathrm{j}$ jos．
Power Consumption： 100 watts， 110120 volts．fif eycles．
Tubes（5）：2－12AX7：1－6C4：1－6Vfir＇：1－6X5G「．
Nize \＆Weight： $16 \%^{\prime \prime} \times 15^{\prime \prime} \times 91,{ }^{\prime \prime} .35 \mathrm{lbs}$


AMPLIFIER Model 22 in
 Frequency Response：20 to 20，000 rycles，plus or minus $\because$ ato with controls sot for fat response．
lumuts（6）：Radio（ivstal Diekup，Maknetic Jickups．Sberial for I－requency Modulated and Ceramic Pickups，Tape ot Disw Recorder or TV．
Controls（5）：Fomalization and Selector Switeh 47 mositions－ IKM．COL L1，KIAA－N゙ARTH，FFRR，EUROIFAAN，RADIO， TAI＇E），Continuously Variable Loudness Control（0 to－ 40 db＇，
 cycles）．Treble Control $1-1 \times \mathrm{to}-14 \mathrm{db}$ variation at 15 kc with AC switch．Kear lanes－Radio Level Set Control．
Outputs（4）：Rear Panel－4．8， 16 ohms，high imbedance jack for tape or disc recorder．
Power Consumption：watts， 117 volts， $50-60$ eycles．

size \＆Weight ：$k: 1 ;$ leep． $91.2^{* \prime}$ wide， $4^{\prime \prime}$ high， 14 lbs．


Morlel 2200C
20－Watt
Implifier

Puwer Output： 20 watts with less than $.3 \%$ distortion，Peak power 3．）witts．
Frequency Response： 20 to 20.000 cycles，phas or minus 22 db With controls set for flat response．
Hum Level：al db below rated output．
Inputs（7）：Radio，Crystal Pickup， 2 Magnctic Pickup，＇TV，＇Tape，
Controls（6）：Equalization Switch（5 positions－73 RPM，COL，LP， RIAA－NARTB，FFRR，EUROPEAN），Selector Switch（ 5 posi－ tinns－hono with runible hiter，Phono without rumbic inter Ladio，IV．Tape）．Continuously Variable Loudness Control 10 to -10 db ）．Gain Control，Bass Control（ -17 db to $+\mathbf{1 5} \mathrm{db}$ variation at 40 eycles）．Treble Control with AC switch（－28 db to +18 db variation at 15 kc ）．Rear Panel－Radio Level Set Control．
Outputs（4）：Rear Panel－4，8， 16 ohms．Chassis Deck－high im－ fedance jack for tape or disc recorder
Power Consumption： 150 watts， 117 volts， $50-60$ cycles． Tubes（7）：1－6SC7，1－6SN7G＇l，2－6SL7GT，2－5881，1－6U4G． size \＆Weirht： $8: /{ }^{\prime \prime}$＂deep， $16^{\circ}$ wide， $75 / \mathrm{k}^{\prime \prime}$ high， 23 lbs.

## Battery－Operated Fully Portable CUB－CDRDEIE

MODEL 2260 records at $71 / 2$ and ant inches per second． MODEL 2261 records at $3: 1 / 1$ and 17／s inches per second．
 Power Su
Frequency Response： 200 to $6,000 \mathrm{cps}$ at $71 / 2 \mathrm{ips}$ tape sped．
Input：lijph impedane ceramic microphone．
Output：High impedance for microphone，carphones，or external amplifier
Controls（2）：Volune，and 3 －position function switch（listen，off，

Speeds：Two molels．each affording two speeds as described above．plus fast forward and rewind speed（37 ips）．
Tape：Dual track，＂Tyue A．inside coated， $1 / 4$＂wide，fion ft．on


## HCLIY M．ITCIED IBELL ＂GfOLIDEN＇TWIN＂UNITS

## TCNER Model 225

Power Output： 3 volts maximum，with less than $1 \%$ distortion． Frequency Response：FM－ 20 to 20.000 cycles，$\pm 1 / 2 \mathrm{db}$ ．

AM－ 20 to $\overline{5}, 000$ cyeles，phus or mimus 3 db ． Hum l．evel：G5 do helgw 100＇；modulation．
Inputs（2）：F゚M— 301 ohms．AM—built－in lo－noise loop－stick ter－ （inilate（9）．Selector Switch（4 position－OFF，AM，FM with $\triangle F C$ ，F＇M witheut $A F C(1$, Tuning Control with $A F C$ defeat． Outputs（2）：Rear I＇anel Two separate andio outputs for feeding tilne forders and hirh－fidelity ampliters（cathere followerl Sensitivity： $\mathrm{FM}-4$ microvelts for 20 db quicting．AM－fichd
 Selectivity：FM－200 ke bandwidth， 6 db down．AM－4 ke band－ Frequency Range：FM－ks to 108 mc ．AM－ 530 to 1650 kc ．
F． 1 Drift：ldus or minus 20 ke without AFC，plus or minus 3 ke ＂ith AFC
Tmage Reject： 33 db or more．
Pouer Consumption： 30 watts． 117 volts． $50-60$ eycles．
Tubes（ 8 ）：2－12AT7．1－（；13E6，1－6BA6，2－6AU6，1－12AU7，1－6AL5，


## HELL SOUNI EQUIPMENT



Model :371.7s<br>15-Wial<br>Amplifier

Power Output: lif watts at less than fri. Deak power: 14 wants
 Gain: Microphone channels, 120 (li: phomo channel, 81 dlb. Hum Level: 6.5 dhe below rated output
Inputs: 2 mirrobshone: 1 phonograph,
Input Impedance: Miero channels, 3 megss.: phono channel, $1 / 2$ nues.
Controls: 2 micro volume: 1 pheno wolume: 1 tone with AC switeh.
Output Impedance: 2.5. 4, \&, 16, 2.50. 500 whnis and 70 V cunstant coltace tap.
Power Consumption: 100 watts, 117 volts, 50-ifo eycles.
Tubes: 2-6AUG, 1-6SFis. 1-6NT, 2-6VGG't, 1-inuti.
Size \& Weight: $111 / 2^{\prime \prime}$ deep, $161 / 2^{\prime \prime}$ wide, $\mathbf{x}^{\prime \prime}$ high, 82 Ihs.
Phono Tops: Standard ton can be easily problaced with single or three-speed turntable phono tops, Miwels 2190 or 2197.


Model
:372.518
2.5-Wint Innplifier•
 Frequency Response: 30 to 18.000 rycles blus or minus 2 db Gain: Microphome channels, 122 dh; whono channel, $x_{0}$ dh. Hum Level: fin the helow rated output
Inputs: 3 mierophone: 1 phonograph.
Input Impedance: Micro channels, 3 mexs.; phono channel, 1/2 meg.
Controls: 3 micro volume; 1 phono volume: bass: treble with AC switch.
Output Impedance: 2.5, 4, 8, 16, 250, 500 ohms: 70 V constant voltage tap.
Power Consumption: 150 wates, 117 volts, 50-60 cycles
Tubes: 3-6AU6, 1-fision, 1-6NT, 2-fildg, 1.5U4G

Phono Tops: Stamlard thb can be easily replaced with single or three speed tumbible phono tops. Mandels 2196 or 2197.

## A COMPLETE IINE OF SOCND EQUIPMENT

The public address amplifiers shown alowe and the mobile amplitiers below are typicat of the more popular motels from bell: complete line of sound equipment. Made in a wide range of si\%s and power mitputs, these amplifiers answer the needs of notaly
every commereial l'A application. from the smallest to the largest. lell als, has a comolote line of somnd accessories. such as portable tabe and lisu requders. sweakers, mierophones, transcribtion Havers. and wher "duipment for any sound installation


P'ower Output: 15 watts at less than $\mathrm{J}^{\prime} ;$. Peak mower: 20 watis. Frequency Response: $\mathbf{5 0}$ to 15,000 eycles plus or minus ? dh. ( Gain: Mierophone channel, 115 db : phono rhannel, so dh.
Ilum Level: (f0 dib below rated outuut.
Inputs: 1 microphone, 1 phonograph (built in).
Input Impedance: Miero chanmel, 3.3 megs: phomo ch:mmel. tig meg.
Controls: Micor volunce, phono volume, tone with AC switel. standiby switch, phono motor "offon switnh.
Output Impedance: ?.5. 4, 8, 16, 250,500 ohms and 70 V eonstant oltage tab
Phono Motor: Sinele speed, rim drive, ix rim,
Power Consumption: 110 watts, 117 volts, 60 eycles AC; 15 amperes (max.), ${ }^{6}$ volts DC



## Model 3717-.M1B:

Has all the attractive features of Moded $3717-$ M13, phas a threw records.


Power Output: watts at less than 5', Peak power: 38 watts Frequency IResponse: 30 to 15.000 cycles plus or minus 2 db . Gain: Miern (hatmols. 120 db ; phomo channels, 76 db . Hum Level: fif di helow rated ontumt.
Inputs: Two micoonhone, one phonograph (built in).
Input Impedance: Micro channels, 3.3 megs; phono channel. c.

Controls: "Iwo miovo volume eontrols, phono volume, tone with bower switch. staml-by switch, bhono motor "off-on" switeh.
Output Impedance: ?.5. $4,8,16,250,500$ ohms and $70 \mathrm{~V}^{\mathrm{V}}$ eonstant voltage tal.
lhono Motor: Siugle speed, rim drive, 78 rpm .
I'ower Consumption: 115 watts, 117 volts, 60 cycles AC ; 24 amperes, if vults D("

Size \& Weight: $1^{1} \underline{z}^{\prime \prime}$ deep, $16^{1} z^{\prime \prime}$ wide, $10^{\prime \prime}$ high, 40 lbs.

## Model 372:3-M183

Offers all the fatures of Model 3i23-M13, wlus a three speed mutor-driven turntable. I'ickup has reramic. turnover-type cartridge for playing $33^{\prime}$ : 45 , and 7 N rpm reeords.

Mfg. by THE BELL SOLND SYSTEMS. Inc.<br>- Columbus 7, Ohio<br>A Subsidiary of Thompsom Products, Inc., Cildreland, Ohia

# Amplifiers and Portable Sound Systems 

Here are a few of the most popular sellers from the famous webster electric Amplifier line. Each one represents top dollar-for-dollar value-each one delivers excellent fidelity, fine performance and virtual frecdom from maintenance and service problems throughout its long life. Competitively priced for fast turn-over.


## Ekotape "Symphotone" High-Fidelity Components

Discriminating music lovers who desire the ultimate in listening pleasure will truly appreciate the sympotove high-fidelity units. No other "trio" offers finer performance. The three components may be purchased separately to add to existing music systems or as a "package" to form a basic system.


## Model 212 Recorder

Represents the final word in tape recorders. Designed for custom installation, the mit consists of a twospeed, record/playback mechanism and has provision for comerting to an external amplifier, necessary for playing hack recordings. The 212 has a frequency response of 40 to 13,000 at $7 \frac{1}{2} \mathrm{ips}$. This superb recording qual. ity, partly a result of pre-selected, pretesteil recording heads, encompasses not only "highs" and "lows", but the whole. brilliant range of somud, giving an astonishing illusion of "presence". Finished in antique copper and brushed chrome plate. Consumer price \$225.00.


## Audio Amplifier

Designed for use in highfidelity sound systems, the Model 90.10 furiishes more-than-ample power for the average home installation. Can be used with the Model 97-0 Preamplifier-Lipualizer or other quality control unit. Prequency resporise at full, lotwatl ont. put, is flat within $(1.5 \mathrm{dt}, 20$ (1) 22,000 cyeles It one wall, oulput is flat within $0.3 \mathrm{dl}, 20$ 1040,000 eyeles. May be monnted in any ronvenient location, since afier presetting the volume control. no further adjustment is necessary. Finished in anlitue copper. Comsumer price 589.50


A control unit which enables one to "custom-build" the somul of his music system. Has inputs for a radio tuner, TV set, tape recorder, record changer or microphone. Offers a total of 25 combinations of equalization to compensate for variations in the recording characteristics of phonograph records, and in the listeners tastes. Call emphasize or deemphasize treble or bass tones, amplify the low level signal of a magnetic pichup or microphone, and compensate for ear deficiencies at low volume. Front panel in cold and black. Consumer price $\$ 129.50$.

Com-ette Intercommunication (wired and "Wireless")


## Com-ette Wired

Set consists of one Master and one Speaker (not illus.) station, with 50 ft . of interstation wire. Either station can originate or receive calls. Cabincts are in ebony only, with silver-gray grille. List price, complete (Master and Speaker) set \$49.50.


Com-ette "Wireless"'This low-cost pluy-in imtercommunication system is ideal for use in homes, stores, offices and farms-literally everywhere. The two smart units (both master stations) simply plug into nearest power outlet. No wiring. Operates on 115-volt ac or de current. Can be moved about as desired. Three color combinations: Ebony, Cardinal or Sand Dune cabinets with contrasting grille colors. List price, complete 2 -unit set $\$ 99.50$.

## Thas co AUDIO AMPLIFIERS

## MA－8N 8 WATT AMPLIFIER and MAS－8N PORTABLE SYSTEM



AIMPLIFIER SPECIFICATIONS
 than $5 / 8$ slisturtion
 JNITTS
士 ！リR50 10



# FEATURES：Microphone and phono input separately conirolled 

Bass－treble tone control $\cdot$ Light，compact，and sturdy ．Hammertone－finish chassis $\bullet$ Approved
APPLICATIONS：The ideal unit．because of its compactness and easy portability for ballyhoo，store or street sales demonstrations and sales meetings．Also suit able for cab stands，garages，small warehouses and stockrooms，bingo calling small taverns and clubs．

AMPLIFIER SPECIFICATIONS－MODEL MA－8N
 PEAK POWF：R INIUTS TWッ：1－mirsuphme，and 1－phmo
 IOWER MAIN．．．．．．．．Diernplame．IEx． 5 If：
 （0）in－10ff Switelt）

## PRICES <br> PRICES


#### Abstract

 



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MA－ITN 17 WATT AMPLIFIER and MAS－17N 17 WATT PORTABLE SYSTEM

## FEATURES：Two microphone inputs－One phono input－Individual volume

 controls－Separate bass and treble tone controls ．Tapped line and voice－coil controls Separate bass and Dial Glo illumination U imp Approved．APPLICATIONS：Excellent for small orchestras，medium－sized paging systems， churches and Sunday Schools，lecturers，store demonstrations and night clubs Suitable for groups of up to 500 people and areas of up to 400.000 cu ． ft ．

> AMPLIFIER SPECIFICATIONS - MODEL MA-I7N













## MA－25N 25 WATT AMPLIFIER and MAS－25N 25 WATT PORTABLE SYSTEM

FEATURES：Four inputs－Four－Channel electronic mixing－Separate bass and treble controls．Tapped line and voice－coil impedances © Full 25－watts of undistorted output－Attractive blue－and－gray Hammertone finish－Over－ all negative feedback－U L Approved．
APPLICATIONS：For large groups and paging in large，noisy areas．Excellent ior resorts，large auditoriums，churches，rodeos，carnivals，soft ball parks，insti－ tutions and large night clubs．

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 yol．TM：ME：
thas tapmod primary to rampellate fur line foltage fluetmitions．


## MA－25PN－3 25 WATT PHONO TOP AMPLIFIER and MAS－25PN－3 PORTABLE SYSTEM

FEATURES：High gain microphone inputs Phono input（self contcined）＂High－quality crystal pick－up e Plays $12^{\prime \prime}$ and smaller records＊All inputs separately controlled Tapped line and voice－coil impedances－ ndividual bass and treble equanzers Constant－speed motor－Lock－in Pickup Arm Rest－U L Approved

AMPLIFIER SPECIFICATIONS MODEL MA－25PN－3
Same as Model MA－25N except for dimen sions which are $14^{\prime \prime} \times 11^{\prime \prime} \times 83 / 8^{\circ "}$ high．

PRICES
List Prices
MA－25PN－3 Amplifin will filus，with throncumb

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 same equipment as Madel Vis－or

## PRICES

List Prices
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$\qquad$ AS－25N lurtalite system MAS－2SN Nhibuthe Wijeht tio los
Comsicts of：I M．A－E．S．Amplifiner with whes：


 OPTIONAL EQUIPMENT：Implifices rill in amplied with phato call immts for thatre installal－
 $\$ 10.01$ ta list prive．Fin fwo itputs ald $\$ \mathbf{N}, \mathbf{1 0}$ list fut infut．

West of Rockies add $5 \%$ to list prices．
All specifications and prices subject to change without notice．

# Thaseco AUDIO AMPLIFIERS 

## MA-35N 35 WATT AMPLIFIER and MAS-35N 35 WATT PORTABLE SYSTEM



PRICES
MA-35 N Smplifier uith uhes. Snippinge Wi
 MAS-35N Jondhly Sistem. Shiphome Wrigh


## MA-77 75 WATT AMPLIFIER and MCO-77 75 WATT OUTDOOR SYSTEM

FEATURES: Full electronic mixing of all channels - Individual bass and treble equal izers - Seventy-five watts of undistorted power - Peak power output 90 watts Negative feedback - Automatic safety interlock switch Fully fused U L approved. APPLICATIONS: For airports, railroad yards and terminals, factories, drydocks, hotel fire-alarm systems, and especially for church tower installations. Excellent for theatre sound re-inforcement, larger auditoriums and Civil Defense Warning systems.

$$
\text { AMPLIFIER SPECIFICATIONS • MODEL MA. } 77
$$






 [10no, s.2 〕ノ!
 and 70 volt constant voltage - UL approved. carnivals, hotels and motels.

INITTS
HRNIUS:



 List Prices
 Sperthel ("ablas and l'lugs:
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FEATURES: Four inputs - Three microphone and one phono infut, each separately controlled * Electronic mixing overall * Individual bass and treble equalizers Hum-free operatior e Tapped output impedances of 4,8,15,250 and 500 ohms

APPLICATIONS: Recommended for bathing beaches, county and state fairs, for paging and announce systems at airpo:s and railroad terninals, for theatres,

AMPLIFIER SPECIFICATIONS - MODEL MA. 35 N




## MA-125 125 WATT HI-POWER AMPLIFIER

FEATURES: 125 watts at less than $5 \%$ distortion- 175 watts peak power - Four input channels - Separate controls for each input - Full electronic mixing a Stabilized inverse feedback © Constant voltage outputs © Oil-filled filters op lonal built-in press-to-talk relay for standby cperation A Autanatic satety inter U L approved
APPLICATIONS: These are superior units designed for contimuous heavy duty applications in very large installations such as shipyards, footbal stadia, sports arenas, large industrial plants, airports and race tracks. Espec.ally recommended for Civil Defense Warning Systems. railroad yards, steel milla and for open-air theatres.

> AMPLIFIER SPECIFICATIONS • MODEL MA-I25

## 









MA-77 Amplifirr with tulus...................... $\$ 280.100$ - Tr Miplime Iright : 45 the
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MCO-77 llithour System
3.67 shifulan V"ight: Itom lls.
is uf: 1 MA-77 Ampilifitr wills Thbes: 3-




ELECTRONIC MICROPHONE MIXER AND PRE-AMPLIFIER


An all-electronic microphone mixer for up to 4 mikes and 2 radio-phonograph channels. 20 db gain on mike, 8 db on phonograph. Cathode follower output permits use up to 400 ft . from amplifier.

List Price

MM-4 FOUR CHANNEL MICROPHONE MIXER
A 4-channel, high impedance, non-electronic microphone mixer for with high impedance microphone input of any amplifier Easiest and cheapest way to mix four microphanes into one input. PRICES

List Price

slipuing Viciglat: \& Ih

West of Rockies, add $5 \%$ to list prices
All specifications and prices sukject to change without notice.

EMM-6 IVtectronid Mieruphne Mixer and Ira-Amplifier. comphete with s-ft. C'uble and Plus. Shapuing Weight \& Ihs.

## WRITE FOR COMPLETE CATALOG

MARK SIMPSON MFG. CO. - LONG ISLAND CITY 3, N. Y.

## Thascco BOOSTER AMPLIFIERS

 MB-77 MB-77P

Limsere Amplifier with thbes Liss eover ....................................
 Slifiving Weiglat: Fritlop model, 45 llis.


## MB-77 75 Watt Booster Amplifier and MB-77P 75 Watt Booster Amplifier with Standard Rack Panel

## FEATURES: Zero-level input - For standard rack mounting - Designed for parallel

 operation - Oversize components - Tapped line and voice-coil impedances - Con. stant voltage outputs - Master gain control - U/L approved.APPLICATION: For use with MA. 77 or MA- 125 Amplifiers where greater power is required.

## AMPLIFIER SPECIFICATIONS

IOWER 0LTPIT.......75 Watts, Class AB-1, at TLBES................-6SLitit, 1-6SNGGT, 2-807; less than $5 \%$ distortion PEAK POWER..................................... 90 Watts INITTS....500 thms balanced or unbalanced line FREdTENCY RESPONSF:............ 2 DB 50 to . .46 DI CONTHOLS................One: Master liain. Separate On-0ff Switeli 3-5 Y'3GT (rectifiers OLTPLT IMDEDANCES.............4. 8, 16 Ohms. Hy ferts, 140 Volts (Constant Voltage) PoWEIt consiniption. 275 Watts at 117 Volis OUTAGE.....................105-125 Vults, 60 Cl's OMENSIONS
(111-75)............... $17^{\prime \prime} \times 12^{\prime \prime} \times 81 / 2^{\prime \prime}$ high Classis: $17^{\prime \prime 2} \times 12^{\prime \prime}$

## MB-125 125 Watt Booster Amplifier and MB-125P 125 Watt Booster Amplifier with Standard Rack Panel

FEATURES: High impedance input for bridging applications May be driven by he special outputs of the MA-77 and MA- 125 amplifiers Optional 500 ohm balanced input transformer, 0 DB sensitivity - Automatic safety interlock switch - Optional press-totalk relay - Oil-filled filters U L approved.


## MOBILE AMPLIFIERS

12 Watt Power Output
18 Watt Peak Output
Available with Three-Speed Motor and All Purpose Pickup with "Turnover" Cartridge

MC.126P-3

MC-12P-3

FEATURES: Two inpuls, microphone and phono - Push-pull output - Separate microphone and phono control - Low battery drain - Ripple-free operation Lightwe:ght, tugged - U/L ayp=oved.






 (MC-1:3in-3 and Mi


 PRICES List Prices

 Shipming Weight all Mully



dornertine
MOBILE OUTDOOR SYSTEMS




WRITE TO FACTORY FOR PRICES OF 12 VOLT AMPLIFIERS AND SYSTEMS.
OPTIONAL EQUIPMENT
If amplifiers an systemg are desired with plain pure less plonn tup mevhanism. dedurt frum ahuse list price

## 25 WATT MOBILE AMPLIFIERS

FEATURES: Inputs for 3 microphones and one phonograph, each with its own volume control . Microphone and phonograph may be mixed • Stand-by "batterysaver" swi:ch * Extra-heavy duty vibrator " U/L approved.
PRICES






West of the Rockies, Add $5 \%$ to Above List Prices.
Prices and Specifications Subject to Change Without Notice.


 - Masent mireryly Ma-eb pais: -

MARK SIMPSON MFG. CO. LONG ISLAND CITY 3, N. Y.

## The Thaseco Economy Line - 8 to 125 Watts

## The Most Complete Line of Quality Sound Equipment in the U.S.A. <br> HI-POWER 60 WATT AMPLIFIER

FEATURES: Inputs for two microphones and one phonograph, each with its own volume control Microphones and phonograph may be mixed - Separate bass and treble tone controls 070 volt and 140 volt constant voltage taps - Special output for driving booster amplifier - Optional built-in standby relay - Bronze and coppertone finish - U/L approved.

AMPLIFIER SPECIFICATIONS - MODEL ME.60
POWER OTTPTTT $\qquad$ (60 Wiats PEAK POWER Iic.............................. mino 0.1 s . SENSITH'ITY -. 'for finld ontput hass. Irable (with on-off switeh)
 2, 807,3-512(4T (rectifiers)

PRICE
Anblifier with tubes with stream


## 15 WATT MOBILE AMPLIFIER

## For 6 Volt Battery and 117 Volt AC

All Mobile Amplitiers Supplied Complete with Battery ano AC Power Cables APPLICATIONS: Suitable for religious revival meetings, lecturers, medicine shows carnivals, service clubs and political street meetings. For groups of up to 500 people. FEATURES: Very low "hash" level with DC operation Inpuis for one microphone and one phonograph (built-in), each with its own volume control - Microphone and phonograph may be mixed. Variable tone control 70 volt constant voltage output - Multi-tapped output - Standby "Battery-Saver" switch Output im pedance selector sockets and pin plug - Contrasting bronze and coppertone finish U L approved.

MM-15P-3 AMPLIFIER SPECIFICATIONS

DOWEE OUTPUT

## 15 Watts

 WPrets Pobrl ...................................... 20 thats INPTTS ................... 1 - Mie: 1 - Pholw. M10 Mos vione O.Nrols ......ice folume, Thono folunte, Time. Baster lower Switch. Standhy Rattery-SaverSuiteh, Phono Motor On- off Switeh Subte , Thono motor (ni-01f switel 6.1X5GT" (Rectifier)

0UTIITT TAPS ............... $2, ~ 4,8,1 \%, 500$ whms sum 70 wolt constant bultage
POWFE: CONSTMIDION ....80 watts at 117 mults $60 \mathrm{fpls} \mathrm{AC}^{\prime}$; 1 t amps. at of wolts DC
 HUM ANI NOISE ....... 65 dill helow full outpht HLMFNSI(IXS ..................12" $\times 10^{\prime \prime} \times 8^{\prime \prime}$ high

## PRICES



JT-An Hund Nicrompone List Price Spraker abhes and croumectus.
 Shipping Weight: 517 lla
Consists of 1—MM-151'-9 Amplipier, with thes: 2-1BS Pomplete Paging Huras; 1-Mudel d1-3C Nirioptone uitl 15 -ft. Calle aum Connectur: $2-2 r-f t$. Spraker Calle. and cirmectors.


## 27 WATT MOBILE AMPLIFIER FOR 6 VOLT DC AND 115 VOLT AC OPERATION WITH ThREE SPEED PHONO TOP



MMS-27P-3

WEST OF ROCKIES, ADD 5\% TO ABOVE LIST PRICES
Prices Subject to Change Without Notice.


FEATURES: Inputs for two microphones and one plonograph (built-in), each with its own volume control - Microphores and phonograph may be mized Variable tone control - 70 volt constant voltage output . Multi-tapped output - Standby "Battery-Saver" switch Output selector socket and pir plug - Two-tone bronze and coppertene inish - Extra-Heavy duty vibrator - U/L approved.

```
AMPLIFIER SPECIFICATIOMS
- MODEL MM-27P-3
```

POWER O:TTUT $\qquad$ 27 Wats
ITTPUT ...Tanned 4, 8, 15. 250, 5w0 ohms IPEAK POWER ...............................40 Wat


Off phono metor on phont sullume cuntrid. Stand-ly hattery-saver switch
INPLTS .. .........Three - Twil mirrophancs. one shono
TUBES...........2-6SC7,
$1-5 V 4$ (rectifier)

## PRices

 70 Wolt 1 comstant voltage)POHER CONSITMPTKON ......AC 130 Watts,
6 Bolt In' 25 amps.
HIM LETEL ......A 55 IR beluw output if 27 W.atts IC ripole-free
FHEOLENCY IEESPOXSE ... .... 50 to 10,016 $\mathrm{cps} \pm \mathrm{mb}$
 List Price
MM-27P-3 Mohile I'honor-ton Amplifier with talps, with Three-Speed Motor and
MMS-27P-3 Cartridge. Shipning Wright: 39 lis................................................... 190.60 MMS-27P-3 Mohile Phont-1np (omplet" Yorrable system, with Three-Speed Motor


 Sneakers; 2-25-ft. Califes and Mlugs: 1-l'ritalile Carrying Case, Nodel 3050; 1-Astatie JT-30 Micmphone with $15-\mathrm{ft}$. Cable and Conniptors.
Outdor System Consists of: 1-MM-27P-3 PWincom Amplifier, with tubes; 2-Masco-University Model MA-35 Irifer ["nits: 2-Masen-I niperitio Model PH Reflex Trumpets; 2-25-ft

WRITE FOR COMPLETE CATALOG
MARK SIMPSON MFG. CO.
LONG ISLAND CITY 3, N. Y.

## Complete Two-Station Intercoms for Every Need in Every Price Range



E-Z Talk 'E-Z Talk" COMPLETE TWO-STATION INTERCOM SYSTEM $\$ 19.90$ List
Completely Electronic - Ideal for Baby-Sitting - Perfect for Home or Small Office FEATURING: Unbreakable metal cabinet, styled in ivory for the modern home and office Master has volume control and separate talk-listen switch - Remote is always open-there is no switch to operate - High sensitivity - U L and CSA Approved Shipping weight of System: $61 / 2$ lbs

## MASCO "Small Talk" TWO-STATION INTERCOM SYSTEM Only $\$ 29.95$ List



Small Talk


JMR

COMPLETE WITH 50 FT. CABLE NOTHING MORE TO BUY - THE INTERCOM EVERYONE CAN AFFORD - FOT Homes, Nurseries, Restaurants, Offices, Stockrooms, Factories.



 PRICES

List Price


# MASCO MIDGETALK VALUE-PACKED TWO-STATION INTERCOM SYSTEM 

Your "Best Buy" in intercommunications!
DURABLE-Cast zinc unbreakable housing © QUALITY-U L and CSA approved COMPLETE Master and Remote Station with 50 feet of cable. Nothing more to buy UNMATCHED For sensitivity, for clear and natural voice reproduction. OTHER OUTSTANDING FEATURES: (able can be extendell to up to 2,010 feet - the extra remote


 cabinets designed th minmit himging tuits in wall - Rulber fect prevent matring pulished surfares -

PRICES


 Model C-3 Thire Condurtor Cable for extpuding Small Talk System or adding one liemute station.
Ship. Wgt.: 1/2

## MASCO MODEL JMR

DELUXE 2-STATION INTERCOM SYSTEM COMPLETE WITH 50 FT. CABLE U/L and CSA Approved Acts as Baby-Sitter - Listens in Sick Room
FEATURES: Handsome, cast-aluminum deluxe cabinets - Cable can be extended up to 2.000 feet - An exira Remote station can be added, paralleling the one supplied Highly sensitive. Remote can pick up sounds from up to 40 feet away - Natural voice reproduction - Matching Master and Remote stations, finished in attractive walnut hammertone - Pilot light - Remote station can be used for two-way conversation without operating switch - Remote station can be installed for completely private operation.
PRICES
List Price
Model JMR Cumpletp el-station Intercom, cunsisting of One Master and Our Remote Station.

Model JR Exira M\&mute itation (less 3-f'nndur or (able). Ship. Wga.: $31 / 4 \mathrm{lbs}$.................. 16.20


Wirelessfone


Wireless-Talk

## WIRELESSFONE AND WIRELESS-TALK

## Two Station Wireless Intercom Systems

FEATURING: A complete system ready to operate - No installation costs - To operate simply plug each station into any regular 105-125 volt electrical outlet May be used on AC or DC current - Modern styling - Pilot light on-off indicator - Distinct, clear voice reproduction - Powerful sound amplification of 21 '2 watts " "Dictate" (lock) position of Talk-Listen Switch enables a secretary to take notes of a conference without actually being present and is ideal for baby-sitting - U/L approved.
The WIRELESSFONE has rugged cast-aluminum cabinets, styled in walnut hammertone, and is ideal for industrial and institutional use.
The WIRELESS-TALK is beautifully styled in maroon and ivory plastic cabinets and is recommended for homes and deluxe offices.
AND THESE PLUS FEATURES: Noise silencing ghtrel - More than two Stations may be used in the same system and messiges will ln heard wer the entire ssitrm - Selector switel permits use mo
 PRICES
PRICES Model WF-2 Wirulessione Twn-Station Interemm Systent, conmpate Price
Model WF-2 Wirulessinhe Twn-Station interenm Systent. conmplete, per pair..............................89.. 00 Model SSW Single Wirelesfone Stat ions, each.......................................................................... 47.50 Ship. Wht.: $11 \frac{1}{2}$ lhs. (Twi Inits).
 Model XFP Single Wireless-talk Statinns, eath............................................................................................ 47.50 Ship. Wht: ! ! lhs. (Twi T'nits).

WEST OF ROCKIES, ADD $5 \%$ TO ABOVE LIST PRICES
Prices and Specifications subject to change without notice
MARK SIMPSON MFG. CO.
LONG ISLAND CITY 3, N. Y.



JS. 6

## ECONOMY MULTIPLE STATION SYSTEMS ECONOFONE

ECONOFONE Dual-Purpose System for one Master with up to five Remote Stations or up to six Masters in a fully-inercommunicating All-Master System. The mosp economical multiple station intercom system available anywhere.
FEATURES: Master has volume control with on-off switch, talk-listen switch, pilot light, and 5 individual Station selector switches - Remote Stations have a pilat listen switch which provides complete privacy at the Remote or permits the Remote to be "open" for baby sitting or for allowing calls to be answered from a distance without operating a switch * Easily-made modification changes the ECONOFONE to an All-Master system - Up to 6 Masters may be used in this system with up to 3 separate pairs of conversations or a conference of any group of Stations pos. sible - Master and Remotes have unbreakable steel housings finished in attractive brown hammertone - U'L approved.

## PRICES

List Price
ECONOFONE MASTER STATION, Model ST-5. Shipjing Weight $41 / 2$ Lhs.................. $\$ 26.50$ Model ST REMOTE STATION. Shiphing Wpisht: 2 Js.....
10.00 For Cable Prices, See Below

MULTIFONE
Economy Intermixed System of Masters and Remotes


JS


JL

FEATURES: Five-Station Master which can be connected to a combination of up to 5 other Masters and'or Remotes. Ten-Station Master for ten other Masters and/or Remotes $\quad 21 / 2$ Watts audio power output - Balanced input and output, input balancing adjustment, low impedance ( 13 ohms) line for low hum and noise pickup. - New type Push-Bar, rugged talk-listen switch of advanced design on both Masters and Remotes - Switch on Masters has a lock-in position for "dictate" purposes • All units have newly styled unbreakable cast aluminum cabinets attractively finished in mahogany • AC-DC. Low power consumption - Pilot Light U L approved.

## PRICES

Model MF5 List Price
Model MF-5 5-Station Mastrr ............................................................555.50
Model MF-10 10-Station Naster
65.50

Model JS-6 Remote
Model JS Remote with if Pisition Selector Switch....................... 32. 40

Shipping Weiglit: $31 / 2$ llos.
For Cable Prices, See Below

## MASCOFONE

## ECONOMY AC-POWERED INTERMIXED INTERCOM SYSTEM

For Master to Master, Master to Remote, or Master to Master to Remote AC Powered for Quiet, Efficient Operation - $3^{1 / 2}$ Watts Power - Can be used for paging with paging horn.
 Shipping Weight. Remotes: $31 / 2$ ths.

## CABLE PRICES FOR ECONOFONE AND IJM DUAL PURPOSE INTERCOMS

CABLE PRICES FOR MULTIFONE, MASCOFONE, CONFER-PHONE AND PRESIDENT INTERMIXED INTERCOMS
CABLE PRICES FOR MULTIFONE, MASCOFONE,

| B | One Shielded Twisterd l'ait ............................................... \$ | 11.61 |
| :---: | :---: | :---: |
| 5 | One Tuisterl Pair. Unshielded | 4.3: |
| TW-4 | Four pair Cable, earh l'ait Tuisted | 19.76 |
| TW-7 | Seven pair Calle. eacli Prair Tuisted. | 32.91 |
| TW-13 | Thirteen pair Cahle. each Pair Twisted. | 55.0 N |
| TW-25 | Tuenty-five pair ('able, each l'air Twisted. | 111.00 |
| SW | One Twisted I'air. ['ushimbed. Weatharpoof, Water and Chemical lesistant Plust ir Covering Orerall. | 12.50 |

WRITE FOR CATALOG
MARK SIMPSON MFG. CO.
LONG ISLAND CITY 3, N. Y.

## Thasco INTERCOMS

## MASCO CDN- EP-PHDNE - A Completely Flexible Master for any Combination System.

Build a system around any one Master to meet your requirements. Available in Six and Twelve Station Masters. Remote Available With or Without Call Switch and With 6 Position Master Station Selector.


FEATURES:

- For Master-io-Masier-to-Remote Intermixed Installation.
- For Master-to-Master Installation.
- For Master-to-Remote Installation
- Remote Station for two-way con versation with Masters.
- Remote Station can originate call to Masters.
- Masters may have personal remotes
- Push-Button station selection.
- Press-to-talk switch with dictate position on Master.
- Individual or group conversation.
- Volume control with on-off switch.
- On-Off indicating light.
- AC-DC operation.
- Finished in attractive walnut hammertone.
- U L Approved.


Illustration of a
Master-to-Master-to-Remote Inter-Mixed Installation

JS-6 REMOTE


PRICES
JMP-6 Six-Ntat inn Master wilh Tuhes.............................................s. 1.18




## President Series

## DE-LUXE 12 and 24 STATION AC POWERED INTERMIX INTERCOM SYSTEMS

The above is an inter-mixed system using both Masters and Remotes.
Masters may call selectively or to all masters and remotes in the circuit. Master stations can originate calls to any remote at will. Remotes can answer any master from a disance but cannot originate calls nor talk to other remotes. Remotes can originate calls to any master in the circuit, but cannot talk with other remotes. Model JS Remote may originate a call to only one master. Model JS-6 Remote may originate a call to as many as six masters.
Remotes with switch can br installed for private or non-private use.

Each master can have his own private hookup of remotes. The remotes may or may not originate calls to the individual master. Masters can call each other regardless of whether master being called has its power on or off.
llustration shows less than the maximim number of units possible in installation.
A JMP-6 Master may be connected to a tota! of six other units and a JMP-12 Master to a total of twelve other units. These units may be other masters or the JL, JS, and JS-6 Remotes. or a Masco Paging Amplifier and'or Paging Horns. All of these units may be mixed.


This is a De Luxe Intermixed System performing all the services of any of the Masco Intermixing Systems described on these pages and also featuring a busy signal on Masters, incoming and outgoing volume controls; rugged, lifetime Station selector lever switches and talk-listen switches and sockets on all Masters permitting a telephone type handset to be readily plugged in: AC powered for extremely quiet operation and with an audio power output of $3: \frac{2}{2}$ vatts, these units an drive up to 3 parallelled MIL- 45 horns connected to any one Station position or a booster amplifie: and horns for combining paging and intercom.

All Masco President Series Master Stations are supplied complete with 6 .foot cable and Junction Box, factory connected. PRICES List Price

 Shiphing Wright, Master statim: 15 His
ACL Remute Stition Less cali swith.................
ACS liemutc Station, With tall swith ........................................
ACS-6 Remmin Station with Six-fusition Haster statims Selertor


WEST OF ROCKIES. ADD $50 \%$ TO ABOVE LIST PRICES.
Price and Specifications Subject to Change Without Notice.

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MARK SIMPSON MFG. CO.
LONG ISLAND CITY 3, N. Y.

## Whasce INTERCOMS



IJM-10 Master


JR Remote

## MASCO DUAL.PURPOSE MODELS

## All Master Systems - Up to 11 Stations - MASTER-TO.

 REMOTE SYSTEMS - Single Master for Up to 10 RemotesAll-Master Systems: The IJM-5 Master may be connected to $C$ maximum of 5 other Masters for $\alpha$ total of 6 in the system. The IJM-10 may be used with up to 10 other Masters, or 11 Stations in one system.
Master-to-Remote Systems: An IJM-5 Master may be connected 10 a maximum of 5 IR and JL Remotes. An IJM-l0 Master may be connected to up to 10 JN and IL Remotes.

## MODELS IJM-5 AND IJM-10 ALL.MASTER SYSTEMS

FEATURES: Any station can call and talk with any other station, without interferunce or cross-talk * A Master can always call another Master, even if the called station's power is off - Up to 5 pairs af conversations may be held (in an IJM-10 system) at the same time Economical to operate-only uses 20 watts per Master - For AC or DC operation - Attractively styled unbreakable cast aluminum cabinets, finished in dark mahogany unbreakabie cast aluminum cabinets, finished in dark manogany

- Simple tc install- easy to use - Clear instructions furnished
- Stations may be up to 2,000 ieet apart - Heavy duty Push-Ba: Talk-Listen Switch on all stations, designed for long-life operation. - Lock-in position of Talk-Listen Switch on Masters, for dictc. tion, baby-sitting, sick-room and similar uses P Pilot light on-ofl indicator "All" position on selector switch for calling all stations simultaneously - Masters can page directly through one or more horns or through paging amplifier and horns * Paging horns cannot reply in an All-Master System.


## MODELS IJM-5 AND IJM-10 MASTER-TO-REMOTE SYSTEMS

Master can call any one or all Remotes at the same time - Stand. by position on Master's selector switch keeps Master silent until called by a Remote Station - Master has volume control with private operation of IR Remotes Simple conversion enables wiring for non-private operation of Remotes and In and II Wemotes car reply to calls without Remotes and $]$ and ip Remotes can alvays originate calls to Master - Master can page Remotes can alyays originate calls to Master Master can page reply to calls through the horn, without using any switch eply to calls through the horn, without using any switch ICS Switch jermits reply to calls from horns and also allows CS Switch permits reply to calls from horns and also allows

## HIGH FIDELITY AMPLIFIERS

## MASCO CUSTOM TEN

## 10 WATT HIGH FIDELITY AMPLIFIER

With Eight-Position Equalization Selector Plus Bass and Treble Compensated Volume Control - Removable Front Panel for Custom Installation.
FEATURES: Ten watts of low-distortion power - Free of internally-generated hum and noise Separate Bass and Treble Tone Controls * Bass-and Treble-Com pensated Volume Control automatically increases both low and high frequency response with reduction in volume in accordance with the characteristics of the human ear as cescribed by Fletcher and Munson - Four inputs for Radio or TV Tuner or Tape Recorder, Crystal Phono Pickup. Magnetic Phono Pickup e Recorder Output Jack on the Custom Ten Amplifier permits instantaneous recording while listening. Suntable for any tape, disc or wire recorder. More than 15 db of feedback over thres stages Removable Front Pancl designed for Easy Custom Installation Beautifully styled black and gold panel and black chassis © Two internally fused Auxiliary AC Power Outlets. Can be used on $105 \cdot 125$ volts 50 or 60 cycbes AC. U, L Approved - Pilot light socket and plug provided - Extra long control shafts supplied for custom cabinet installations.

## MASCO CM-EIGHT

## 8 WATT HIGH FIDELITY AMPLIFIER

An ECONOMICAL Amplifier with Performance Usually Found Oniy in More Expensive Equipment. FREQUENCY RESPONSE: 20 to 20,000 CYCLES PER SECOND 1 DB. LES' THAN 1\% HARMONIC DISTORTION AT 8 WATTS. FEMOVABLE FRONT PANEL FOR CUSTOM INSTALLATIONS

## Perfect for the BUDGET Custom Installation

An eight watt high fidelity unit complete with preamplifier and tone conrof equalization. with the fine performance usually expected only of more expensive amplifiers.
Now possible for EVERYONE to enjoy the satisfaction of high-fidelity music reproduction.
FEATURES: Fhree-Position Selector Switch permits simple choice of Radio, Crystal or Magnetic Phonograph, and Power-Off • Eight watts of power output - Very low hum and noise - Tone Control Equalization-wide variation of tone by the separate Boss cnd Treble Tone controls assures proper reproduction of all types of recordings - Three Inputs for Radio Tuner, Magnetic Phonograph Pickup Crystal or Ceramic Phonograph Pickup - Front panel easily removed for custom cabizet installations Beautifully styled black and gold chassis and panel - Auxiliary AC power outlet © Can be used on $105-125$ volts, 50 or 60 cycles AC - Underwriters' Laboratories Approved - Extra-long control shafts supplied for custom cabinet installations.


PRICES
List Price
CUSTOM 10 - 10 Watt Fidelity Amplifier. comphi



PRICE
List Price
Model CM-3 Eight Watr High Fidelity Amplifier. complete with tubes ...................................................... 59.7 Shippieg Weight: 9 lbs

WEST OF ROCKIES, ADD $5 \%$ TO ABOVE LIST PRICES
Prices and Specifications Subject to Change Without Notise

## WRITE FOR CATALOG

MARK SIMPSON MFG. CO.
LONG ISLAND CITY 3, N. Y.


Model PCM Portable or Wall-Hung Master


Model FB
Doar Remote Station


Model FM-6 Flush-Mount Master


Model PM-6 Portable Master


Model CMC. 9 Master

# Electranic Butler INSTANT-HEATING DOOR-ANSWERING INTERCOM SYSTEM 

Styled for the Tastefully Decorated Home

features: THE HCM FLUSH-MOUNT MASTER is completely housed in steel and designed for flush wall mounting with concealed wiring in new home construction or in remodelling or kitchen modernization programs.

Front panel is finished in gold metallescent to blend with any room decor.

Conforms with building codes regarding permanent wiring and is Underwriters' Laboratories Approved.

INSTANT HEATING-The power is off until the Master is operated to talk or listen. Costs less than $l$ cent per month to operate.

FRONT AND REAR DOOR STATIONS-The Model

FB Remotes (a maximum of 2 may be used) are weatherprook, finished in gold, and provided with $a$ bell button to announce a caller at front or rear doors. No switch is operated for talking from door stations-all control is at the Master.

MASTERS have volume control, pilot light, talklisten switch with "Off" position that shuts power off automatically when talk-listen switch is released, and 2 position selector switch for door stations.

MODEL PCM PORTABLE MASTER may be used in conjunction with or in place of flush-mount Master. Masters cannot talk with each otheronly with door stations. The PCM Master may be carried around and plugged into intercom outlets anywhere in the house, or they may be hung on the wall.

## MASCO MUSICOM INTERMIXED INTERCOM AND MUSIC DISTRIBUTION SYSTEM



Model AMF Flush-Mount Radio


Model AMP Portable Radio


Model CA- 2
Central Amplifier


F Remote (Less Switeh)


FS Remote (With Call Origination Switch)


FB Remote Weatherproof (For Outside Doors)


FS. 6 Remote With Selector Switch)

FEATURES AND DESCRIPTIONS: This is an AC-DC powered intercom and music distribution system for flush-wall mounting, and with portable plug-in Masters and Radio if desired.
All units are finished in gold metallescent. Flush units are housed in steel. Portable units are covered with duPont Fabrikoid Cardoba leatherette in white with brown mottling.

Any combination of Masters and Remotes may be used, up to a maximum of seven stations.
Radio connects to any Master for music distribution to any group of selected stations.
Underwriters' Approved.

## CENTRAL AMPLIFIER SYSTEM <br> Up to 5 Masters and 4 Remotes in One System With Only One Amplifier for All Stations

FEATURES: Gold-finished flush-mounting Masters and Remotes • Uses Model F and FB Remotes described above - Instant Heatinguses very little power except when actually talking or listening $21 / 2$ watts audio power output - Master stations completely private -Remotes Non-Private - Masters can set themselves for babysitting plus 2 -way conversation whenever desired - AC-Powered only - Meets building code specifications - Underwriters' Approved - Single Central Amplifier provides maximum economy in operation.

## WRITE FOR CATALOGS AND PRICES

MARK SIMPSON MFG. CO.
LONG ISLAND CITY 3, N. Y.

## Whasco 500

## "Truly it Masterpiece" with

- EXCITINGLY NEW STYLING
- TRUE LIGHTWEIGHT PORTABILITY
- SIMPLE ONE-KNOB OPERATION
- THRILLINGLY BEAUTIFUL TONE QUALITY

The MASCO 500 is the product of two years of laboratory research and more than 10 years of tape recorder manufacturing experience. No effort has been spared to make this recorder the best in the home and semi-professional recorder field.
FEATURES AND SPECIFICATIONS: SINGILE SHIFT KNOH COSTIEM,

 12.001 "pse











 Kuwh keps recerider reals, mutur munning. anmplifer un, but wilh bus tape






The "BALLYHOO" 6-Watt P.A. System With Optional 3-Speed Phono

MASCO SIX AND TEN WATT AMPLIFIERS AND SELF-CONTAINED COMPLETE PORTABLE PUBLIC ADDRESS SYSTEMS

The "'MIDWAY" 10-Watt P.A. System With C: 3 tional
3-Speed Phono


SPECIFICATIONS FOR 6-WATT AMPLIFIER






 FiNMSIL Diay llammortune.

"Ballyhoo"' and "Midway" Selt-contained P.A. Systems
With Optional Phonograph

SPECIFICATIONS FOR 10.WATT AMPLIFIER MODEL C-10: IथOWF:I fITIITT IO watts: IN.




 gi F,
ISH Gray Hammertone

Prices and Specifications Subject to Change Without Notice
*WEST OF THE ROCKIES ADD $5 \%$ TO ALL LIST PRICES
WRITE FOR CATALOGS
 Ten-Watt Amplifier PRICES

List Price*










 trm above plus 3 -spred phonugrapla.)

Shipring Weight: ? I lls.
For Prices of C. 10 Amplifier ond CS-10 ond CS-10P-3 "MIDWAY" Systems Write to Foctory

MARK SIMPSON MFG. CO.
LONG ISLAND CITY 3, N. Y.

## Bogen soundsrstems



A


B

$C$
 systems for perery need-indoor. oudnor. prortable or mobile-for the syarem fartory, srbool, dureh, stadimm, ur the shall office, aulitorime, bus of stor, designend and huih be the country's largest manufacturas of sound sxatems.

Bogen amplifiers rante in poure from h watts to 125 watts and ars wailable in a vide wriaty of "parkage" systems includiug differen walable in a hide bariety of parkage systems meluding differen frou have a ppecial problem Bercu Custorn Friuecring Division will dosion and asemble a sverum for your particular iustallation regardless of size

Tho table below liets the Bogen P.A. amplifiers and package systems. All ar" conservatively rated in aceordance with accepted enginecrint standards. Fach has a treciumery prsmonse carefully selected to insura
ontirume perlinemane in the amperations for shich the mantal has furn dovishad.
Parh amplificer marked with att aterisk (") carriss I'mdepuriters* latr riratories approval. Fiach is finished in tasteful tomes of grome and hution or green and uray. . III, exrept the mohile and phomograph iop mondels. are awablable on pards for mounting in stambard sten racks. if so rirdered. (Panel mounting adds 524,25 or $\$ 30.65$ to the list prict, deprodine on the model.

 ledidack and hence the use of more power in the system. "Hest modyla dso feature semarate. continuously variable hase and trible tone conaso fature selprate. Contanuously varmbar hass and troble tone eontrols, and provision lor plur-tn Remote volume control of two mput it 316 -


PRICES APPROXIMATELY 5\% HRGHER WEST OF THE ROCKIES

- ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE For further informotion see your disfribufor, or write or telephone:


## Bogen sound srstems



D

$E$


F
 plus-in of low inumanes input tramsormers, when it is desirem to usi ow imperdanes miverophones located as consideramin distance forn the athulificr. (Orter phag-in transformers separately for desired momber of
 spertivels.) Itaddition models HE10, RP1, HO125. J15:5 and Jo:30 mave twe ordered as low impedane versions ITELAO, RI-IL HOL1: ITOL5 and JOL30, for \$18-\$25 additional to the list prime. " 5 " models also foature broadcast-type microphone connectors, with posifive lock and quick disconnect.
For simple, rapid inpedane mathing betwen anmplifier and sprakers. constant voltate output taps ( 50 volts, 140 volts) are provided on all Bogen amplifires where there is likely to be seed for them, in addition
to conventional ernatath inserlance tans. These rleminate the invole
 matehne transformpre. if ary.
Sll indoor systems indude a mierophone and two or four syaters urounted in wall baities ( 6 ), with conneeting cables and plags. (uadoor steus iudude a


 instant use.
No naster what your refuifements, wou cannot hay a somul systan of finer merformaner or createrdependatility than a kneme.

| Dimensions $\left(W, \times H, \times D_{1}\right)$ | Shipping Weight | $\qquad$ | Indoor System | Outdoor Systems | Portable System | Amplifier List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $17^{\circ} \times 9^{\prime \prime} \times 14^{\prime \prime}$ | $47 \mathrm{lbs}$. | 4.8-1tionms -0-140 volts | JXSOH | $\begin{aligned} & \text { JX50TU } \\ & \text { J. } 50 \mathrm{~T}, \mathrm{l} \end{aligned}$ |  | \$279.50 |
|  | 40 lbs. | 4-8-16-500 ohtons 70 volts | JX3013 | $\begin{aligned} & \text { JX30TU } \\ & \text { JX307. } \end{aligned}$ |  | 219.50 |
| $17^{\circ} \times 191 / 4^{\prime \prime} \times 1: 2^{*}$ | $43 \mathrm{lts}$. | 4-8-16 ohms Til-140 volts | , 5113 | $\begin{aligned} & \text { J50TTV } \\ & .5 .51 \mathrm{~T} \end{aligned}$ | . - | 196.50 |
| $1512^{\prime \prime} \times 73-4 \times 10^{\prime \prime} \times 1$ | 30 lbs . | $\begin{aligned} & \text { t-8-1ti-j( } \mathrm{h}) \\ & \text { ohme } \\ & \text { 70 volts } \end{aligned}$ | J33013 | $\begin{aligned} & \text { J330'T1 } \\ & \text { J330TJ } \\ & \text { J330F'R } \end{aligned}$ | J3301 | 139.50 |
| $151 / 2^{\prime \prime} \times 9^{\prime \prime} \times 10 \frac{3}{4 \prime}$ | 35 llw . |  | J33018 | $\begin{aligned} & \text { J33 YYTU } \\ & \text { J330YT.J } \\ & \text { J330YFR } \end{aligned}$ | J330Y ${ }^{\prime}$ | 172.00 |
| $15^{\prime \prime} \times 81 / 4^{\prime \prime} \times 10^{\text {7 }}$ | 30 llxs . |  | J13013 | $\begin{aligned} & \mathrm{J} 130 \mathrm{Tl} \\ & \mathrm{~J} 130 \mathrm{TJ} \\ & \mathrm{~J} 130 \mathrm{FR} \end{aligned}$ | J13013 | 113.50 |
| $15^{\prime \prime} \times 91 / 2^{\prime \prime} \times 10^{\prime \prime}$ | 35 lln , |  | J130Y'3 | $\begin{aligned} & \text { J130YTV } \\ & \text { J130YT.J } \\ & \text { J130Y'FR } \end{aligned}$ | J130YF | 146.00 |
| $151 / 2^{\prime \prime} \times 73 / 4^{\prime \prime} \times 1113 / 4{ }^{\prime \prime}$ | 26 llw | 4-8-16 ohms 70 volts | J153 | . . . . . | J1.51 | 114.00 |
| $151 / 2^{\prime \prime} \times 9^{\prime \prime} \times 1034^{\prime \prime}$ | 31 lis. |  | J15Y3 |  | J15「1. | 146.50 |
|  | 15 llus. | 4-8-16-200 ohims 70 volts | HE10] | . . . . . | HP10\% | 71.25 |
| $151 / 4 \times 101 \times{ }^{\prime \prime} \times 10{ }^{\prime \prime}{ }^{\text {a }}$ | $34 \mathrm{lbs}$. | 4-8-16 ohms 70 volts | J62313 | $\begin{aligned} & \mathrm{J} 623 \mathrm{~T} \mathrm{~J} \\ & \mathrm{~J} 623 \mathrm{TJ} \end{aligned}$ | .. ..... | 183.00 |
|  | 35 lbs . |  | J62:3 \13 | $\begin{aligned} & \mathrm{J} 623 \mathrm{YT} \mathrm{~T} \\ & \mathrm{~J} 623 \mathrm{Y} \mathrm{I} \end{aligned}$ | - . . . . . | 195.50 |
| $6 \frac{1}{8 \prime \prime} \times 67 / 8^{\prime \prime} \times y^{1 / 4}{ }^{\prime \prime}$ | 15 lbs . | 4-8-16 ohms | . . . . . . ${ }^{\text {a }}$ | EhioJ Ether | . ${ }^{\text {. }}$. $\cdot$ | 77.75 |
| $1.51 / 4^{\prime \prime} \times 8^{\prime \prime} \times 11^{\prime \prime}$ | 17 lbs . | 10.000 ohms | ........ | ..... . . | . . . . . ${ }^{\text {a }}$ | 132.75 |
|  | $19 \mathrm{lhs}$. | 10.000 ohms Or 50-200-500 ohms | . ........ | . ...... |  | 172.00 |
| $11^{\circ} \times 8 \frac{1}{2}{ }^{*} \times 81 / 2^{\prime \prime}$ <br> ( $61 / 2^{\prime \prime}$ high without cuge) | 18 lbs . |  | . ....... |  | .. . . | 68.75 (RP-1) + 27.50 (CAGVU) |
| $17^{1} 6^{*} \times 9^{3} 8^{\circ} \times 1212^{*}$ | 59 lbs . | $\begin{aligned} & \hline 90 \text { ohms } \\ & 70-140 \text { volts } \end{aligned}$ | $\cdots$ | .-....... | $\cdots$ | 215.75 |
|  | 45 lbs . | 4-8-16 ohms Ti) 140 volts | . . . . . . . | . . . . . . . . | . . . . . . | 167.50 |
| $15^{\prime \prime} \times 8.9{ }^{\prime \prime} \times 11^{\prime \prime}$ | 30 lbs. | 4-8-16-500 ohens 7) volts | $\cdots$ | - . . . . . . ${ }^{\text {a }}$ | . . . . . - | 108.75 |

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PORTABLE 3-SPEED TRANSCRIPTION PLAYERS

## Equally Practical as Portable P.A. Systems

MODEIS VIP and Vhif are high-fidelity whomraphe featuring variable speed control owe the entire







VP17 (with liazo elecotric (*aldridero)... List Price: $\$ 168.10$ VP17X ( with Gf: matnetic (artridero)


 FP17 (with piozo riphetring
FP17X (with d: masurtic cartrifles
List Price: $\$ 139.00$
List Price: $\$ 150.25$, m ,
 similar toserjes ${ }^{\prime} X{ }^{\prime}$ in other rosperts.

## NEW COMMUNO-PHONE SYSTEMS

## Five Versatile Models to Solve Every Intercommunication Problem












## CHALLENGER SOUND EQUIPMENT by Bogen 30-WATT P.A. AMPLIFIER AND SYSTEMS


riel CH3O

MODEL CH30-30-watt amplitier, tuhw anl $\$ 96.75$ MODEL CH 30 P - fiomblete Iurtable system contain
 $V$ I'N speahers. each with 2 fit. cable and ulus mombtod in stolit portahle case which also carrís amplitior: 1 Astatio JT30 Crestal Miorophome with handle. interlocking hake, 1 ह ft. cahke and plut. List Price
\$177.80

MODEL CH618 18-WATT UNIVERSAL MOBILE AMPLIFIER For 117-Volt A.C, and 6-Volt D.C. Operation
Features individual controbs for microphone, phoms, tom: inverse feeblack for better respense and resulation; constant woltare entput me vasy shakur matrimes, Built-in




Thallenerer swatt (CH8L.Pr. $\quad \$ 54.50$ ), 18 -watt (CH18-L.Pr. $\$ 81.50$ ) :Inl lifl-w:1t (CH60—L.Pr. $\$ 164.50$ ) P... amplifiers also avalable, as well as ithtack, sutionr and nortahle systems.


 ET16 (with piezo nlectric (artridere)

List Price: $\$ 100.60$, flus excise tax

Individual controls for two microzhone . phonograph, tone control.
Terminal strip and 2 speaker flug.in soc're?s for connection of speaker lines Moulded bakelite sockets throughou
nverse feedback for bettep reszonse and regulation.
Extractor type fuse. - Recessed carrying handles.
Output Impedances: 4, 8, 16 ohms, 70 volts.
Dimensions: CH30: $15^{\prime \prime} \mathrm{w} . \times 8^{\prime \prime} \mathrm{h} . \times 10^{\prime \prime} \mathrm{d}$
117-volt. A.C., power supply
inderwriters' Lab. Approved.


MODEL CH30X—30-watt amplifior tuthes and built in of r.l.m. plonomraph toll. List Price...... $\$ 118.75$ MODEL CH30XP-('omplete portahle sustem pum
 i JM sumakers, each with oj ft calile and plur monnted in split nortable case whicla and platy amplitier: 1 Astatic JT30 (rvstal Microplome with handle, interlocking base, 15 ft , calble and plus. 19900
$\$ 199.80$

## CHALLENGERINTERCOMSYSTEMS

## MODELS CD6, CD1 2

G.Watt mobile amplitiers for operation from
 Hela will lulats, fate and lict. cable CD6

List Price: $\$ 62.25$
List Price: $\$ 66.25$


CHALLENGER 200 is a com H.te systam-a haster, a ". Hnote ktatiom and ibl ft. of
 maps rithote alive control mits mastor to silene or it Fer allent for mursery: restaurant msiness use. 'Endorwriters" Lah. Approved.
CHALLENGER 200 SYSTEM-Complete witl 50 ft of cahle and plums. $\$ 43.95$

PR:CES APPROXIMATELY $5 \%$ H GHEP. WEST OF THE ROCKIES
for further information see your distributor, or write or telephone for further information see your distributor, or write or telephone:

CHALLENGER 600 \& 1200 musters may lo. l!sel in 1 wo 1 thes ut swstems:



 motfs cart mititilo cialis also. CnderCHALLENGER 600 MASTER with
 CHALLENGER GOR REMOTE STATION List Price $\$ 12.93$ CHALLENGER 1200 MASTER with tuhts. List Price: $\$ 49.05$
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## McGOHAN P. A. and HI-FI AMPLIFIERS

## PUBLIC ADDRESS AMPLIFIERS

Necionan Amplifiors hase long been rempunad as high qualits. sebsthly prised




50 WATT AMPLIFIER


#### Abstract

   Power Output: 60 watts at less than $5 \%$ disturtion, Sol Watts at less than $3 \%$ disintion. Frequency Response:   $\bar{J} \mathrm{ta}+\mathrm{F}$ Treble Tone Control: $\quad 20$ to +10 dh. Tulies: 4 - $5.11{ }^{2} 6$    McGo:zan Model M-50 Net Eatll............. \$132.00


## 30 WATT AMPLIFIERS

 25 WATT MOBILE AMPLIFIERS


| Mefolan Mohite Amplifiters aplate from luoth (i-vilt auti 117 -molt penter supplies. They are rugerlly comsturted th Withstand the extreme couditings uf madile upe .tiuth. I stalldhe "lattery salct sbith makes for mimmom patio | cansumpian duing motile meratim. Mudel M-25MPI has <br>  <br>  Mrailahlu without phome tup. |
| :---: | :---: |
|  quency Response: $\pm 2$ dilr (10-18, (00) <br>  <br>  <br>  <br>  |  <br>  <br>  <br>  hanmerlmill tinivis. Wetigh ex lhs. |
| Gohan No. M-25MPH 2-5-uatt Immbifier <br> th phat t日f, Xet Each .......................... \$1 19.85 | McGolian No. M-25MS I'urtable System withut phono top, (ifi. is llis. |
| Gohan No. M. $25 \mathrm{M}-$ smle, withut $\mathbf{\$ 9 8 . 8 5}$ | $\chi_{\text {Mif }}$ Each |
| -Watt Portable Systems. Xmplifiet uith cirrying tave and | MeGohan No. M-25MPHD Outlun sistem with phom top amplifier. Wientit dia Js |
|  | Nill karli............................... \$197.25 |
| (11) tili | Gotan No. M-25MD Out |
| et E.ati......................................... 169.47 |  |
| S FOR 25 WATT MOBILE AND 30 | WATT AMPLIFIERS |



## HIGH FIDELITY AMPLIFIERS

## Mroman ampine

 14 WATT AMPLIFIER-PREAMP., MODEL WA-410

amplifior combina time that is eqmipued uith all the remtrols son woulh
 man latger and mote expmese amplifins. Fias and

 amintude. the intemally shitulded fube that alman ampleteds eliminatos lnom and mierophonies The rate mplatigation down to :3) wisles.

Power Output: II watts. Frequency Response
 inguts: Mametic

 antoils. Dutput Impedances: 8 and 16 ollms. Fumb'e Filter: Ill chamud t eusitimn coutiul Equalization

and Treble Controls: Wills rariathe inflertion point: to elimmate llisto tion henalla acempansing loas and trehle lumst. Turnwers warialle. Jow fredurnes

 1." hiwis Weiglt 1fillu, Size

McGohan Model WA. 410
$\$ 89.50$

[^12]

30 WATT ULTRA-LINEAR
AMPLIFIER, MODEL WA-330
fine : if-hatt power amplifier that mefates virthally
 the cumplete sumbl smectimu

Fretuency Resthonse: $\pm 1$ (1). +2100.000 cps . Power

 it 20 "alts. Internodulation Distortion: Less thatn 1) walts. Output Impedances: Noise Level: 90 (if) lelow -13.1Ts. Output mpedances: $\mathbb{N}$ and lit ohsms. Tubes $\$ \mathbf{8 9 . 5 0}$

CUSTOM


KX-25


KX-50


KX-6A


K-50B

Without equal at any price. The best examples why the name Newcomb is so reverea by Engineers and Owners alike. Will improve any system. A must when using the
$\star 20-20,000$ eycles $\pm 1 \mathrm{db}$ $\star$ Less than $3 \%$ distortion
$\star \mathbf{9 0} \%$ of rating at less than $1 \%$
$\star$ Full power any output tap
$\star$ Audio bandwidth selectors

- Hum and noise level- 80 db .
$\star$ Remote control provision-all inputs
* U/L approved
* Continuous duty-longer life parts
* Key locked contral cover
* Sensitive volume and overload indicators Wired for plug-in input transformers

Full audio power, 50105000 cycles (region of all major power requirements)
 Boost or Attenuation of advanced design tor better curve shape, greater range.
Feedback controlled 2 stage mike pre-anuphtiers. Hum balancing controi, ai. models but booster. Linear mixer frequency response. All but Pre-Amplifier have output impedance of $4,8,16,250,500$ ohms, PLUS a 70 volt "constant voltage" tape with convenient, simple, impedance selector. Multistage inverse feedback. Large, heavy duty power and output transformers thoroughly impregnated against mos. ture. Rear connections avoid unsightly wires, simplify rack installation. A. C. convenience outlet in rear, all models except booster. Cabinets: Heavy gauge welded steel beautifully styled. Finish: Silver Grey Hammertone Baked Enamel. ?nnels: Etched metal, illuminated. Krobs; Round, large, skirted type, for tas. peration. Additional specifications given under specific model numbers.
KX-25: 25 watts power output design center rating, 30 watts max. at less than POWER: 40 watis design center, 48 watt max. INPUTS (6): 5 mike ( 2 meg.) gain 123 db : 1 phono either Magnetic input gain 99 db based on 27,000 ohm input bass equalization +10 db or Crysial input $1 / 2$ meg. gain 90 db REMOTE CONTROL: Use RC-6 remote control unit BASS TONE CONTROL: Range - 16 to +25 db . TREBLE TONE CONTROL: Range + 30 to +20 db . HUM: -80 db controls off, -75 db erystal phono, - 65 db mike

KX-50: 50 watts power output design enter rating, 60 watts max. a: !ess than POWER: 80 watts design Cen. PEAK ow max BOOSTER COUPIING IA 90 for connecting K50B Boosters for 100 walts or more. All other characteristics dentical with KX-25 except gains. which are all 3 db higher than KX-25
KX-6A: A 6 channel mixer pre-amplifier designed to leed broadcast hines or boosters for finest quality. OUTPUT:
+31 VU, less than $3 \%$ distontion, +30 +3 at less han $1 \%$ Hisionton, +30 VU at less than $1 \%$. Has built in power supply and genuine VU meter with meter range extension switch. INPUTS for 5 mikes ( 2 meq.) gain 97 db and 1 thono ether crystal ( $1 / 2$ meg.) gain 64 . db or magnetic ( 27,000 ohms) gain 73 db . Use RC-6 Unit for remote control. Includes Master Volume Control and same fine Dual Tone Controls and Audio Bandwidth Selectors as in KX . 50 . BASS TONE CONTROL: Range K50B: Booster Amplifier. Performance, power and output impedance same as impedance, gain 71 db . Provision for plug-in bridging or low impedance iransformer. Built for continuous duty with long life parts, separate plate, and filament power transiormers, individually fused, permits dependable
olate power switching. Includes volume
and magnetic pickup inputs (Referred to rated output). CONTROLS (15): 5 mike, 1 thono, 1 bass. 1 treble, 4 bandwidih, a master, 1 volume indicator (all under keylocked control cover) A.C. power SWitch. TUBES (15): 6-6SC7, 2-6!5, 6AF6G, l-5U4G. POWER CONSUMP. TION: 135 watts, 117 volts 60 cycles A.C. Max. Input 129 volis. DIMENSIONS: $93 /$ /a $^{\prime \prime}$ $x$ 173/4" $\times 143 / 4^{\prime \prime}$ WEIGHT: $381 / 2 \mathrm{lbs}$. LIST: (with tubes) $\$ 450.00$. Plug Kit:
$\qquad$
TUBES (18): 6-6SC7, 2-6J5, 1-6SQ7 1-6̂ग7, 1-6SN7, 4-6L6G, 1-6AF6G, 2-5U4G. POWER CONSUMPTION: 235 watts, 117 volts 60 cycles A.C. Max. Infur 129 volts. DIMENSIONS: $93 / 8^{\prime \prime} \mathrm{x}$ $17^{3} 4^{\prime \prime} \times 13^{\prime} 4^{\prime \prime}$. WEIGHT: 46 lbs . LIST: (with tubes) $\$ 525.00$. Plug kit: $\$ 7.03$.
-16 to +25 db . TREBLE TONE CON. TROL: Range -30 to +20 db . HUM: db mbe controls oft, -80 db crystal -75 db mike and magnetic. CONTROLS (12): 5 mike, 1 phono, 1 bass, 1 treble, 11 master, 1 four position bandwidth (all under key locked cover), 1 A.C. power rear). TUBES (12): 6-6SC7, 4-6J5, 1617,1 - $6 \times 5$. POWER CONSUMPTION 35 WATTS, 117 volis 60 cycles A.C. Max. Innut 129 volts. DIMENSIONS: $93 / \mathrm{B}^{\prime \prime} \mathrm{x}$ $173 / 4^{\prime \prime} \times 143 / 4^{\prime \prime}$. WEIGHT: 30 lbs . LIST (with tubes) $\$ 395.00$. Plug Kit: $\$ 5.29$.
and overload indicators as in KX-50. Ample multistage feedback to minimize effects of speaker TUBES (10): Etched metal panel. TUBES (10): 1-6SJ7, 1-6SN7, 1-6SQ7, 4-6L6G, 1-6AF6G, 2-5U4G. POWER CONSTRUCTION: 230 Wratts 117 volts 60 cycles. 129 volts max.
 WEIGHT: 41 lbs. LIST: (with tubes)
$\$ 225.00$. Plug Kit: $\$ 2.50$.


NEWCOMB CUSTOM PORTABLE SYSTEMS


#### Abstract

KX-2512X: Portable system with KX-25 :mp: frer and two heavy duty, excable. System is carried in two cases: Miodel KA tor the amplifier, size $19^{\prime \prime} x$ $11^{3 / 4} \times 15^{\prime \prime \prime} 8^{\prime \prime}$ : Model K-212X for two speake:s, size $181 / 2^{\prime \prime} \times 121 / 2^{\prime \prime} \times 221 / 2^{\prime \prime}$. Speakers face inside for maximum protection wher. split case is closed. Mikes and mountirigs not included as requirements vary. LIST: (less mikes and stands) s645.57.


KA: Amnlifizr case fits all model K amplifiers. LIST: $\$ 35.00$.
All Prices and Specifications Subject to Change Without Notice.


## AUDIO PRODUCTS COMPANY

LOS ANGELES 38, CALIFORNIA
The MASSTER - 2nth Filition


For Performance, Dependability and Value check these features and specifications: $\pm 20-20.000$ cycles $\pm 2 \mathrm{db}$ * Full Power any output tap * Less than $5 \%$ distortion * $90 \%$ of rated power at less than $\mathbf{2} \%$ * Remote Contral provision-all mikes * U/L approved

* Continuous duty-longer life parts

Full Audio Power, 50 to 5600 cyeles (iec.on of all major power requirements) within $\pm 1 / 2$ db , less than $5 \%$ disto:tion. Ind vidual boost and attenuate type bass and treble tone controls in new distortion iree circuit. Linear mixer frequency response. All models but pie-amplifier have output impedances of $4,8,16,250$, and 500 ohms PLUS a 70 volt "con stant voltage tap, with easily-operated impedance selector. Multi-stage inverse feedback. Larcje heavy duty power and output transtormers thoroughly impregnated against mois ture. Rear connections avord unsightly wires, s:mplify rack installations. A. C, convenience outlet in rear all models except boosters. Cabinets: Heavy gauge welded steel beautifull siyled in modern functional simplicity that endures, Finish: Silver Grey Hammertone Baked Enamel. Panel: Etched metal, illuminated. Knobs: large, round, skirted type, for ease of one:atior. Additionai specifications under specific model numbers.
H.15: 17 watts power output design cen- (5): 1 mike-phono, 1 mike, 1 bass, 1 treble te: ating, 20 watts max. at loss than, distortion, any output tap. PEAK POWER: I'ipUTS (3): 2 mike ( 2 mea.), g(an lin 1 phonograph ( $1 / 2$ meg.), gain 80 db . BA: TONE CONTROL: Range -16 to +14 db.
TREBLE TONE CONTROL: -34 to +13 ab. TREBLE TONE CONTROL: -34 to +13 ab .
HUM: 72 db phono input, -62 db muk HUM: -72 db phono input, -62 db mk se RC-2 remote control unit. TUBES (7 2-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, 1-5Z4. POWER CONSUMPTION: 85 watts, 117 volts 60 cy . cies A.C. Max. input 129 volts. DIMENSIONS: $81 / 4^{\prime \prime} \times 19^{\prime \prime} \times 101 / 8^{\prime \prime}$. WEIGHT: 20 lbs. LIST: (with tubes) $\$ 179.50$. Plug

H-25: 25 watts power output design cen ter rating, 30 watts max, at less than
distortion, any output tap. PEAK POWER: distortion, any output tap. PEAK POWER
40 watts design centa,, 48 watts max: InPUTS (4): 3 mike ( 2 meg.), gain 124 db . 1 phonograph (1/2 meg.), gain 80 db BAS
TONE CONTROL: -18 to +15 db . TREBLE TONE CONTROL: -18 to +15 db . TREBLE
TONE CONTROL: Range -27 to +10 db . HUM: 72 db phono input, -62 db not (6): 2 mike, 1 mike-phono, 1 bass, 1 treble 1 A.C. power switch. REMOTE CONTROL Use RC-3 remote control unit. TUBES 18 3-6SF5, 1-6SJ7, 1-6SN7, 2-6L6G, $1-5 \mathrm{U} 6 \mathrm{G}$ POWER CONSUMPTION: 125 watts, 117 yolts 60 cycles A.C. Max. Input 129 volts DIMENSIONS: $81 / 2^{\prime \prime} \times 19^{\prime \prime} \times 101 / 8^{\prime \prime}$ WEIGHT: 24 lbs. LIST: (with tubes) $\$ 210.00$ Plug Kit: \$5.03.
db mike inputs (referred to rated outpul
H-50: 50 watts power output design center rating, 60 watts max. at less than $0^{\circ}=$
distortion, any output tap. PEAK POW'ER 80 watts design center, 90 watts miz PUTS (5): 4 muke ( 2 meg.), ga $12 . \mathrm{d}$,
phono ( $1 / 2$ meg.) amin 81 db. BOO S. phono ( $1 / 2 \mathrm{meg}$.) am 81 db. BOON'
COUPLING JACK for connecting $\mathrm{H}-25 \mathrm{~B}$ of H-SOB Boosters fo: 75 to 130 watts or db. TREBLE TONE CONTROL: Range - 27 to +10 db . HUM: -72 db phono input, .- 62 CONTROLS (7): 3 mike, 1 mike-phono, asss, 1 treble, 1 A.C. power switch. RE. NOTE CONTROL: Use RC-4 remote control TUBES (12): 4-6SF5, 1-6SJ7, 1-6SN7, 4-6L6G 2-SU4G. POWER CONSUMPTION: 225 watts 117 volts 60 cycles A.C. Max. Input 129 "olts. DIMENSIONS: $91 / 4^{\prime \prime} \times 19^{\prime \prime} \times 121 / 2^{\prime \prime}$. WEIGHT: 37 lbs . LIST: (with tubes) $\$ 279.50$. Plug Kit: \$6.10.

H-4VU Mixer Pre-Amp. with built-in power supply. Extremely low hum. Suitable 10 : suppling telephone lines of booster amplinfeeaing telephone hnes on booster amplin$\mathrm{db} a t$ less than $5 \%$ distortion. +21 db at less than $2 \%$. INPUTS for thiee mikes in meg.), gain 90 db . 1 phono ( $1 / 2 \mathrm{meg}$.), gain 51 db . HUM: Better than, -80 ab : phono input or -75 db , mike inputs. Use master control and genuine VU meter meter range extension switch. BASS TONE CONTROL: Range -16 to +14 db . TREBLE TONE CONTROL: Range -27 to +13 db . TUBES (7): 3-6SE5, 1-6SJ7, 1-6SN7, 1-6J5, I-6X5 POWER CONSUMPTION: 30 watts, 117 volts SC cycles A.C. Max. Input 129 volts. DIMENSIONS: $81 / 2^{\prime \prime} \times 19^{\prime \prime} \times 101 / 8^{\prime \prime}$. WEIGHT $171 / 2$ lbs. LIST: (with tubes) $\$ 225.00$. Without VU meter: $\$ 179.50$. Plug Kit: $\$ 3.44$

H-25B Booster Amplifier - Performance Power and Output Impedances same as H-25 with but one input of $1 / 2$ meg. impedance gain 68 db . Provision for plug-in bridanc or low impedance transformer. Etches metal panel with pilot light, A.C. powe: switch and volume control. Ideal fo: use
with H-4 Pre-amplifer, Built for long liie TUBES (5): 1-6SJ7, 1-6JS, 2-6L6G, 1-SU4G POWER CONSUMPTION: 120 watts, 117 volts, 60 cycles A.C. Mox. Inpu! 129 volts DIMENSIONS: $81 / 8^{\prime \prime} \times 19^{\prime \prime} \times 101 / 8^{\prime \prime}$. WEIGHT 22 lbs. LIST: (with tubes) $\$ 149.50$. Plug

H50B Booster Amplifier - Performance, Power and Output Impedances are same is $\mathrm{H}-50$ with but one input of $1 / 2 \mathrm{meg}$. impedance, gain 1 db . Provision for plua-in bridging or low impedance transformer. Etched metal panel with pilot light, A.C. switch and volume contiol. Bull for lera
life. Ideal for use with H-4 Pre-Amp. TUBES (8) 1-6SJ7, 1-6J5, 4-6L6G, 2 -SU4G. POWER CONSUMPTION: 220 watts, 117 volts, 60 Eycles A.C. Max. Input 129 volts. DIMEN SIONS: $91 / 4^{\prime \prime} \times 19^{\prime \prime} \times 121 / 2^{\prime \prime}$. WEIGHT: 331 lbs. LisT: (with tubes) $\$ 189.50$. Plug Ki: \$1.69.

## Newcomb Deluxe Portable Systems

H-1512R: Portable system with H-15 amp, and two $12^{\prime \prime}$ speakers, each with $25^{\circ}$ cable, in splut case Model EH-212R, size $111 /{ }^{\prime \prime} \times 2012^{\prime \prime} \times 21$ ", covered in washable fabricoid. Kickproof metal g:i.s ple tect speakers. Mikes and mountings not inclucea as requirement
stands) $\$ 283.09$.
H-2512R: Portabie system with H-25 and and iv: Model EH-212R. Size, $201 / 2^{\prime \prime} \times 111 / 8^{\prime \prime} \times 2 l^{\prime \prime}$. Mikes and mountings not inc.uded as requirernenis va゙\%. LIST: (less mikes and stands) $\$ 314.53$
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## AUDIO PRODUCTS COMPANY

## yavemb

 dependability and economy the E-Series is today's best combinctid

E-10A: Delivers 10 watts from pushpull phons controls. Mutistage inverse watts at less than $5 \%$. FREQUENCY watts at less han $0 \%$. Frles $\pm 2 \mathrm{db}$. RESPUTS: (2) 1 mike ( 2 meg.) gain 116 db . 1 phono ( $1 / 2$ meg.) gain 77 db . TONE CONTROL: Range o to - 24 db . OUTPUT IMPEDANCES: 4, 8,16 and
500 ohms to octal socket. TUBES: (5) 1-6SC7, 1-6SJ7, 2-6V6GT, 1-6X5GT. FINISH: Silvergrey hammertone baked enamel. PANEL: Genuine etched enamel. POWER CONSUMPTION: 60 watts at 117 volts, 60 cycles A.C. SIZE: $53 / 4$ x 103 '" 'x $63 / 4^{\prime \prime}$ ". WT'.: $91 / 2$ lbs. Less cover, $71 / 2$ lbs. LIST: (with tubes,
vathout covers) $\$ 69.50$. Cover $\$ 7.21$. Plug Kit $\$ 1.71$.


E-17P3: A conservative 17 watt model with 3 speed phono. Separate bass and treble controls, phono bass boost, multi-stage inverse ioed-back circuit. Input controls for mike and phono. POWER Ob 15 Walis db, 40 to 15,000 cycles. INPUTE: mike $(2$ meg.) gain 115 db, phono ( $1 / 2$ meg.) gain 77 db. OUTPUT IMPEDANCES: 4 . ${ }^{8}$. 16 and 500 ohms. TU1ES: (5) 1-i2AX7, 1-6SJ7, 2-6L6G, 1-5V4G. FINISH: Silver-grey hammertone baked enamel. PANEL: Etched metal, A.C. SIZE: $834^{\prime \prime} \times 141 / 3^{\prime \prime} \times 8^{\prime \prime}$. WT.: $151 / 2 \mathrm{lbs}$. LIST: (with tubes) $\$ 151.55$. Plug Kit $\$ 2.28$.
E-17: A 17 watt amplifier without 3 speed phono. Otherwise E-17: A Plug Kit $\$ 2.28$.


E25: A dependable, full 25 watts with inputs for 2 mikes and 1 phono, separate bass and treble controls, phono bass boost, multistage inverse feedback circuit. POWER OUTPUT: 25 watts at less than $5 \%$ FREQUENCY RESPONSE 117 db , 1 , hono ( $1 / 2 \mathrm{meg}$.) gain 77 db . OUTPUT IMPEDANCES: 4, 8, 16 and 500 ohms. TUBES: (6) 77 db . OUTPUT IMPEDANCES: 4, 8, 16 and 50 Oinms. Tilvergrey 1-12AX7, 1-6SC7, 1-615, 2-6L6G, 1-5V46. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal, ighted. P: 83 "x $141 / 8^{\prime \prime} \times 8^{\prime \prime}$. WT.: $181 / 4 \mathrm{lbs}$. LIST: (with tubes and cover) $\$ 139.50$. Plug Kit $\$ 3.24$.
E-25P3: A 25 watt amplifier with 3 speed phono. Otherwise iden tical to model E-25. LIST: (with tubes) \$183.18. Plug Kit $\$ 3.24$.


E-254P3: A highly versatile, yet economical 4 channel, 25 watt amplifier with 3 speed phono. Features: high gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback circuit. Pickup is high grade turnover crysial. POWER OUTPUT: 25 watts at less than $\%$ MIKE INPUTS: 2 meg gain 123 db . P HONO INPUT: $1 / 2$ meg., gain MIKE INPUTS: 2 meg.: gain 123 db. PHON 1500 ohms. TUBES ( 8 ): 83 db . OUTPUT IMPEDANCES: $4,8,16$, and 500 ohms. TUBES (8): 3-6SF5, l-6SJ7, 1-6SN7, 2-6L6G, 1-5V4G. FINISH: Silvergrey hammertone baked enamel. PANEL: Etched metal illuminated. CONTROLS: 3 mike, 1 phono, 1 bass, 1 treble and power switch. SIZE: $83^{\prime \prime} \times 141^{\prime \prime} 8^{\prime \prime} \times 8^{\prime \prime}$. WT.: $181 / 4 \mathrm{lbs}^{\prime \prime}$ LIST: (with tubes) $\$ 213.18$. SIZE: $83 / 8{ }^{\prime \prime}$ xlug $\$ 3.90$.
Plug Ki: $\$ 3.90$. identical to model E-254P3. LIST: (with tubes and cover) $\$ 169.50$. Plug Kit $\$ 3.90$.


E-50: A distortion-free, conservatively rated 50 watts using pushpull parallel 6L6 tubes and multistage inverse feedback arcur Has inputs for 2 mikes, 1 phono, separate bass and treble controls, phono follows: POWER OUTPUT: 50 watts at less than $5 \%$ Mike acin 120 db phono 79. OUTPUT IMPEDANCES: 4,8 and 250 ohms. TUBES: (9) 4, 8,16 and 250 ohms. TUBES: ${ }^{(9)}$ 2-5V4G. POWFR CONSUMPTION: 170 watts at 117 volts, 60 cycles A. STres cover) $\$ 196.50$. Plug Kit $\$ 3.24$

E-504: A 4 channel 50 watt amplifier featuring: high gain, inputs for 3 mikes and 1 phono, separate bass and treble tone controls, phono bass boost, multi-stage inverse feedback, push pull parallel output system tor lowest distortion at all power levels. POWER OUTPUT: 50 watts at less than 5\% distortion. FREQUENCY RE SPONSE: $\pm 2 \mathrm{db}$, 40 to 15,000 cycles. THREE MIKE INPUTS: 2 meg., gain 126 db . PHONO INPUT: $1 / 2$ meg. gain 86 db . OUTPUT IMPEDANCES: 4, 8, 16 and 250 ohms. TUBES (11. 3-6SF5 l-6SI7 l-6SN7 4-6L6G, 2-5V4G. FINISH: Silvergrey hammertone báked enamel. PANEL: Etched metal illuminated CONTROLS. 3 mike, 1 phono, 1 bass, 1 treble and power nated. CONTROLS: 3 mSUMPTION: 180 watts, 117 volts, 60 cycles A.C. SIZE: $1114^{\prime \prime} \times 143 / 4^{\prime \prime} \times 81 / 2^{\prime \prime}$. WT.: 30 lbs . LIST: (with tubes and cover) $\$ 239.50$. Plug Kit $\$ 3.90$.

## America's Finest High Fidelity Amplifiers for the home . . . <br> NEWCOMB COMPACT SERIES <br> NEWCOMB CLASSIC SERIES <br> NEWCOMB "D" SERIES

Figh fidelity is for everybody with the Newcomb Compact. Small, fully enclosed cabinets contain amplifier and preamp Eeautiful finish 10 match any furniture. No need to build in your amplifier. The Compact may be placed on chairside table for ronvenience of control. Available in 10,12 and 20 watt output models. Write for .omplete details.

Laboratory Standard amplifier with remote control-preamp unit (also available as ingle chassis amplifier) The Newcomb Classic Series 2500 is the finest home ampliier money can buy. It is ultra fidelity Beautifuley can buy. It is ufra chairside peration of entire system is only nine inches wide and less than four inches high and deep. Exclusive distortion control gives ifetime freedom from distortion

Consisting of two models, the D-12 and Cons this series is the finest low-priced arplitier line available. Competitive in amplith wany bargain-type amplifie:s年 are which has characterized New come produres include built-in rumbler filter input selector built-in aremplifier bass and treble controls and loudness control.

# NEWCOMB AUDIO PRODUCTS COMPANY 

Las Angeles 38, Califarnia

Ask about our 2-Channel Stereophonic Amplifier
All Prices and Specifications Subject to Change Without Natice


E-1712R: A 17 watt dual s!eaker EH-212R sylit sweaker and ampli ioh ase assembly with two 12 as cable, orotected by kick pic of grille, and one E-17 ampli. $21^{*}$. Weig it: 40 lbs. LIST. -e and stanci \$209.28
E-2512R: A 25 تatt dual speaker portable system with model E-2S amplilier. Neight $421 / 2$ lbs. LIST: (less mikes and stands) 242.2

E-25412R: A 25 watt dual speaker portable system consisting of asembly wih two 12 p.M. LIST: (less mikes and stands) $\$ 272$.


E-17P312R: A 17 waft dual speaker portable system with speed phono. Consists model E-17t case assembly. LIST (less mike and stand) $\$ 252.96$ E-25P312R: A 25 watt dual speaker portable system with 3 speed phono. Model E-2sP3 amplifier in ER-212R split case and stands) $\$ 285.92$. mikes E-254P312R: A 25 watt dual speaker portable system with
top amplifier model E-254P3 $25412 R$ but witt 3 speed phono top
LIST: (less mikes and stands) $\$ 316.58$

E SERIES MOBILE AMPLIFIERS
E-25MP: A 25 watt mobile amplifier with 78 RPM phono. For us:- on ${ }^{6}$. Strage battery or curent per watt output. Has standby sw:itch, separate power and turntable switches, heavy dury Jones plugs and receptacles for depenciable connections to ba*tery or A.C. power. POWER OUTPUT: 25 watts at less than 50, RESPC.NSE: $\pm 2 \mathrm{db}, 50$ to
 ,D00 cycles. INPUIS: 2 mikes 78 db. HIGH FEEQ. ATTENUATOR: Range 28 db. CIRCUIT: Multi-stage inverse feed-back resistance -apa-ity coupling, phase correction for phono motox, 2000 V . hermetically sealed 4 , butfer condenser. OUTPUT IMPEDANCES: sockets and impedance selector. PHONO: Con stant speed 78 rpm. PICKUP: Crystal. TUBES:
 (7) 1-12AX7, 1-6SJ7, 1-6J5, 2-6L6, $2-6 X S G T$. PCWER CC,NSUMPTION: 107 watts, 117 volts 60 cycles AC or 20.5 amps. including phono from 6V. battery. FINISH: Silvergrey hatnmerton baked enamel. PANEL: Etched metal, lighted. SIZE 83.4 "x $141 / 8^{\prime \prime}$ " $10^{\prime \prime}$. WT.: 26 lbs. LIST: (with tubes) \$215.00. Plug

E-25M: Samme as E-25MP without phono. POWER CONSUMPTION ${ }^{91}$ watts A.C. Gr 17 amps. from 6 V.D.C. SIZE: $83 / /^{\prime \prime} \times 141^{\prime \prime} \mathbf{g}^{\prime \prime} \times 8^{\prime \prime}$ WT': 23 lbs. LIST: (with tubes) $\$ 195.75$. Plug Kit $\$ 3.24$.
E-25MP3: Same ris model E-2SMP except with 3 speed phono LISI: (with fubes) $\$ 239.43$. Pluq Kit $\$ 3.24$
E-1DM: A lu watt mobile amplifier. For use on 6 V.D.C. or 117 V. 60 cycles A.C. Features push-pull beam power output tubes with invers fe =dback for low distortion, standby battery saver switch, new ireedom from vibrator hash, special mounting for eaiy removal of chassis, inputs for mike and phono, sturdy lones conn.actors for battery and A.C. cables. POWER OUTPUT: 10 watts at less than $5 \%$. FREQUENCY RESPONSE: $\pm 2 \mathrm{db}, 50$
to 15,000 cycles. INPUTS: Mike to 15.000 cycles. INPUTS: Mke ( 2 meg.) gain 115 db , phono
$(12 \mathrm{meg}$.) cain 75 db . OUTPUT IMPEDANCES: 4 . 86 ohms
 TUMPSION 60 watts, 117 volts, 8 amps. at 6 V.D.C. FINISH: SUMPTION 60 watts, 117 volts, 8 amps. at 6 V.D.C. FINISH: Sil-7ergrey hammertone baked enamel. PANEL: Etched metal with pilot lamp SIZE: $61^{\prime \prime} 8^{\prime \prime} \times 6^{3} \frac{4}{4} \times 81 / 4^{\prime \prime}$. WT.: $93 / 4$ lbs. LIST: (with
tuties) $\$ 99.75$. PIug Kit $\$ 1.39$.
ALL NEWCOMB EQUIPMENT U/L APPROVED

- PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

TR-92: Input impedance 5,000 ohms to grid for bridging a $500-600$ orm line When purged into sockets on K50B, H50B H25B verts for use as bridging amps. WT.: $1 \mathrm{l} / 4 \mathrm{lbs}$. LIST: $\$ 29.50$.
TR-100: Identical to TR-91 but for use between 125-150 or 500-600 orm mikes and grid. LIST: $\$ 32.50$

リTR-91: Features sextuple alloy and copper shielding for quet operation right in amp. proper. Alloy core and esponse from 20 to 20000 windings for extended frequency nstallation. For use between $30-50$ or $200-250$ ohm mikes anstallation. For use between $30-50$ or 20
puts. With K Series amplifiers all controlled. Up to 2000 feet of cable may be used. No inductive pickup.

RC-2 for $\mathrm{H}-1 \mathrm{~S}$ amp. Requires ordinary 3 wire cable. $23 / 4^{\prime \prime} \times 6^{\prime \prime} \times$ 21/8". WT.: 1 lb. LIST: (less Cable) $\$ 10.50$.

RC-3 for H-25 or H-4 amps. Requires ordinary 4 wire cable, $23 / 4^{\prime \prime}$ x $6^{\prime \prime} \times 21 / 8^{\prime \prime}$. WT.: 1 lb . LIST: (less Cable) $\$ 15.50$.

RC-4 for H-50 amp. Requires ordinary 5 wire cable. $23 / 4^{\prime \prime} \times 75 / 8^{\prime \prime}$ $\times 21 / 8^{\prime \prime}$. WT.: $11 / 4 \mathrm{lbs}$. LIST: (less Cable) $\$ 19.50$.

RC-6 for KX-25, KX-50, KX-6 amps. Requires ordinary 7 wire


## PLUG-IN TRANSFORMERS

MODEL 1050-C PHONOGRAPH CHANGER PANEL is a practical solution to mounting a phono changer in cabinet 595-19. Ball bearing drawer with wood motor board is adaptable for mountare finished in silver-grey hammertone baked enamel. MODEL able but economica! pre-amp for rack use. MODEL TB2-525 talk pow MODEL B-100-875 AM RADIO is the Newcomb B-100 radio mounted on an 83/4" panel. (See listing page B-35.) MODEL 700-MP MONITOR is available for installation of any $6^{\prime \prime}$ speaker. LEVER KEY PANELS are provided for use with CRL Keys, $31 / 2$ deep with ventilation and BLANK PANELS are made in assorted sizes SPECIAL PANELS are made to order to fit special equipment Templates or suitable mad special sheet metal work. Full details of Newcomb rack and panel equipment avalable on request.

ACCESSORIES FOR H AND $K$ SERIES AMPLIFIERS CRMPCO REMOTE CONTROLS

## NEWCOMB TRANSCRIPTION PLAYERS AND P．A．SYSTEMS

Newcomb franscription players clsc sejve cs excellent p．a．sys－ tems when mike is altached ic incut frevided．Foolproof in operation with emphasis on depencability，icne cuclity and light weight．ALL U L approved

Variable control of tempo and pitch plus New Speed－O－Scope
 TR－25AM：for all records we to 2 in
and p．a．
PICKUP：Twist type，dual needie
G．E．variable reluctance．SCRATC－
SUPPRESSOR：Controls Surtace noise．POWER OUTPUT： less than $5 \%$ FREQUENCY FE SPONSE：$-2 \mathrm{db} 40-15000$ cyeles gain 120 db ．CONTROLS bass， 1 phono treble． 2 mike vol．， 1 make bass（Secon mike unaffected by either set controls）power， 1 scrais variable speed control wow－ree performance．FLOFTING coiril：Elminates conimes to
 cord．OUTPUT IMPEDANCES：4 S OnTS，TUEES：（10）2－6SC7，

 $161^{\prime \prime}$＂$^{\prime} \times 161 / 4^{\prime \prime}$
 TR－16AM： 10 wicin，₹ speed player and UP．${ }^{\text {sing }}$ siem，$F 11$ ieco：cis to $171 / 4$ ．PICK－
UPE，cual needle G．E．vari－ cble reluctorce．SCF．ATCH SUPPRESS． OR Eontrols sutace noise．POWER QUPUT：WGAS at less than $5 \%$ ．
$10 E Q U E T C Y$ FESPOiSSE：$\pm 2$ db， $50-$
10,000 cyclos．INPUTS：（2）l mike， adio or shono chancer．CONTROLS： （8） 1 treble， 1 base， 1 phono vol．， 1 Fon addin bass to mike．） 1 power， ecraizh inter， 1 variable speed，${ }^{1}$ and 78 rpin with variable coatrol．Winh 2 b．－atcble it achieves wow－rree performance FLOATI，G SOUND：E．iminates needle （6）2－6SC7，］－6SI7，2－6V6GT，］－6Y5GT．POWER CONSUMPTION： 70 watts， 117 volts 60 creles $A . C_{\text {．inciading motor．SIZE：} 143 /{ }^{\prime \prime} x}$ $153 / 4^{\prime \prime} \times 117 / 8^{\prime \prime}$ ．WT．： 33 livs．LIST：$\$ 257.50$.

TR－16A： 10 watt， 3 speed pleyer and T．c．FICKUP：Dual needle featherweight crystal．Needles semi－permzinent，easily replaced Has all features of TR－16AM Excent siratch scif ressor．TUBES：


CR－11 MJKE：JNew eomb－Shure mike ics Tf models and R－16．Combines coot voire with inggeciness．Unaffected by high temps．and huridir．Hiss on－oif switch．With miq．bracket， 7 ccble

T－112R EXTRA SPEAKER：Ic：C：Th models．12＂Al－ Plywood case coverc s icceod．SIZE：161／4＂x


SPEED－O－SCOPE：$A$ Rev strciee ciewice to rr．c．Eqie excct $33 \% / 3,45$ or 78 speed that is practica ier ise oisurc chacren．Completely concealed，it is protected $10 m$ camcc intersifier switch improves recciciliay in E：こっ゙ht locht．TR series only．

## APPROVED

BY LEADING SCHOOL AUTHORITIES

## FROM COAST TO COAST

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## AUDIO PRODUCTS COMPANY

LOS ANGELES 38．CALIFORNIA


The National Catenoid Speaker System is the first basic im. provement in loud speaker design in more than ten years. A true corner horn, (not a back loaded or semi-horn) the Catenoid is the only practical means of reproducing the power and dynamic quality of rich bass tones.
The Catenoid System consists of a full catenoidal horn from the 30 cycle region to 300 cy . cles: a direct radiator from 300 to 6500 cycles, and a high frequency tweeter unit from 6500 to beyond 17000 cycles per

Bass response extends smoothly to very lowest fundamentals high frequencies are free from harshness, directional effects and the mid range gives a feeling of presence little short of miraculous!

Impedance: 8 ohms. Capacily: 30 watls. Size: $36^{\prime \prime}$ high, $401 /$ wide, $271 / 2^{\prime \prime}$ deep. Available in hand-rubbed walnut or ma hogany or with Formica wood grain finishes in blonde mahog. any, walnut or natural mahog. any to resist scratches, scuffs. burns or liquids.


HORIZON Criterion, AM-FM TUNER
$F M$ rensitivity -5 macrovalts for 20 db quieting: Exelun ve EM mutamatic tuning. Full band AM. Binaural prevision.


HORIZON 20, 20.wott amplifier
Ctilizes revolulmary new "unity-coupled" output stace. Frequenty response is $\pm 1 \mathrm{db}$ so cps to 20 kc at fall rated oulput.


MORIZON 10, 10 watt amplifier
Built-in preampaontrol unit 3 inputs, 3 record qualizationt curves, loudness control, separate put blage.


## HORIZON 5, preamp-control

4 inpuls. 7 recond equalizalion eurves, loudrest onlume control, suparace bati and treble controls. Plugs into tuner or 20 -watl smplifier.


Exclusive coffee or end table design featuring Isboratory-developed dual clustere of distributed ports and internal vents with dual beavy-duty drivers for exreptional pesk.free bass in mini mum size. 6 finishes - blonde. natural mehogany oo

 density iweeter for silky highs. New porting ystem. Impedance 8 ohms. In Formica wood crain finioher in blonde. walnut or mahogany.

## PRICES *

Torizon Criterion" AM/FM
Tuner : $\because$ tess cabinet Horizon 20 Amplifier.
$\$ 189.95$ 184.95 84.9

Dixtributad in Canada by Canadian Marconi Compary, $8: 10$ Bayview Avenue, Toronto, Ontgrio. Compary, 37 Madison Avenue, New York, N. Y,

HIGH－FIDELITY

## amplifiers

PREAMPLIFIERS AND REMOTE CONTROL UNITS

## 10 finerchoricict than ElectroVoics

## NEW HIGH FIDELITY CIRCLOTRON AMPLIFIERS

## Critical Damping－Extended Response－Unity Coupling

Incorporating the first significant advance in amplifier design in 8 years ．．．the Wisgins Cir clotron Circuit．．．these EV hish fidelity amplifiers offer many new fearures essential to complete listening satisfaction．
The Circlotron Circuit eliminates DC in the output transformer；switching transients are completely absent through unity coupling between tubes．Very low leakage reactance；high tube efficiency with lons component life provides trouble－free operation．
Newly developed critical dampins control perfectly matches amplifier to speaker system eliminating bass losses rom over－damping，prevents under－damped hangover．Four output ing brackets provided；simplifies mounting in vertical position and in hard－toreach areas．

Model A20C 20－WATT CIRCLOTRON AMPLIFIER．Compact，high－quality，conserva－ tively rated amplifier with all necessary controls for handling a complete high fidelity system． Power output 20 watts rated， 40 watts on peaks．Frequency response $\pm 1 \mathrm{db} 20-20.000 \mathrm{cps}$ at 20 watts；line amplifier section $\pm 0.1 \mathrm{db} 20.70,000 \mathrm{cps}$ at 20 watts．Less than $0.5 \%$ harmonic distortion at rated output；IM distortion，less than $0.3 \%$ at 5 watts，less than $1.5 \%$ at 20 watts Hum and noise 70 db below rated output，magnetic phono -55 db ．Feedback total － 33 db ．Inputs－Ultra－linear phono，masnetic phono，tuner or TV，tape or TV．Hi－Z micro－ phone．Speaker outputs－4，8， 16 ohms unbalanced and 600 －ohm balanced．Controls－ Function selector，record compensation（7 positions）．！evel，loudness，bass（power switch on bass control），treble，damping factor（ 0.1 to 15），and two hum adjustments for preamplifier stases．Tubes－3－12AX7，－12BH7，2－6V6GT，2－5Y3GT．For 117 V .60 cycle AC a 1.15 amps max．Warm gray finish with rich gold and dark green escutcheon．Size $103 / 4^{\prime \prime}$ wide． $1114^{n}$ deep， $73 / 8^{\prime \prime}$ high．Shipping weight 23 lbs ．
List Price．
．$\$ 183.33$
Model A30 30－WATT CIRCLOTRON LINE AMPLIFIER．Establishes a new standard in high fidelity reproduction．A precision product to complement the finest audio system．Power 70.000 cps watts conservatively rated， 60 watts on peaks．Frequency response $\pm 0.25 \mathrm{db} 20$ 30 watts．Hum and noise 90 db benic distortion less than $0.5 \%$ at 30 watts；IM less than $1 \%$ at 30 watts．Hum and noise 90 db below rated output．Total feedback -31 db ．Jnput impedance tivity 1.25 V for rated ourpur Controls－ 16 ohms unbalanced and 600 －ohm balanced．Sensi－ power switch．Tubes－ $1 \cdot|2 \mathrm{AX7}| .12 \mathrm{BH} 7,,2.6 \mathrm{BG6G}$ factor（ 0.1 to 15 ），hum adiustment． power switch．Tubes－ $1.12 \mathrm{AX} 7,1,12 \mathrm{BH} 7,2-6 \mathrm{BG} 6 \mathrm{G}, 2-5 \mathrm{Y} 3 \mathrm{GT}$ ．Built－in power supply black trim：can be rack mounted．Size $133 / 4^{\prime \prime}$ wide． $81 / 2^{\prime \prime}$ deep． $7^{\prime \prime}$ high．Shipping weight $25^{\mathrm{lbs}}$ ． List Price
．$\$ 241.67$

## BEAUTIFUL VERSATILE PREAMPLIFIER AND REMOTE CONTROL SETS

## Individual Matched Units－Vitol＂Presence＂Control－Low Harmonic Distortion

Model PRCI PREAMPLIFIER AND REMOTE CONTROL．Smartly styled，matching units，
the Model PRCI is designed for use with Model A30 Circlotron Amplifier．Offers both ultra． linear ceramic and magnetic phono－cartridge inputs．Preamplifier unit is used near amplifier and associated equipment：remore control unit is separate to allow convenient，remote opera． tion of system up to $75^{\prime}$ from other equipment with single cable connection．
When PRCI is used with Model A 30，frequency response is $\pm 0.5 \mathrm{db} 20-20,000 \mathrm{cps}$ ．Less than $0.5 \%$ harmonic distortion at rated output：IM less than $1.5 \%$ at 30 warts．Hum and noise 80 db below rated output．Model MI masnetic pheno -60 db ．Inputs（preamplifier unit）－ Ultra－linear phono，magnetic phono（cheice of hish－level or low－level jack in M！assembly）， tuner，tape．TV，auxiliary．Controls（preamplifier）－Master on－off switch，function selector， 4 individual input－level controls，one input－level control on MI masnetic preamplifier assembly： （remote control）－Record compensation（9 positions），level，valume－loudness switch mbly； filter，presence，bass，treble．Tubes（preamplifier）－I．6C4；（MI assembly）－1．12AY7－ （remote control）－1，12AY7，I，12AX7．Power required（drawn from Medel A30） 63 V AC at 1.05 amps， $18 \mathrm{~V} D C$ at $015 \mathrm{amps}, 250 \mathrm{~V}$ DC at 10 ma ．Beautiful cold and dark green escutch． eons in mahogany or blonde Korina cabinets．Size of each unit $1034^{\prime \prime}$ wide， $71 / 2^{\prime \prime}$ deep， $43^{\prime \prime}$ high． Shipping weight（total both units） 12 lbs ．
List Price． $\qquad$ .$\$ 200.00$
Model PRC2 PREAMPLIFIER AND REMOTE CONTROL．Similar to Model PRCI but withour M1 magnetic preamplifier assembly．Includes plug－in resistor assembly to replace load of MI．Shipping weight 12 lbs
List Price．
.$\$ 175.00$
Model MI MAGNETIC PREAMPLIFIER A55EMBLY．Plugs into Model PRC2 preampli fier unit．Shipping weight 2 lbs．
List Price．．
．$\$ 25.00$
Note：Models PRCI and PRC2 are supplied with 5＇cables．Extensions are available for remote contro！unit．Preamplifier and remote control units may be purchased without cabinets．Sub－ tract $\$ 8.33$ from list price for each cabinet．

# Fleetwood Custom Jelevision fULL ELECTRONIC REMOTE CONTROL 

Fleetwood is a 2-chassis television system designed for custom installation. Picture fidelity is the same as that usually seen only on TV station monitors-also built by Fleetwood.

Set employs 27 tubes in addition to picture tube and provides audio power for a speaker, as well as a detector output to connect to high fidelity sound systems. The picture chassis is relay operated by the on-off switch on the separate tuner chassis for full remote control. Both units are attractively finished. An eye-catching, gold finished, hinged escutcheon plate is furnished for easy access to secondary controls.

The separate tuner unit, with edgelit dial and individual channel pilot lamps includes the off-on/volume, contrast, brightness, definition, channel selector/fine tuning controls. The tuner is of the Super Cascode type and is completely adaptable for Ultra High Frequency reception, by a simple interchange of tuning strips and insertion of the correct channel identification number. The illuminated channel numbers are readily replaceable and a full set of numerals, from 2 to 82 , is provided. (The tuner also can be used with a color picture chassis. Model 400. Write factory for details.) The four video I.F. stages provide full four megacycle band-pass, and there are separate cathode followers for audio and video circuits. Three audio outputs are provided: (a) low level high impedance, and (b) low level cathode follower, both for connection to existing high fidelity music systems, and (c) power amplifier to operate a loud speaker.

## CHASSIS DIMENSIONS

| Units | Height | Width | Depth |
| :---: | :---: | :---: | :---: |
| Tuner Chassis | $7{ }^{\prime \prime}$ | $11^{1 / 2 \prime}$ | 81/2" |
| 800 or 810 Chassis (21AMP4 Mounted) | $21^{1 / 2 \prime}$ | 211/8" | $21^{\prime \prime}$ |
| 800 or 810 Chassis (24CP4A or 24TP4 Mounted) | 23 $3 / 4^{\prime \prime}$ | $23^{1 / 2 "}$ | $22^{1 / 2}{ }^{\prime \prime}$ |
| B00 or 810 Chassis (27EP4 Mounted) | 261/2" | 263/4" | 227/8" |
| 610 Chassis (21ZP4B Mounted) | 207/8 | $21^{1 / 8 \prime}$ | 24" |



FLEETWOOD 800: Full Remote Control Receiver for $21^{\prime \prime}, 24^{\prime \prime}$ and $27^{\prime \prime}$ rectangular $90^{\circ}$ picture tubes. Includes tuner chassis and picture chassis. Supplied with 27 tubes, 14 pilot lamps, 40 fee: of cable, ion trap, all knobs, and matching hinged cover for secondary controls. (Shipping Weight: 65 lbs .)

Users Net $\$ 299.50$
FLEETWOOD 810: Complete Television Chassis for $21^{\prime \prime}, 24^{\prime \prime}$ and $27^{\prime \prime}$ rectangular 90 picture tubes. Non-remste control. Supplied with 24 tubes, ion trap, all knobs and matching hinged cover for secondary controls. (Shipping Weight: 50 lbs .)

Users Net $\$ 229.50$
FLEETWOOD 610: Complete Television Chassis for $21^{\prime \prime}$ rectangular $70^{\circ}$ picture tubes. Non-remote control. Surplied with 22 tubes, ion trap, all knobs, and matching hinged cover for secondary controls. (Shipping Weight: 50 lbs .) Users Net $\mathbf{\$ 1 9 9 . 5 0}$
All chassis less picture tube, speaker and mounting brackets.
Accessory Kits: Contains mounting frame, laminated safety glass, and royalite picture tube mask
821 B for $21^{\prime \prime}$ spherical tace $90^{\circ}$ glass picture tubes, as 21 AMP4. ( $19^{\prime \prime} \times 24^{\prime \prime}$ ) (Shippinc Weight: 12 lbs.$)$

Users Net $\$ 15.0^{\circ}$
824 B for $24^{\prime \prime}$ rectangular glass $90^{\circ}$ picture tubes, as $24 \mathrm{CP} 4 \AA$ or 24 TP 4 . ( $201 / 2^{\prime \prime} \times 25^{\prime \prime}$ )
(Shipping Weight: 15 l bs .) Users Net $\$ 25.00$
827B for $27^{\prime \prime}$ glass $90^{\circ}$ picture tubes as 27EP4. (24" $\times 30^{\prime \prime}$ ) (Shipping Weight: 22 lbs )
Users Net $\$ 25.06$
Kit for 610 only
621C for $21^{\prime \prime}$ spherical face $70^{\circ}$ glass picture tubes, as 212 P 4 B . ( $18^{\prime \prime} \times 24^{\prime \prime}$ ) (Shipping Weight: 12 lbs.$)$

Users Net $\$ 15.00$

Mounting Kits: Includes tube supports, the down straps, and all hardware for mount ing picture tube on chassis.
801B mounts 21", $90^{\circ}$ glass tubes, as 21AMP4 on Models 800 or 810. (Shipping Weight: 3 lbs .)

Users Net 56.00
804 B mounts $24^{\prime \prime}, 90^{\circ}$ glass tubes, as 24 CP 4 A or 24 TP 4 on Models 800 or 810. (Shippinas Weight: 3 lbs.)

Users Net $\$ 6.00$
807B mounts $27^{\prime \prime}, 90^{\circ}$ glass tubes, as 27 EP4 on Models 800 or 810 . (Shipping Weight: 5 lbs.$)$

Users Net $\$ 6.00$
Kit for 610 only
601 B mounts $21^{\prime \prime}, 70^{\circ}$ glass tube, as 21ZP4B on Model 610. (Shipping Weight: 2 lbs.)

# PILOTUNERS <br> Matched Companion to the World-Famous Pilotone Amplifiers <br> AF-860 AM-FM PILOTUNER $\$ 179.50$ 



The Ultimate in engineering skill and sensitivity created by PILOT. Armstrong Dual Cascade Limiter -Discriminator circuit an FM. FM Sensitivity better than 1.5 microvolts for 20 db . of quieling. $A M$ Sensitivity better than 2 microvalts. Exclusive Miero-Meter for Laboratery Precision Tuning on FM and $A M$. Cantinuausly variable amplified $A F C$. Two-stage If amplifier for broad or sharp AM bandwidth with IOKC whistle filter. Complete professional Preamplifier and Equalizer with 3 inpuls and 2 Cathode Follower Outputs. Dual Equaliza tion Switches provide five pasitions of Treble Roll-off and five positions of Bass Turnover.



## AA-420 PILOTONE AMPLIFIER \$99.50

Unsurpassed Williamson type high fidelity audio amplifier with push-pull 5881 's for full 15 watl out. put combined with prafessional preamplifier far maximum efficiency and flexibility in mast convenient space saving format. Six tubes plus Rec. tifier.
Frequency Response: $\pm 1.0 \mathrm{db} .15 \mathrm{cps}$. to 20,000 cps. at rated output. Total Harmonic Distortion: Less than $1 \%$. Intermodulation Distortion: Less than $2 \%$ at rated output. Hum and Noise Level: 80 db . belaw rated autput.
Dual equalizatian switches provide five pasitians of treble roll-off and five pasitions af bass turnaver. laudness contral with individual level setting can. trals for three inputs.


PILOTROL PA-913 \$119.50
Professional Preamplifier-Equalizer with push buttan controls. This master audio contral contains six tubes including rectifier with the exclusive Decibel Meter for directly reading output level of either recording channel or manitoring channel. Features include Master Loudness control in addition to a dual Compensated Volume control. Dual Cathode Follower outputs. Recording autput independent of Volume, Lqudness and Tone cantrols. Microphone channel which may be mixed with any of the ather four channels. Brushed brass escutcheon may be used as a sloping panel in attractive mahogany cabinet supplied ar vertical for custam installation. Twenty-five positian pushbutton Phono-Equalizer. Separate tone cantral for Treble and Bass. Individual level setting control for all inputs.


AA-410 PILOTONE AMPLIFIER \$49.50
Unexcelled Williamsan-lype High Fidelity Amplifier for cansistent, dependable performance employing rugged full power 5881's for full 15 watl output. Faur tubes and Rectifier.
Frequency Respanse: $\pm 0.1 \mathrm{db} .15$ cps. to 20,000 cps. al rated autput. Tatal Harmonic Distartian: Less than $1 \%$. Intermodulation Distartian: Less than $2 \%$. Hum and Noise level: 90 db . belaw rated autput. Patted output transformer canstructed with interleaved winding for reduced leakage inductance.

相

Williamson type 10 watt Amplifier, with built-in Preamplifier. Seven lubes including Rectifier and push-pull output tubes. On.Of Valume, separale Bass and Treble Cantrols and Equalizer selectar switch for LP, NAB, AES and Fareign recardings, Frequency Response $\pm 1 \mathrm{db} .15$ ta 40,000 cycles. Distartion less than $1 \%$ at 10 watts. Hum level 70 db belaw 1 volt. Three inputs far Radia and Auxiliary equipment and one variable impedance input. RIAA Equalizer positian included.
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## The World's Most Powerful, Most Dependable TV Receivers



Model 630-5T - The "Audiophile . . . "for oll $90^{\circ}$ picture tubes, from $21^{\prime \prime}$ to $27^{\prime \prime}$

Dimensions: $19^{\prime \prime} \mathrm{W} . \times 173 / 8^{\prime \prime} \mathrm{D}$.
Shipping Weight: 58 Ibs..........Net Price $\mathbf{\$ 2 4 9 . 5 0}$

## The "AUDIOPHILE"

## HIGH FIDELITY TV TUNER FOR HIGH FIDELITY AUDIO SYSTEMS

The ultimate in TV receivers, for owners of home music systems who want to enjoy the sound quality of their own high fidelity systens plus equivalent picture quality, not provided by mass-produced TV sets.
The picture fidelity of the "Audiophile's", nowerful 28-tube chassis matches the audio quality of the finest sound installations. Noise-free sound take-off for feeding into external Hi-F'i a udio system. Undistorted FM signal at ratio detector stage is fed through eathode follower for matching any amplifier circuit.

## FEATURES

AFC Horizontal Hold-using syn- - Accommodates both magnetic-and chro-lock discriminator transformer.

- Stabilized Vertical Hold.
- 3-Stage Sync. Chain - with hiyh transconductance noise-limiting sync. amplifier.
- Antiblooming circuit.
- Full Horizontal and Vertical Blanking.
electrostatic-focus kinescopes.
- Supersensitive - 5 mierovolt sensitivity. Cascode tuner.
- AGC Level and Area Control - for adjusting reception to any signal area.
- Video IF Carrier Freduency 45.75 mc
- 4-Stage Video IF and 2-Stage Video Amplifier.


## The "SOUND THEATRE"

The 'theatre-in-the-home,' with an incomparable combination of fidelity in Audio and Video reproduction!

Leng acknowledged as the leader in the field of quality eustom television, TechMaster now brings you the 'Sound Theatre' with outstanding performance provided by means of a multi-network. basic "630." 31 -tube circuit. There are no short cuts in the design, engineering or construction of the 'Sound theatre. Hy every advanced engineering method and with the use of the finest available components, Tech-Master is able to offer at a realistic price the finest in sisht combined with the finest in sound.

## COMPARE THESE OUTSTANDING FEATURES:

- 31 tube, 630-type chassis
- Push-Pull, 6-Watt Output - with inverse feedback.
- Wide-Range Tone Control.
- Input - for phonograph, radio tuner or microphone.
- 2-Stace Audio Amplifier.
- Sound 1F Carrier Frequency -. 41.25 me.
- PLUS - all the exceptional viden features of the "Audiophile" described above.


Model 630-5 - The 'Sound Theotre,' for oll $90^{\circ}$ picture tubes from $21^{\prime \prime}$ to $27^{\prime \prime}$.

Dimensions: $19^{\prime \prime}$ W. $\times 173 / \mathbf{g}^{\prime \prime} \mathrm{D}$.
Shipping Weight: 65 lbs.......Net Price $\$ \mathbf{2 5 4 . 5 0}$
Model 630-5s _ Includes speciol wide ronge speoker

Nef Price $\$ \mathbf{2 6 9 . 5 0}$


## The Gold Medal

The new rugged Gold Medal TV chassis combines the time proven RCA 630 Type circuitry with the most advanced engineering. Designed for long life and dependability. Flawless video plus versatility in audio. By means of simple external switching arrangement. you may use either the completely self contained high quality amplifier and $12^{\prime \prime}$ loud speaker of the Gold Medal receiver, or feed the sound thru your own hi-fi system.

- New systen of picture-sound-synchronization.
- Latest 630 tyre circuit uses only finest a a vailable components.
- Advanced cascode turret tuner
- Quick-action, keyed AGC circuit for stabilized control
- New Hi-sweep auto transformer system
- $5 \mu v$ sensitivity for good fringe area reception.
- Full horizontal and vertical blanking.
- Local-distance area control switch on front panel.
- Picture-Expander control for low line voltage conditions.
- Chassis beautifully plated in sleaming nickel.
- Audio Takeoff for feeding to hi-fi system.
- Phono input.

Model 2430 - For $70^{\circ}$ picture tubes, with quolity $12^{\prime \prime}$ PM speoker ond universal kine mounting brockets.
Dimensions: $21 \frac{1}{4^{\prime \prime}} \mathrm{W} . \times 16 \frac{1}{4^{\prime \prime}} \mathrm{D}$.
With kine brockets removed, chossis is $19^{\prime \prime}$ wide for rock ponel mounting. Shipping Weight: 65 lbs .

Net Price $\$ \mathbf{1 8 9 . 5 0}$

##  AND FM TUNER

## $V_{i d e o l a l a ~ s a n ~ s t r u s ~}^{s}$



A pair of star performers for consentional cabinet or "built-in" custom installation. Both AC and $\mathrm{AC} / \mathrm{DC}$ models, not commercially mass-produced, but crafted with the same care as the higher priced models.
Designed for use where economy is a major consideration. Supersensitive for fringe or troublesome areas. Videola Star TV receivers operate efficiently with any standard indoor antenna in normal signal areas. 16 -tube, powerpacked circuit delivers bright, sharp, rock-steady picture and clean, undistorted static-free sound.

## OUTSTANDING FEATURES OF BOTH VIDEOLA TV RECEIVERS

- 16 tubes plus rectifier - Automatic Gain Cuntrol - Threc-point front-panel, dual controls - 3-Stage, stagger-tuned IF - Sync. Guide Horizontal AFC control Auto-transformer high voltage systent Wired for low-voltage, clectrostatic focus, kinescopes


## The CONSTELLATION

- Sensitivity 6 microvolis at 20 V peak-to-peak.
- Standard mentode tuner.
- 2-Stage video amplifier sween circuit.
- For $90^{\circ}$ picture tubes from $21^{\prime \prime}$ to $27^{\prime \prime}$
- Tube complement: 6J6. 6ВС万, 2 6СBf, 6AUG, GT8, 6 к̌6, 2/12AU7, 6SN7, 6VG, 6HQG, 5U4GA, $1 \times 2 \mathrm{~K}, 6 \mathrm{~W} 4,6 \mathrm{C} 4,6 \mathrm{GM} 8$.
- Dimensions: $17^{\prime \prime} \times 17^{\prime \prime}$
- Shipping Weight: 35 tbs .
- Complete with mounting hardware speaker, and knob kit.
- For 115 volt AC operation.
$\$ 129.50$ Net


## The GALAXY

- Sensitivity - 7 microvolts at 20 V peik-to-peak.
- Pentode tuner.
- High-transductance 12RY7 video amplifier circuit.
- For $70^{\circ}$ pieture tuhes from $17^{\prime \prime}$ to $21^{\prime \prime}$.
- Tube complement: 5J6, 3HC5, 2/3CB6, 5AM8, 3AU6. 5T8, 121.6, 12BY7, 2,7AU7, 6SN7, 12W6, 12AX4, 25CD6, 1X2B, selenium rectifier.
- Shipping Weight: 28 lbs.
- Complete with mounting hardware, speaker, and knob kit.
- For 115 volt AC or DC operation.


## 7he Cantata: HIGH FIDELITY FM TUNER

A complete high fidelity FM tuner with self-contained AC power supply. Compactly constructed for versatile installation, yet a veritable giant in performance.

- Cathode follower and high impedance outuuts.
- Covers the full FM band (88-10s Mc.)
- Limiter and AFC circuit for casy pin-point tuning.
- Manually controlled AFC cutoff to pick up weak signal st:-tions adjacent to strong signal stations.
- Sensitivity is 4 microvolts for 20 db quieting.
- Uses balanced ratio detector and grounded-grid RF amplifier.
- Full power transformer operation for line isolation.
- Standard de-emphasis network automatically regulates high-frefuency response.
- Micro-Vernier tuning.


The CANTATA complete with mounting instructions, tubes - 6AU6, 6C4, 6AL5, 6BA6, 2/12AT7, and selenium rectifier
$\$ 49.50$ Net
Dimensions: $4 \frac{1}{2^{\prime \prime}}$ H. $\times 8^{\prime \prime} \mathrm{W} . \times 6 \frac{1}{4} 4^{\prime \prime} \mathrm{D}$.
Shipping Weight: 7 lbs.

# (MIIEHH-WISIER QUALITY KITS 

## Model 630-9 America's Finest TV Kit

The world famous RCA-6.30 tyje circuit modified and imburoved by Tech-Mastel Components used are the best available. Special Tech-Master s.hematic and puctorial dingrams gunde evers mose for ease in wiring and assembly, Monel thos-9 is used by leadmg schools: Ideal for eomprehensive television tanining beatuse it uses established multiple tube circuits, which are more easils understuod, rathec than combrumise monlified rircuits.

No Other TV Kit Offers All Of These Imporfant Features

- ADVAぶCHD ('AS(OODE TURREN TUNEK - adantable to UHF" without tuals: Iligh signal-to-hoise ratio results in a sharper picture, with minimum of "snow" even in weal signal areas.
- AFC horizontal sunchroni\%ation em-
 Reactance tube and synchro-lork Mart oy Hartley Oscilator cireuit assures optimum noist immunity and horizontal stability
- B-Stage Sync, Amblifier. Clippor and sebarmior circuit provides unexcelled interlace
- 4-Sitage stagger tumed Viden IF sss tem produces full \& MC band widtl and complete nicture lefinition,
- Adjacent Chanmed 'Trap.
- 2-Stager Viderr Amblifier
- Direct Complingr Used fur Keyed ACB C"ireut.
- J mieromolt sonsitivits
- Complete frout banel controls allow simple individual adjustments
brightness, horizontal and vertical hold, volume, contrast-On Off, chamnel seleptor amd fine tuning.

CHASSIS DIMENSIONS: $213 / 4^{\prime \prime}$ wide $\times 153 / 4^{\prime \prime}$ deep.
SHIPPING WEIGHT: Approximotely 65 lbs.
DE LUXE KIT: MODEL 630.9 - Supplied complete with oll components, mounting brockets, speoker, ond all tubes (less kine, wire and solder),
$\$ 159,50 \mathrm{Ne}$


## New tech-master tv craft kit

FOR PICTURE TUBES
UP TO 21" $7 \mathbf{7 0}^{\circ}$ )
The must up-to-date TV kit, with the latest immovements in tubes and circuitry. Ideal for student work of home project. This kit not only provides excellent training in television. hut builds into a first class, modern receiver that sanvone wonld he arefully seleeted and packed by nersonnel experiened in the TV-kit fiedrl, insure satisfaction. Step-by-step instruetjons with pioturial and schematic diagrams are easy to follow - leave nothing to the inmgination. Somkets, terminal strips and connertors riveterl on chassis.

- Advanced and improved, super-selectiver 12-chanmed tureet tuner,
- New. finf milliampere mageed low-drain tules.
- Onerates new law-voltage electrostatic-ficus kincscones $15^{\circ \prime \prime}$ and $21^{\prime \prime}$.
- High-efleioncy eireuit-sensitivity of a microvolts at 20 V prak-to-peak.
- Threa-stage stagyer-tuned 1 F , using high-gain bil-filar eoils.
- Automatic gain control.
- Synchio-quide horizontal hold with AFCC
- Ceramic core horizontal output transformer with heam power ammpifer.
- Si\%e: $17^{\prime \prime} \times 17^{\prime \prime} \times 9^{\prime \prime}$ Weight: 261! llis


Model 5516R - Complete with tubes, hardware, mounting brockets, detailed instructions (less kine, wire, solder).
$\$ 89.50 \mathrm{Ne}$ t

Model 5516 W - Same as obove but with IF section fully wired and aligned Uses Standard tuner (sensitivity $7 \mu v$ ).

Model 5516 C - Some as 5516R but uses continuous type tuner.

NEW DELUXE
SUPERHET
AG-DC
RADIO
KIT

Kit is furnished complete with modernly styled, handsome bake-
 contrel know.
Only the finest combonents alde furnished with this kit. Tunes all standard AM broadeasts from $550-1720 \mathrm{KC}$. Super-sensitive high yain circuit assures outstanding recention with built-in lem antenna. Automatio volume control cirouit to eliminate basting or fading.
 Detailod schematic and pictorial diagrams with elearly illustrated assembly instructions provide easy-to-follow directions for fuick assembly. Operates $115-125$ volts, 5inforveles, AC or Inc., Shipping weight: 6 phs.

MODEL 3B5-K - Complete with tubes and cabinet. (Wire and solder not included).
\$19.95 Net

The MIGHTY VERSATILE MIDGET

Completely Hired and dligned 3 -INSTRUMENTS - IN-1


- A Complete AM Superhet Receiver which conneets to any sneaker system.
- A Sensitive AM Tuner with output connecions for external amplifier.
- A Complete Audio Amplifier with input contmeetions for highimpedance mierophone or phono-pick-ub.

This compact, versatile, 3 -in-one chassis adds radia, whono, or P. A. operation to any TV receiver. speaker systent, or record

Model B-15 - All tubes included.
Shipping Weight: $21 / 2$ Ibs.
Dimensions: $71 / 8^{\prime \prime} \times 35 / 8^{\prime \prime} \times 31 / 8$

## MIITHHMISIIR HIOH FIDELITY KITS



## 20 WATT AMPLIFIER KIT

Uses famous WILLIAMSON cireait with uniqne mordilisation for true high fidelity reproduction at increaser hower outhut. Onky ton quality parts used: specially wound, high fidelity output ons former, Firequency response flat and smonth thrumg entire audibie range, with distortion less than . 0025 it normal listening levels, and excellent transient characteristies, hit is complete, includin $\mathfrak{r}$
 nectors monnted.
Power Output
Output Impedance
Input Impedance
Input Voltage
Intermodulation and Iarmonic Distortion
Hum and Noise Level Feedback
Response at 5 watts
Response at 15 Watts
Power Requirements
Tuhe Complement
Dimensions: $9 \times 12 \times 6 \frac{1}{2}{ }^{\prime \prime}$
Model TM-15A

## 20 watts undistorted

4-x-16 bhin:
llikh far ensital pickups tuners, prcamps, etc. 1.1 VIMS for zow out.)

25\% at 10 W .i": at 15 W io dh helow riled output 20 dh

- cus to 10 and,000 chs 1 db

10 cps to 73.000 cms 1 db
$105.125^{7}$. $\pm 0-60$ cycles. 120 W $26 \mathrm{SN}^{7} .25481 .15 \mathrm{~V} 4 \mathrm{G}$ Weight: 27 lbs.
$\$ 49.95$ Net

* Ulira linear operation - screen-tapped primary output XFMR.


## New TECH-MASTER HI-FI FM TUNER KIT

I esigned for optimum nerformanee and tidelity at a minimunt cost Idvanced, drift-free circuit. Excellent selectivity and clean, faithful reproduction of the entire adudio spcet 1 . Self-contain-d power supply. Complete, detailed instructions matic assembly a hreeze for anyone whis can handle a screwdriver and solderiva iron. Iook at these professional-studio-muinmont features

- Tuning range 8i-104 Mc. - ('athode follower output 8 V
- JF IBandwidth 200 Ke.
- Grounded grid RF stige
- Automatic Frequeney control
- Manual AFC cutoff
- Micro-vernier tuning
- No drift ratio detector
- Sensitivity 4 microvolts for 20 db quieting
- Standard de-emphasis network
hardware and detailed instructions (less wirt and solder)
$\$ 29.50 \mathrm{Net}$
- Cathode follower output .8 V
li:3S
- Hish
- High imburance output 3.2 V RMS
- [口unt imnerance 300 ohms
- AC recertacle for on off can twol
- 2'12ATT. 5BAt. GAUG. GAL5. CC4Y. Sel Rect.
- Si\%e: f1: $\mathrm{x}=\mathrm{x}^{2}$
- Weight: nil $^{2}$ lhs.



## NEW TECH-MASTER TM-1GSP DELUXE SELF-POWERED PREAMP-EQUALIZER KIT

Beauty and versatility at low cost ! Modermy styled in smart twatone black rind ruld, the new Model TM-1isP will provid
Anyone can complete the simple wiring of this new lech-Manter kit. Simple diagrams guide you down to the last connection. Sou will be proud of this mofessional ingtrument that will provide vou with countless hours of fincst audio reproductic.n.
kit is complete with all tubes, alinet and detailed instructions. Sekets. terminal strins and connectors rivetec on chassis. ( $\triangle$ THODE FOI,IOWER OUTI'UT Uses single shielded letid - connection. I, OUWNESS-COMIFNSATING CONTROL.

Innut Selector - thono Pre-Amp - l'one Control Frour Input channals .............. One-low level-hish gain "Jhree-hi-impredance

15 dib boost or attenuation
it 20 cycles
15 db boost or attenualion at 20 KC

EQUALIZATION CONTROL
5 I'nsitions - 78 rpm. - old $78 \cdot s-$ RIAA - FFRR Tube Combement: 1-12AX7. 1-12AUT. 6C4, Selenirm Rect

TM-165P
24.50 Nef

## TECH-MASTER TM-17P ECONOMY PREAMPLIFIER KIT

 with Cathode Follower OutputTECH-MASTER design and TECH-MASTER guality for diseriminating listeners. AC outlet on chassis permits ambilier and associated equipment to be controlled by mastar switeh. Power is ohtained from main amplifier. Kit furnished complete with tubes pold-tone cahinet. and detailed instructions: sockets. teminal strips and comectors riveted on chassis.

- 4 input channels - one low-level. three hi-impidance.
- Separate bass und treble controls - $\pm 15$ dhboost or attennation.
- 'lrue-taper volunie control.
- 3-position equalizer - 78 rum., RIAA, AES.
- Power resuirement - 125 V DC at 6 ma .6 .3 V at 600 int. (Plug-in connection for TM-15A)
Tube Complement: 12AX7, 12AUT. 6C4.

TM-17P
$\$ 19.95 \mathrm{Net}$


## INTERELECTRONICS for the ultimate in high fidelity

## THE CORONATION 400



## 40 Watt AMPLIFIER

## ADVANCED EXCLUSIVE CIRCUITAY

OVER 50 DB NEGATIVE FEEDBACK
Completely new non-ringing multiple-path NOVALOOP negative feed. bock circuitry, designed for the finest reproduction of music and the complex waveshapifier specificaly designed for reproduction of music and speech, into the reactive Icudspeaker and crossover network loads presented by high. fidelity loudspeaker systems.
The "CORONATION 400' supplies complex waveshope power and sine The 'CORONATION 400' supplies complex waveshope power and sine wave power into any oudspeaker load with complete stability regard. As a fie dynamic variations in impedance and reactance of the load As a result of its superior complea waveshape performance, phe

## NEWEST CRAFTED CONSTRUCTION

FOUND ONLY IN FINEST PROFESSIONAL EQUIPMENT
Polished chromium chassis, JAN type sonstruction with sealed matching Output and Power Transformers, finest molded sealed components for decades of trouble-free listening pleasure. Terminal Board construction. Employs encapsulated plug-in networks of precision components, life fime sealed in Epoxy resin for lasting accuracy. Molded terminal board, fuse post, and sockets. Molted heavy duty line cord with spring-action

## FOOLPROOF DAMPING CONTROL

for finest of setting.
UNEQUALLED 40 WATT OUTPUT TRANSFORMER
Sealed new 40 watt wide range high efficiency design, with multiple section interleaved balanced windings, and thin-strip grain oriented HIGH EFFICIENCY POWER TRANSFORMER
densities Emplovs excency power transformer operates af low flux ol operation.
RESERVE POWER
WIDEST FREQUENCY RESPONSE
POWER RESPONSE
At 40 watt level: 18 to 35,000 eveles, within 1.0 DB.
At 30 watt level: 16 to 35,000 cycles, within 0.1 DB.
At 15 watt level: 7 to 75,000 cycles. within 0.1 DB.
LOWEST DISTORTION
harmonic distortion. less than $0.25 \%$ intermedulation than $0.05 \%$ 30 watt level. Surpasses FCC requirements for FM broadcasting. HIGH SENSITIVITY

HUM AND NOISE LEVEL
orfaly non-measurable, 96 DB or better below full output OUTPUT IMPEDANCES

BUILT-IN EXTRAS
Preamplifier power socket for powerir. the Interelectronics "Coronaoower socket for connecting the newest Ar other preamolifiers. Built-in ULTRA-COMPACT

## TUBE COMPLEMENT

Two 1614 one 6SL7GT

one 6SNTGTA cne 5V4G
Ustit Net: ontr $\$ 99.50$

## THE CORONATION 90 CONSOLETTE



## PREAMPLIFIER-EQUALIZER

## ADVANCED EXCLUSIVE CIRCUITRY

Unique new INTERELECTRONICS multiple-path negative feedback circuitry. The only preamplifier-equalizer operating entirely thru
negative feedback. OVER 50 DB NEGATIVE FEEDBACK virtually eliminates all distortion. 5 to 200,000 cycle frequency response. Surpasses FCC requirements for FM Broadcasting.
NEWEST CUSTOM CRAFTED CONSTRUCTION
FOUND ONLY IN FINEST PROFESSIONAL EQUIPMENT
Polished chromium cabinet, optical quality satin gold LUCITE front panel. Encapsulated plug-in filter networks of precision components, lifetime sealed in Epoxy resin for lasting accuracy. Finest JAN type

EXCLUSIVE NEW "PRESENCE" AND "LOUDNESS" CONTROL
The only preamplifier-equalizer with continuously variable PRESENCE
NEW RUMBLE FILTER AND SCRATCH FILTER POSITIONS
Sharp-cutoff rumble filter position on Bass control minimizes turntable rumble; sharp-cutoff scratch filter position on Treble control minimizes

REVOLUTIONARY NEW INPUT TUBE
Phenomenal lowest noise Z-729 preamplifier tube. Finest input tube available. Superior to cascode input circuits. HUM INAUDIBLE with NEW FUNCTIONAL CONTROLS
Two major and five smaller knobs permit simplified operation, provides SEVEN FULL FUNCTIONING CONTROLS

## Volume conirol.

Presence and Loudness control.
Bass control-boost and attenuation.
Treble control-boost and attenuation
Playback cqualization turnover-five positions.
FIVE INPUT SELECTIONS
Two low level phonograph pickups or microphones, three high.level

TWENTY-FIVE PRECISION PHONO PLAYBACK
EQUALIZATION CURVES
INDEPENDENT RECORDER OUTPUT

## MAXIMUM BASS AND TREBLE COMPENSATION

Full 20 DB Bass and Treble compensation thru feedback, completely free from distortion, at 20 and 20,000 cycles, with inflection frequencies HIGUEST
HIGHEST GAIN
No presth phono cartridges.
TUBE COMPLEMENT
One 2.729 one 12AY7 one 12AX7
BUILT-IN ACCESSORY POWER

ULTRA COMPACT, EASY MOUNTING

ACCESSORIES
Hand-rubbed custom finished table cabinets available in Mahogany, Walnut and Blonde, only $\$ 9.95$. Separate power supply for self.powered USER NET
Complete with all tubes connecting cables and plugs, for operation
with INTERELECTRONICS "CORONATION" Amplifiers or other with INTERELECTRONICS "CORONATION" Amplifiers or other
amplifiers.
USER NET: ONLY

## INTERELECTRONICS CORPORATION• NEW YORK

The M.1STER - zoth Edition

## SONOTONE HIGH FIDELITY AMPLIFIERS



Frequency Response From any input. Iome comitols in miot-pnsition. $\pm 1$, 1h $15-20$. 10 , respunst flat for any setting.
 at maximum: lase thati 0.1013 volts att 1 fi-uhm ontigut ( -75 , ill helow 1쓰․ Walts)
Distortion-l.oss than $0.1 .1 \%$ at 10 watts
 (I) ampine factor of 10. )
 cules.

Controls (5)-1. Sulecetor: 2. Treble: 3. 13ass: 1. Volume: A. I'own (ht-0)ff.



 Ium lewel off 10 .0001s volt.
 for full outpui on laput 1.
Load Impedances- 1 , $\leqslant$ and 16 whms.



Weight-With Cabinnt-1i lhs.: Without Cabinut-14 Js.




Frequency Response- $\pm 1.0111,10-30.000$ (eyblass
Distortion-l Less than 0.1 I \% at 1 ab volts gut.
Noise and Hum—dess than $10.000 \cdot$ - wolt.
Sensitivity- 11.5 volts for rated output.
Rated Output-1.5 volts.

Tape Output Jack - athode followere nusput
Miscellaneous-Fonr inputs. fivn montrols. siparate Ac (onveridmer
Reverptacle for controlline inther equipmems


Weight-With (abinnot-; Ils. : Without (abiuet-3 Ihs
Net Price-ln calinm


Two beautifully styled units designed expressly for the modern listener with a ceranic phono cartridge and other wide range inputs not requiring equalizers.

The HFA-100-12-Watt, High-Fidelity Amplifier A compact amplifier of exceptional beauty and performance. for table top or custon mounting, complete with controls. Arailable in a choice of beautiful hardwood cabinets. or in chassis form.


## The CU-50 Control Unit

Similar in appearance to the HFA-100, the CU-50 is a self-powered control amplifier, designed to work with any power anıplifier. Used with ceramic phono cartridge, tuner, tape or television, the CU-50 gives complete chairside tone, volume and selector control. Available with cabinet or in chassis form

PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

## SONOTONE CORPORATION

 ELMSFORD, NEW YORK
## Philmore guaranteed slectronic products



Fasy to hoild works like a lify set! Features smumth tuing from anth Ke. tu (fan Kc. Hiss regular tariably randenser and Ititawnand mil. Highly sensitipr reo Lonerative ateteror cirait insures maximum sensitisity, allume. and seluetirity, Jight. compact. wonderful for artahle use mithors: The C'artan is the C'ahinet! I'se fimblaril id $1:$ Jathries.
No. 7501-fomplete with earphone, ist Tilbe, and antenna wire (less batteries. solder. humpupire).
List Price \$12.25

RADIO Remote Control KIT S
transmitter - receiver Irres build prouf ar antumicit Tivense lipellireyl

## The TRANSMITTER


 PLANES BOATS TRAINS

NOVICE TRANSMITTER AND POWER SUPPLY K
Including Key


Tiasy twinss.mille, vasy to operate. Untuneal Pierce tym

 instrurt inn:
$\qquad$ ...Amateur Net Price $\$ 29.40$

## NOVICE RECEIVER KIT

 Puils fur fo-so moter bands. rinil winding data for Model NR-300.

## 5-TUBE AC-DC RADIO KITS



Iatest model compact hi-fi quality radius. Single Band 550-16010 Kc. Two Band $550-1600 \mathrm{Kc}$. and 5.5-10 Me. Twi-tone rabinets, loop antenna, pimeled rlassis. Tubes inclubled: 1 EsA IGis 12SK7BT 12S0う1TT



## 2-TUBE (Inel. Rectifier Tube) AC-DC RADIO KIT <br> 

lasiguell purposels fur easy cunstruetion Mi lises the most efficient type of cir ruit. Kits are replicas of parts and rirmoulecs and stomardizel Simule maste inns and dian rams Ine simple instruc
 mil formed classis silk sereen panel und gray lammertme finish. Attractivel uckagel in sturdy bux.
No. 70018-('omplete. less tuhes an
3-TUBE (Incl. Rectifier Tube) AC-DC RADIO KIT


Nure Caborate than the mertuhe ant ing use of a 4 " Pign strength- permit instructions with pieturial, sclematic slisitrams. silk screen panel and grily thammertone finish. Superior in tone glat selpetivity ti many manufacture ralios! I ses 1 each $3 \overline{5} \%$ mat. 5016 GT und $12 s$ si yn hare a Tluo-Puvil set assembled. slandarel hroadeast ( $5.50-1500 \mathrm{Kc}$ ) and SHORT WAVE ( $\mathrm{B}-18 \mathrm{Mc}$ ).
Cat. No. 7001C-Complete with Speaker, liss tubes ..............List Price $\$ 20.00$ (NoTE: Wire and Sulder not includel with "0018 and $70011^{\circ}$ )

"Plus Ferl, Fixis
NEW ECONOMY MODEL
"LITTLE WONDER" 'LITTLE WONDER'

 tal which hill gisi excelinet results. Cat. No. 7001............... List Price $\$ 2.25$


PIk: Felleral FXe
RADIO RECEIVING SET
Cimpact in size but
lig in results. The lig in results. The
numen
type ditector
 ments. Inclules Pluilmare Super-sensitire Cat. No. 7000.
 Finus Federal Fexcise Tax

## PHILMORE

 AERIAKIT

CRYSTAL ACCESSORIES
PHILMORE MFG. CO. INC.

cuil $2,5 \mathrm{ft}$. lead-in wir
Cirnund clamp. 2 Nail-is kmos
I.eal-in strip. 1 [nstruetion sheet.
arelain insulatur
List Price $\$ 1.50$ Detector, Catswhiskers, ete
 HAND
MICROPHONE
Cärbon Type Carbon Type Talk ur sing through the
 switch cuts mike in and hut inf limalkenst. Simple (3) ft. cord.

Cat. No. 500 H
..List Price $\$ 3.15$


Junior MICRO PHONE Carbon Type
Fur lame liroadcasting. Push hat-
ton suitch cuts off radio prougrams and brings in the home
lronaderister's ery clearly, Sensitive. with excellent tolume. shofk-prof- kasily at tached til
anls set without rewiring and can remain ally set withgut rewiring and can remain
attached without interfering with regn-
.List Price $\$ 2.15$
PHILMORE DOUBLE HEADPHONES

Accurately matchicd Fach unit consists of Each unit consists n dminle high flux magnets. Ruggedly constricted of lightwelght metal. Polished bakelite ca cars. ('oncealed terminal type. Braid corered aljustable heathand and cord $41 / 2$ Cat. No. 2260..............List Price $\$ 4.75$

## SINGLE HEADPHONES

Same construction, head hand is of spring Same cinstruction, head
steel. 1000 ohm impedance.
steel. No. 2261 ............. List

Complete Line of Crystals, including: Open Type, Fixed Crystal, Glass Enclosed, Meter Tested: Unmounted

New York 3, N. Y.

# ATOMS Cum in Cafinecot <br> NEW HI-FI CABINETS BAFFLES, TUBE CADDIES 



Hele is complete variety af matching cabinets, at law cost for incsl every high fidelity campanent. They are made af extra heavy wood, covered with $6^{1 / 2} 16$. pyroxylin-coated sabric (much heavie than used on ordinary cabinets). This cavering is bath scuff and na stureresistant and in mast instances is far mare durable than

Trade-mark af and Licensed by

## FIG. A-JE LUXE SPEAKER CABINET

$4.2 \mathrm{cu} . \mathrm{tt}^{2}$. capacity pravides full bass tane. Acaustic padding an nterior gives richness without abjectionable baam. Waven plastic grille. Takes either 12 - sr 15 -inch speaker; reducing ring and fwo sets of mounting sciews with nuts already installed. Front panel reinfarced to prevent sympathetic vibration. Holes cut for bass reflex and tweeter. Size 24 w. x $29^{\text {h. }}$ h $15^{\prime \prime}$ d. Shpg. Wr. 38 lbs DBR-2-B and of Matogany, same price. Net Each
FIG. B, C-NEW DUETTE* SPEAKER CABINETS
$54^{80}$
Small size consoles with better tone than many full size cabinets because of famaus Jen en Duette* principle. Ideal height far use as lamp tatale. Heavy wand ronstruction; acoustic padding on interior Suirable for either -2- or 8 -inch speaker with or without tweeter Blond or Mahogany, some price,
AD-1 (Fig. B)-Size $171 / /^{\prime \prime}$ w. $\times 233 / 8^{\prime \prime}$ h. $\times 131 / 2^{\prime \prime}$ d. Shipping Weight 27 lbs. Net lach
AD-2 (Fig. C)-Carner madel. 191/2" w. $\times 2333^{\prime \prime} \mathrm{h}$. $\times 141 / 4 " \mathrm{~d}$. 52450
Shipping Weight 29 ibs $N \in f$ Each


wand ar imitation waod finisties.
Cabinets $\mathbf{A}, \mathbf{B}$, ar $\mathbf{C}$ may be used with either ane ar twa speakers The smalier units 5 and $C$ emplay the Jensen Duette* principle which has beer. sa surcessfully used in table model speakers to abtair full repraduction af low bass nates in small size.
Jensen Manufacturing $C_{0}$
FIG. D-NEW 3-IN-1 CABINET
Takes ali hi-fi units exiept speaker, any make ar madel. Record olayer section is $23^{\prime \prime} \times 14 / 2^{\prime \prime} \times 82^{\prime \prime}$-space far equalizer-preamplifier it comer if desired. To-al space under mounting board is $23^{\prime \prime} x$ $141,2^{\prime \prime} \times 161 / 4^{\prime \prime}$; funer shelf adjustable. Overall size $24^{\prime \prime} \times 29^{\prime \prime}$ $\times 16^{1}, 2^{\prime \prime} \mathrm{d}$.
UC 3-Shipping Weight 38 lbs. Mahogany or Blond. Net Each S 4.40

## FIG. E-TUNER CABINET

Accommodates almost every tuner ar amplifier on the market. Front parels shipped blank; four page instruction folder. Size $17^{\prime \prime} \mathrm{w}$. 101.4" h. $\times 131 / 2^{\prime \prime}$ d.

UC-1-Shipping Weigh: 10 lbs. Blond or Mahagany. Net Each $\$ 1440$

## FIG. F-RECORD PLAYER CABINET

Accommodates almost every papular changer. Sleek modern design Size 17 w. $\times 101 / 4 \mathrm{~h} . \times 153 / 4 \mathrm{~d}$.
UC.2-Shipping Wi. 141/2 lbs. Blond or Mahogany. Net Each S $15^{90}$

## hEAVY fabric.covered wall baffles

| First new baffles in almost a generation. Plastic grille sloth covers | Fig. | Model | Speaker In. | Width, Height, Depth, In. | Ship. Wi. Lbs. | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| entire front of baffe, conceoling | G | CB-8A | 8 | $121 / 4 \times 14 \times 6$ | 5 | \$6.75 |
| speuker opening. Most durable, bss $\dagger$ | G | CB-12A | 12 | $18 \times 201 / 4 \times 9$ | 9 | 9.30 |
| looling fabric-covered bofle eyer | H | WB-4/5A | 4/5 | $6 \times 6 \times 41 / 4$ | 21/2* | 2.37 |
| offered. Heavy vibrotionless cam- | H | WB-6A | 6 | $71 / 2 \times 81 / 2 \times 5$ | 3* | 2.90 |
| strustion. Four 8-32 speaker bolts | H | WB-8A | 8 | $93 / 8 \times 101 / 2 \times 61 / 2$ | 51/2* | 3.43 |
| installed. Carner models are bass | H | WB-10A | 10 | $111 / 2 \times 121 / 4 \times 73 / 4$ |  | 4.02 |
| reflox. | H | WB-12A | 12 | $131 / 4 \times 141 / 4 \times 9$ | 10* | 4.71 | Shipping Weight 1 lb . R-8;12. Vet Each


tube Caddies* specially designed for tv servicemen

They mal.e work eabie anc quicker and you are mare efticient. Regimented drawers give INVEN ORY af a GLANCE-missing cartons are easily potted. Shop owner, say g tube caddy PAYS FOR ITSELF IN THREE WEELSS TIME. Men are checkeo DE LUEE TUBE CADCY* ORIGINAL TUBE CADDY* Combines convenient isol Holds up to 249 tube: tray ( $2 \mathrm{Vg} \mathrm{g}^{\prime \prime}$ deep) with Drawer partitions remov drawers for ep ta 225 able for tools and meter tubes. Jurab e iweed- Heavy brown fabric covergray fabric covering. SI p* ing. Slip-out hinges an out hinges on cover Size cover. Size: 20 w . $18^{\prime \prime} \mathrm{w} . \mathrm{x}^{\prime} 141 / 2^{\prime \prime}$ h. $\times 91 / 4^{\prime \prime} 131 / 2^{\prime \prime}$ h. $\times 9^{\prime \prime}$ d. Shipping d. Shipping Wt. 16 Ibs. Weight 16 lbs.

TC-3-Net .........514.9.5 TC.1B-Net

in and nut faster and always arrive on the job with the toals they need. This means more calls per day, lower cost per call. Moreover, customers recognize their servise is up-to-the-minute, with every aid available :or efficient repair.

## TUBE CADDY* JUNIOR

Easy-to-carry size for quick trips. Holds up to 143 tubes, or less with tools and meter. Heavy brown fabric coverirg. Slip-aut hinges on cover. 8ize: Ship. x $13^{\prime \prime}$. $x$ 13 dis Shipping Weigh 13 lbs
$\$ 13.50$


SOUND CADDY
Highly serviceable partable case. Accommodates two 12" speakers and amplifier. Brockets for cables. Heavy plywood construction steet corne angles. Brown fobric covering, $17^{\prime \prime}$ angles. $23^{\prime \prime}$ hrown 13" shipping Wh $\mathrm{w} . \mathrm{x} 23^{\prime \prime}$
22 Ibs. 22 lbs.
.$\$ 19.50$

## RECORD CHANGER CASE

Sturdily designed for long service Hondsome two-tone brown fabrie covering- Clearance above board, $65 /$ B" $^{\prime \prime}$. Takes any standard changer. Sizes: 17" w. x $93 / 4^{\prime \prime}$ h. x $15 \frac{1}{4^{\prime \prime}} d$ Shipping Wi. $131 / 4 \mathrm{lbs}$.
PC-2-Net


## TALK-A-IPHDNE Intercommunication Systems

For the Home, Farm, Professional Man, Office and Business. A fick of a finger gives you instant and direct two-way conversation between any two points-anywhere. Designed to withstand continuous day and night use, TALK.A.PHONE operates at but a fraction of a cent a day ... and it can be installed by anyone. All units are complete, ready to plug in. Walnut impact bakelite cabinets. Cabinets measure $81 / 4^{\prime \prime} \times 61 / 4^{\prime \prime} \times 71 / 2^{\prime \prime}$


TALK.A.PHONE DELUXE SYSTEMS


Sub- Sistions can be connce:ed "Privately, or non-pot.
votely ond still origanate co to the Master under either application Once o canversotion has been inisisied Aith * no controls and can resly from a distance. When the sustem is connected. provately, Mester unit cannot histen in ond
Sub. Siations. However, they can reoly when called, and also originder calls to the Master. Operates Mniversally on
110.190 vols. $A C . D C$. L . A.pproved. The $A C .54 G 6$ ond AC. 5411 Master Siations operate as above with the added leature of 10 simes voime ouldut. A desirdble festure for svalems. Model LM- 5 Master Selective Station for 5 Sub. toons, cormplete with tubes ond easy. 0 . follow
sleuctions $W_{\text {t }} 7$ lbs List pricg each $\$ 4500$ Model LM-10 Master Selective Station for 10 Sub. 26.4 Stations, complete wih tubes ond easy-lo-follow
instuction: W't $/ \mathrm{lbs}$ List Price each. 5800 .
Net each $\mathbf{3 4 . 0 0}$ LM. 10 Masters Wr. Sibs Liss Price cash $\$ 1595.9 .35$ Model LR-3M Sub-Station in brown meral case.
Wht 3 lbs List Drice each $\$ 1395$ Ner cach 9.35 Model AC. 5406 Master Sition 5 sub-station 6 Model AC. 5411 Master Station 10 sub-seatio
CaDderity High Volume Output Wh 8 lbs. Li Price each 50800
Model $A R-3$ Sub. Station lor use with $A C$ each 39.95 AC. 5411 Masters. Wt 5 lbs. List Price each $\$ 16.95$. Model AR-3M Same as AR. 3 above, but in brow
metal case W.. 3 Ibs. List Price each $\$ 1095$.
ing Brown metal case. Wit 8 lbs. List Price each
$\$ 2500$Model C. 20 Nine.Inch Weatherprool Re. Entra
Horn Wit 5 , bs List Price each $\$ 4495$ Net each
OC. 20 ortp. 3 List Drice arigination of $\$ 500$ Noll Net eachNo. 5303 ( 3 zonductor) Cable for connecting Sub
14.70
26.50


Combination Systems (Fig. 2)

tions in the system selectively.
or vou can hove one of more
Sub. Sidions which ore exclusive to only onz Master Sia-
tion far tion (as ollustrated in the diagram dbove) Master Stations have the aption of making themselves "privatz" or "non.
crivate al witl, You can begin with iwo stations (et least One must be o Master) and add other units as required espaeity of hive stations. Meluding Masters and Sub. Sto. tons, while Model CL. 10 Master Station has o total capacity of ten stations. Sub. Sestions are no: plugged in to a source of electric current. Operste
Model CL. 5 Combination Mester for five station use

32.35

| boz attached by $\mathbf{K}^{\prime}$ cablé to unit W. $8^{\prime}$ ? Ibs List <br> Price each $\$ 7400$ <br> Nes each 43.50 |
| :---: |
|  |  |
|  |  |
|  |  |

Model LR- 2 Sub. Station for use with eather of dbove 9.35
$M$ Misters List Drice each $\$ 1595$ Net each 9.35

case WI
Model
HP
Model (-20 Nine-unch
horn List Prige each $\$ 445$ ..... 26.50
No. 6212 (0 pair) Cable fo ..... 14
Mosters 6902 ..... 28
Sations to (LL. 5 or CL. 10 List Price per foor 3 ..... 02

## How To Determine Cable Requirements

 All ModelsFor Master Selective Systems measure from each Subper Selective Systems -measure from lirst Master to second Master only, from second Master to third Master only, etc., and total. Cable between first
and last Mdster not necessary. For Combination and last Moster not necersary. For Combination second Moster only, from second Master to third Master only, etc.., and total, Sub-Station coble; measo

The New TALK-A-PHONE Wireless Intercoms with the Exclusive "Sonic Gate" Circuit

## New 2-Station Wireless System (Figure 3)

A auality wireless intercom system for use in Homes. Apartments, Offices, Stores. Factorifs
and farms Fo installotion, no wirang, no cobles. Just plug in ony electrical outct and More stotions can be added at ony sime, all seations will receive dny messa ges tronsmitred b Uni. Trans giver' you dictation and supervisory control. When set for Uni. Trans, unit prouides continuous Iransmission to other unit, to dictate or 10 . listen in". Por example, on babr's line noises and hum while system is in actuol operation as well as when in stand by posision.
Brautifully siyled in stu-dy, inpasi bakelise cabinets, finished in rich wainut or executive gray. Brautifully sivled in stu-dy, ir pact bakelise cabincts, finished in rich walnut or executive gray former Size $81^{" 4} \times 6!_{4}^{\prime \prime} \times 7 l_{-2}$. Completem must operite from same ele.

LC. 33 cors sts of two master stations. Shipping weight 14 ibs. Widnut cabinets.
LC-17 Additional sing
Price complete 50000
Price complete $\$ 0000$.

The New 6-Station Selective Wireless System (Figure 4)
Simple to instal, no wiring, simply place each Master where needed, plug into an electrical Each Master Sation has a S.Channal Salector and can converse with any other station selectively, and xan recerive calls on any channelit elects. Hold as many as 3 separate conversa oriainate calls, but must reply when calied. Wireless Stalf Stations are dvarlable. Wireless Staff Stations can also be used to receive Paging calls simultangusly fon any W'reless Maste. Station in the system. Use as many Wireless Staff Stations as needed (dil Staffs mist operate or same channel for this purpose). Equipped with the mast effective noise-free
circuit evre de"eloped, the "SONIC GATE CIRCUIT". Operstes universally on 110.120
 MODEL LCM-0806-6.Station Selective Vireless Master complete with
 Stalf Stations which receive and reply on single channel only. Net Each 35.00
List Price Each $\$ 00.00$

Last number indieates the only channel number on which staffs can receive and reply. (Example: LCS-806 can receive and reply on channel 6 only)


Prices slightly higher west of the Rockies.

TALK-A-PHONE
World's Finest, Most Complete Line of Intercommunication Systems
The Intercom with the "Built in Brain"
(1)


## Nem "CHIEF" Talk-A-Phone THE ONE MODEL THAT MEETS EVERY REQUIREMENT The Answer to Your Intercommunication Problem

 itsalf many times over. Beautifully styled in streamlined impact bakelite cabinets. Walnut-finish.
## "Chief" Universal Master Stations (Figure 1)

 Statioiss. Sio, $4 \%, 20,30,40,50$, and 60 , Station Masters, tosethcr with Stat Stotions con be Intermixed in some system. Mesterican toilk with ony other Moster os well os with Sesffs, Siof

Exclusive Features: (1) DYNASONIC DESIGN-Demins, internixxins of units, variotion of

 push sutiors 150 snd 60 stations with 14 push buttons). (3) UNI-TRANS-lor dietation with no operation of controls necessary while spedking
 foctory. At sl ghi additional cost.
BUSX SIGNAL-on Master Stations. (Figure 7.) Visual indiadion when Master Station colled is buss. Buile-in at factory. Ar shight additional cost.



C. 4996 Mazar 3 station capacity, Wít 13 lbs. List Price per stetion $\$ 89.50$. Net $\mathbf{5 2 , 5 0}$ C. 4912 Maser 12 station capocity, Wi. 14 lbs . List price per stecion $\$ 10000$. Net 62.25 C. 49 Peo Master 20 setation capaciiy, Wit. 17 lbs List Price per stasion $\$ 125.00$. Net 73.50 C. 4930 Master 3.3 station capacity. Wht. 80 lbs List Price per staton $\$ 144.00$. Net 84.50 C. 4840 Maste 40 station capaci:y. Wt. 83 lbs List Price der station $\$ 16300$. Net 95.50 C. 4930 Master 50 station capacity. Wet. 26 lbs List Price der stiton $\$ 18800$. Net 107.00

## "Chief" Redi-Power Master Stations (Figure 2)

"Chinf" Redi Power Master Stotions have all the opertac nal f-atures listed above, plus the add :ional f-c:ure of buth in exiro power for use when needed This added power (up to 80 W:is), sive Ou the soditional volume needed, lor exsmple when colling s number of stations
 Redi-PCwer tss sall.compernsoting volume, whether you call 8,18 or 90 stollons simultaneously, Each station criceives Ms ore dercrmined dolume whth no division ol outpur when you call more stotions at one time. One or more Redı. Power Masters can be omb
Miserer and Liff Stations in sarme syssem. $110-120$ voless. AC orly.
ReduPower Master Stations ate also avalable with the added ieture of pre-selected paging or each mistry unit as Model C.RP. 5911 . Provides 11.statich copdsity with one seleciol butbn lor :aral.r.s. Lach Master may pase ts own pre-selectec slations without any external
C.RP. 5918 Redi-Power Moster 12 sitation capocity. Wh 18 lbs List Price Der station 94.00
$\$ 10000$

C-RP- 5990 Rzdi. Power Moster 80 s:ation capecity. Whe 21 lbs List Price per station 2.00

## 'Chief" Models Available in Executive Gray Cabinets



## How to Determine Cable Requirements

10 inter-counect Master Stations, measure from first Master to second Master only, from second

 Moster no vitch Stat' Stetion or ginates calls. To connect C-42 ond C-46 Stat Stations measure

"Chief"' Staff Stations (Figure 3)
Yor use with any "Chief" Master, Stof Stations may be connected "privately or "non-pri. without operetion of any controls "Persons at "non-private" Stafts may reply to all Masters in The system twhether connected directly to them or not) and con ortisinate calls 10 one. Wwo. O? up to six Masters, dependins upon iss capacity. Connected privotely no one Con histen. in, ng on uts capacity. Stat Stations do not need electrical outlet. Handsomely styled in molded

C. 41 Staff Station for origination of call to one Master. Wi 5 lbs List Price each 12.95
C. 41 M Same operation as C .41 , but in brown metal case. Wht. 3 lbs. List Perice each 12.95
$\$ 8200$ Same operation as C.41, but in brown metal case. Wh. 3 lbs. List Nefre each 12.95
C. 49 Stiff Siation for origination of call to two Masters. Wit. 5 Ibs. List Price each 17.00
$\$ 2900$
Net each , 17.00
C.49M Same operation as C-42, but in brown metal case. Wh. 3 ibs. List Price each 17.00
C. 46 Push Bution Stall Station lor orisination of call to six Masters. Wh. Q Wes. List 38.00

Price each $\$ 05.00$.
HP.3 H1. Pormer Staff Station for wall mounting. Brown metal case. 5 woit capacity 14.70
HP. 8 Super Stoth Stotion lor wall mounting Brown metal case 15 watt copacity Whe $\mathbf{N}$ Nel cach $\mathbf{2 6 . 5 0}$
1bs. List Pr ce each 344.95 Net each 26.50



## Optional Equipment

 Earohone Fig 5) Avalable on all Models Add " $x$ " io Model No when ordering 1200 Busy Signal iFis 7) Avallsble on oll "Chief", ond "Chuel REDI POWER"Mosters: 7.00 LD-Long Distonce Feature (Fis 8) Avoilable on "Chief," and "Chirel REDI.POWVR
Masters Add LD to Model No. when ordering. List price each-add $\$ 2000$.

$$
\begin{gathered}
\$ 8000 . \\
\text { Nei sdd } \\
11.75
\end{gathered}
$$



RW. 10 Righ of. Way Reloy for use with C RP. 5918.5990 Masters To coll any grou

32.95

## Cable

3804 Cable for connectung C.41, C 48, C. 46, HP. $3, \mathrm{C}-20$ and HP- 2 List price per 6812 Coble for interconnecting C. 4906 Masters List Prise per fl. 24 c Net perfit $\$ .08$
 Roz Cot per th. . 88
6909 Coble for connecting HP. 3, C. 80 and HP. 2 without origination of call List
Price per li 0312 C

N
Prices slightly higher west of the Rockies.

## NEW Fanfare $\begin{aligned} & \text { FA NON INTERCOMS }\end{aligned}$



Tanser THE MANAGER SERIES
MODEL FX-12: 12 station master. Slide switch at back of unit selects either all-master or master to remote installation use with up to 11 renotes. or 12 masters.
$\begin{array}{crl}\text { Model FX-12 (Master) } & \$ 29.95 \text { list } \\ \text { FS (Remote) } & 10.00 \text { list }\end{array}$

## INTERCONNECTING CABLES

$3 W$ anduretur callife fur master-romute lumk-11p.
$\$ 6.00 / 100 \mathrm{ft}$.
 remotos ..................................... $\$ 25.00 / 100 \mathrm{ft}$.

## Features of the MANAGER and TWIN Series:

- PRESS.TO-TALK switch with long lasting coll. SPRING return.
- VOLUME CONTROL with ON-OFF switch.
- PILOT-LIGHT (neoll) flickers when you talk. shows that unit is operating properly.
- 3-TUBES: $12 A U 6$ pentode. $50 C 5$ beam power. 35W4 rectifier.
- $A C / D C$ for use on any house circuit (U.L approved).
- $31 / 2^{\prime \prime}$ Alnico $V$ speaker.
- Remotes may be private or non-private (bally sit. ting) by flick of switch.
- $21 / 2$ Watt power output.
- 20 Watt power consumption
- Dimensions: $8^{\prime \prime} \times 4^{\prime \prime} \times 4^{\prime \prime}$.
- Shipping weights: FX.2: $61 / 2$ lbs.: FX.12: $41 / 2$ lbs. : FS: 2 lbs.
- Colors: Panel-white perforated

Cabinet-grey or tath
black or white (slight add ${ }^{\circ}$ ( cost)

## TT..frn THE TWIN SERIES

MODEL FX.2: Master and one remote, complete with 50 ft . connecting cable. Ready for use; highly sensitive: picks up slightest whisper. Remote can originate calls; private or non-private operation; additional re. cals; priate or hon-private lleperation; adtom packaged
notes may be used in paralle notes may be used in paral
in attractive display carton.

Model FX-2 (Complete System) $\$ 29.95$ list FS (Add'I Remote) $\quad 10.00$ list


$\$ 31.50 / 100 \mathrm{ft}$.


FVT-3

PORTABLE RECORD PLAYERS



ALL FANFARE PHONOGRAPHS FEATURE BUILT-IN 45 RPM ADAPTER futomatic PORTABLE RECORD PLAYER 2 Speckiers

## MODEL AV-300


$i^{*}$ full $4^{\prime \prime \prime}$ Alnico $V$ speakers with matehed cones, specially phased for hemispheric sound volume and tone controls e
i full $4^{\prime \prime \prime}$ Alnico $V$ speakers with matehed cones, specially phased for hemispheric sound volume and tone controls e plays all 3 speeds, all size records, automatically shuts off complete unit after last record * ceramic high.fidelity turn. over cartridge with 2 sapphire needles - 3'" plywood-covered in washable two-tone vinyl cloth in smart decorator colors.

List $\$ \mathbf{6 9 . 5 0}$
MODEL AV-200
Similar in AV-300, except that it has 2 -tube amplifier and one speaker.

List \$59.50


NEW MODELS IN PREPARATION - WRITE FOR CATALOGS
MODEL TV-300

- 115 V.. 60 cps.. AC
- Audio
push-pull amplifier. volume and tone controls
4-tube heavy duty $6^{\prime \prime}$ Alnico $V$ volume and tone controls - two cones - Changer (same as AV. 300 ) mahogany and limed oak.

| TV 300 Mahogany | List | $\mathbf{\$ 9 . 5 0}$ |
| :--- | :--- | ---: |
| TV 300 Oak (Blonde) | List | $\mathbf{1 0 9 . 5 0}$ |




HIGH-FIDELITY $\quad$ LONG LIFE

|  | CATALOG NUMBER | Size <br> (Inches) | Magnet Weight (O2s.) | Rating Power (Watts) | $\begin{aligned} & \text { V.c. } \\ & \text { Imp. } \\ & \text { (Ohms) } \end{aligned}$ | Response (Cycles) | List Price* |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GENERAL REPLACEMENT SPEAKERS |  |  |  |  |  |  |
|  | 400D | 4 | 1.3 | 4 | 3.2 | 140 to 7,000 | \$ 4.19 |
|  | 402 D | 4 | 1.0 | 4 | 3.2 | 140 to 7,000 | 3.80 |
|  | 403D | 4 | . 68 | 4 | 3.2 | 140 to 7,000 | 3.55 |
|  | 500D | 5 | 1.3 | 4 | 3.2 | 125 to 8,000 | 4.36 |
|  | 503 D | 5 | . 68 | 4 | 3.2 | 125 to 8,000 | 3.75 |
| $4{ }^{\prime \prime}$ Speaker | 525 D | $51 / 4$ | 1.3 | 4 | 3.2 | 120 to 7,000 | 4.41 |
| 5" Round Speaker | 526 D | $51 / 4$ | 1.0 | 4 | 3.2 | 120 to 7,000 | 4.16 |
|  | 5270 | $51 / 4$ | . 68 | 4 | 3.2 | 120 to 7,000 | 4.13 |
|  | 6250 | $61 / 2$ | 1.3 | 4 | 3.2 | 110 to 9,000 | 5.08 |
|  | 626D | $61 / 2$ | 1.0 | 4 | 3.2 | 110 to 9,000 | 4.72 |
|  | 6500 | $61 / 2$ | 2.98 | 8 | 3.2 | 100 to 10,000 | 6.62 |
|  | 7030 | $6 \times 9$ | 1.47 | 8 | 3.2 | 70 to 13,000 | 7.08 |
|  | 8000 | 8 | 2.98 | 8 | 3.2 | 80 to 11,000 | 8.32 |
|  | 8100 | 8 | 6.8 | 12 | 3.2 | 80 to 10,000 | 11.80 |
|  | 8250 | 8 | 1.3 | 4 | 3.2 | 80 to 8,000 | 6.45 |
|  | 1012 D | 10 | 3.16 | 12 | 3.2 | 60 to 7,000 | 10.33 |
|  | 12000 | 12 | 6.8 | 12 | 3.2 | 60 to 8,000 | $14.4 \times$ |
| 06 | 12120 | 12 | 3.16 | 12 | 3.2 | 60 to 8,000 | 9.69 |
| - | PUBLIC ADDRESS SYSTEMS |  |  |  |  |  |  |
| $\bigcirc$ | 8180 | 8 | 6.8 | 12 | 8.0 | 80 to 10,000 | 12.00 |
| 51/4"Speaker | 12180 | 12 | 6.8 | 12 | 8.0 | 60 to 8,000 | 14.19 |
|  | 1230A | 12 | 14.5 | 25 | 8.0 | 60 to 8,000 | 31.58 |
|  | DRIVE-IN THEATRE SPEAKERS |  |  |  |  |  |  |
| स11 | $400 \mathrm{C22}$ | 4 | 1.3 | 4 | 3.2 | 160 to 7,000 | 4.00 |
| $5 \sqrt{6}$ | 525 C 18 | $51 / 4$ | 1.3 | 4 | 3.2 | 120 to 7,000 | 4.30 |
|  | HIGH FIDELITY SPEAKERS |  |  |  |  |  | Net* |
| ( | 850 | 8 | 6.8 | 15 | 8.0 | 50 to 12,000 | 9.95 |
| (1) | 1201 A | 12 | 14.5 | 25 | 8.0 | 50 to 13,000 | 20.37 |
| $6^{\prime \prime} \times 9^{\prime \prime}$ Speaker | 1203 A | 12 | 9.0 | 25 | 8.0 | 50 to 13,000 | 14.22 |

NOTE: Chassis mounting brackets shown are available at slight extra cost for all $4^{\prime \prime}, 5^{\prime \prime}$, and $51 / 4^{\prime \prime}$ speakers.

* Prices subject to change without notice.

WRITE FOR COMPLETE INFORMATION:
General Electric Compony, Radio \& TV Department, Section R395, Electronics Park, Syracuse, New York.


61/2"Speaker

$10^{\prime \prime}$ Speaker


12" Speaker

# GENERAL (3) ELECTRIC 



## SPEAKERS

These speakers are engineered and manufactured solely for the replacement field for use in home receivers. auto sets. television sets and intercommunication systems. RETMA standard dimensions. Fully dust-proofed. Baked aluminum enamel finish. RETMA service guarantee. QUAM UNIVERSAL MOUNTING BRACKET comes with all $3^{1 / 2^{\prime \prime}}$ to $6^{1 / 22^{\prime \prime}}$ speakers and may be ottached to any two of the fOUR threaded mounting holes in the $U$ shaped pot. Voice coil impedance of speakers listed below is 3.2 ohms $\pm 10 \%$.


## QUAM ADJUST-A-CONE SUSPENSION

 operation. In "threr spaknes the spider is comented in phace with mi


QUAM U-SHAPED COIL POT




REPLACEMENT SPEAKERS
ED - Electro Dynomic Speakers
REPLACEMENT SPEAKERS



Fig．E


Fig．F



Fig．H

QUAM speakers have been produced under the same management since 1923 and are used by leading set and sound manufacturers throughout the world．Only QUAM speakers use the Adjust－a－Cone feature and the $U$ shaped coil pot．Fully protected by patents－ their use insures customer satisfaction．

Replacement Speakers（Cont＇d）

| TVPE | CAT．No． | SIZE | FIGURE | FIELD |  | DIMENSIONS IN INCHES |  |  | $\begin{aligned} & \text { SHIP. } \\ & \text { WT.: } \\ & \text { LBS. } \end{aligned}$ | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | C | D | E |  |  |
| $E 1$ | 46E45 <br> $46 E 10$ <br> $46 E 15$ | $\begin{aligned} & 4^{\prime \prime}+x^{\prime \prime} \\ & 4^{\prime \prime} \times 6^{\prime \prime} \\ & 4^{\prime \prime} \times 6^{\prime \prime} \end{aligned}$ | $\begin{aligned} & E \\ & E \\ & E \end{aligned}$ | 450 Ohms <br> 1000 Ohms <br> 1500 Ohms | $\begin{aligned} & 3.5 \\ & 3.5 \\ & 3.5 \end{aligned}$ | $\begin{aligned} & 1-5 / / 64 \\ & 1-5 / 64 \\ & 1-5 / 64 \end{aligned}$ | $\begin{aligned} & 2-15 / 64 \\ & 2-15 / 64 \\ & 2-15 / 64 \end{aligned}$ | $\begin{aligned} & 1-5 / 8 \\ & 1-5 / 8 \\ & 1.5 / 8 \end{aligned}$ | $\begin{aligned} & 1-1 / 4 \\ & 1-1 / 4 \\ & 1-1 / 4 \end{aligned}$ | $\begin{array}{r} \$ 5.30 \\ 5.30 \\ 5.30 \end{array}$ |
| PM | $\begin{aligned} & \text { 46A07* } \\ & 46 A 1 \\ & 46 A 15 \end{aligned}$ | $\begin{aligned} & 4^{\prime \prime} \times x^{\prime \prime}{ }^{\prime \prime \prime} 4^{\prime \prime} \times 6^{\prime \prime} \\ & 4^{\prime} \times 6^{\prime \prime} \end{aligned}$ | $\begin{aligned} & E \\ & E \\ & E \end{aligned}$ | .68 or．Alnico 5 $i .0$ oz．Alnico 5 1．0 oz．Alnico 5 1．47 or．Alnico 5 | $\begin{aligned} & 3.5 \\ & 3.5 \\ & 3.5 \end{aligned}$ | $1^{3 / 4}$ | $\begin{aligned} & 1.15 / 16 \\ & 2-1 / 4 \\ & 2.1 / 4 \end{aligned}$ | $\begin{aligned} & 1-27 / 164 \\ & 1-9 / 16 \\ & 1.9 / 16 \end{aligned}$ | $i^{3 / 4}$ | 4.45 4.75 5.15 |
| $E 1$ | $\begin{aligned} & \text { 57E45 } \\ & 57 E 10 \end{aligned}$ | $\begin{aligned} & 5^{\prime \prime} \times 7^{1 / 1} \\ & 5^{\prime+} \times 7^{\prime \prime} \end{aligned}$ | $\begin{aligned} & - \\ & \bar{D} \end{aligned}$ | $\begin{aligned} & 450 \text { Ohms } \\ & 1000 \text { Ohms } \end{aligned}$ | $\begin{aligned} & \hline 5 \\ & 5 \end{aligned}$ | $\begin{aligned} & 1-1 / 4 \\ & 1-1 / 4 \end{aligned}$ | $\begin{aligned} & 2-13 / 16 \\ & 2-13 / 16 \end{aligned}$ | $\begin{aligned} & 2.9 / 64 \\ & 2-9 / 64 \end{aligned}$ | $\begin{aligned} & 1-1 / 2 \\ & 1-1 / 2 \\ & \hline \end{aligned}$ | 6.00 6.00 |
| PM | $\begin{aligned} & 57 A 1 \\ & 57 A 15 \\ & 57 A 21 \end{aligned}$ | $\begin{aligned} & 5^{\prime \prime} 17^{\prime \prime \prime} \\ & 5^{\prime \prime} \times 7^{\prime \prime \prime} \\ & 5^{\prime \prime} \times 7^{\prime \prime} \end{aligned}$ | $\begin{aligned} & D \\ & D \\ & D \\ & \hline \end{aligned}$ | 1.0 oz．Alnico 5 1．47 oz．Alnico 5 2.15 oz．Alnico 5 | $\begin{aligned} & 5 \\ & 5 \\ & 5 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1 \\ & 1-1 / 8 \end{aligned}$ | $\begin{aligned} & 2.11 / 16 \\ & 2.11 / 64 \\ & 2.61 / 64 \\ & \hline \end{aligned}$ | $\begin{aligned} & 2-5 / 64 \\ & 2-5 / 64 \\ & 2-13 / 64 \\ & \hline \end{aligned}$ | $\begin{aligned} & 1 \\ & 1 \\ & 1-1 / 4 \end{aligned}$ | 5.40 5.80 6.45 |
| 51 | $\begin{aligned} & 69 \mathrm{EV6} \\ & 69 \mathrm{E} 10 \end{aligned}$ | $\begin{aligned} & 6^{\prime \prime} \times 9^{\prime \prime} \\ & 6^{\prime \prime} \times 9^{\prime \prime} \end{aligned}$ | $\begin{aligned} & \mathrm{D} \\ & \mathrm{D} \end{aligned}$ | $\begin{aligned} & 6 \text { Volt } \\ & 1000 \text { Ohms } \end{aligned}$ | $\begin{aligned} & 8 \\ & 8 \\ & \hline \end{aligned}$ | $1$ | $\begin{aligned} & 3-13 / 16 \\ & 3-13 / 16 \end{aligned}$ | 二 | $\begin{aligned} & 2 \\ & 2 \end{aligned}$ | $\begin{aligned} & 7.50 \\ & 7.50 \end{aligned}$ |
| Pin | $\begin{aligned} & \text { 69A2* } \\ & 69 A 3{ }^{2} \end{aligned}$ | $\begin{aligned} & 6^{\prime \prime \times} \times 9^{\prime \prime \prime} \\ & 6^{\prime \prime} \times 9^{\prime \prime} \end{aligned}$ | $\begin{aligned} & \mathrm{D} \\ & \mathrm{D} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { 1.4 or. Alnico } 5 \\ & 3.2 \text { or. Alnico } 5 \end{aligned}$ | $\begin{array}{r} 8 \\ 10^{2} \\ \hline \end{array}$ | $\begin{array}{r} 7 / 8 \\ 1.1 / 4 \\ \hline \end{array}$ | $\begin{aligned} & 2.15 / 16 \\ & 3.5 / 16 \end{aligned}$ | 二 | $2^{1-1 / 2}$ | $\begin{aligned} & 7.50 \\ & 8.95 \end{aligned}$ |

High－Fidelity Adiust－a－Cone Speakers


## Co－axial Speakers

| POAX | $12 A 6 C O$ | $12^{\prime \prime}$ | $G$ | 6.8 oz．Alnico 5 | 14.0 | $2-1 / 4$ | $6-9 / 16$ | - | $6-1 / 2$ | $\mathbf{5 3 0 . 0 0}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $15 A 10 c o$ | $15^{\prime \prime}$ | $G$ | 10 oz．Alnico 5 | 20.0 | $2-5 / 16$ | $7.3 / 4$ | - | $8-1 / 2$ | 47.50 |

## Tweters

|  | $\begin{aligned} & 3 A 15 T \\ & 5 A 15 T \\ & \hline \end{aligned}$ | $\begin{aligned} & 31 / 2^{12} \\ & 5^{\prime \prime} \\ & \hline \end{aligned}$ | ${ }_{8}$ | l．47 oz．Alnico 5 1.47 oz．Alnico 5 | 10 10 | $\begin{aligned} & 3-1 / 2 \\ & 2-5 / 8 \\ & \hline \end{aligned}$ | $\begin{aligned} & 2-1 / 16 \\ & 5 \end{aligned}$ | 3－1／2 | 3／4 | $\begin{array}{r} \$ 5.75 \\ 6.50 \end{array}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Voice coil impedonce of obove speokers is 14 ohms． |  |  |  |  |  |  |  |  |  |  |
| Public Address Speakers |  |  |  |  |  |  |  |  |  |  |
| PM | $\begin{aligned} & 8 A 4 \\ & 8 A 6 \end{aligned}$ | $\begin{aligned} & 8^{8^{\prime \prime}} \\ & 8^{\prime \prime} \end{aligned}$ | 8 | 4.64 oz．Alnico 5 6.8 oz．Alnico 5 | $\begin{aligned} & 12 \\ & 12 \end{aligned}$ | $\begin{aligned} & 1-3 / 8 \\ & 1-7 / 16 \end{aligned}$ | $\begin{aligned} & 3-3 / 4 \\ & 3-7 / 8 \end{aligned}$ | 二 | $\begin{aligned} & 2-3 / 4 \\ & 3-1 / 4 \end{aligned}$ | $\$ 10.20$ 12.10 |
| PM | $\begin{aligned} & 10 A 4 \\ & 10 A 6 \\ & 10 A 10 \end{aligned}$ | $\begin{aligned} & 10^{\prime \prime} \\ & 10^{\circ} \\ & 10^{\prime \prime} \end{aligned}$ | $\begin{aligned} & \hline 8 \\ & 8 \\ & 8 \\ & \hline \end{aligned}$ | 4.64 or．Alnico 5 6.8 oz．Alnico 5 10 oz．Alnico 5 | $\begin{aligned} & 14 \\ & 14 \\ & 20 \end{aligned}$ | $\begin{aligned} & 1-3 / 8 \\ & 1.7 / 16 \\ & 1.3 / 8 \end{aligned}$ | $\begin{aligned} & 4-1 / 2 \\ & 4-5 / 8 \\ & 4-21 / 64 \end{aligned}$ |  | $\begin{aligned} & 3-1 / 4 \\ & 3-1 / 2 \\ & 3-1 / 2 \end{aligned}$ | $\begin{aligned} & 11.70 \\ & 13.50 \\ & 18.90 \\ & \hline \end{aligned}$ |
| PM | $\begin{aligned} & 12 A 4 \\ & 12 A 6 \\ & 12 A 10 \end{aligned}$ | $\begin{aligned} & 12^{\prime \prime} \\ & 12^{\prime \prime} \\ & 12^{\prime \prime} \end{aligned}$ | 8 8 8 8 | 4.64 oz．Alnico 5 <br> 6.8 oz．Alnico 5 <br> 10 oz．Alnico 5 | $\begin{aligned} & 15 \\ & 15 \\ & 25 \end{aligned}$ | $\begin{aligned} & 1-3 / 8 \\ & 1.7 / 16 \\ & 1-3 / 8 \end{aligned}$ | $\begin{aligned} & 5-1 / 8 \\ & 5-1 / 4 \\ & 4.15 / 16 \end{aligned}$ | 二 | 4 $4-1 / 2$ $4.3 / 4$ | 12.65 14.50 19.00 |

## Intercom Speakers

| PH | $\begin{aligned} & \text { 3A07Z45 } \\ & \text { 4A07Z45 } \\ & \text { 4A1Z45 } \\ & 5 A 07 Z 45 \\ & \text { 5A1Z45 } \end{aligned}$ | $31 / \mathbf{2}^{\prime \prime}$ $4^{\prime \prime}$ $4^{\prime \prime}$ $5^{\prime \prime}$ $\mathbf{5}^{\prime \prime}$ | A A A C C | .68 oz．Alnica 5 68 or．Alnico 5 1.00 oz．Alnico 5 68 or．Alnico 5 1.00 oz．Alnico 5 | $\begin{aligned} & 2.5 \\ & 3.0 \\ & 3.0 \\ & 3.5 \\ & 3.5 \\ & \hline \end{aligned}$ | $3 / 4$ $1^{3 / 4}$ $1^{3 / 4}$ | $\begin{aligned} & 1.19 / 32 \\ & 1.23 / 32 \\ & 2.3 / 16 \\ & 1.7 / 8 \\ & 2-5 / 16 \end{aligned}$ | $\begin{aligned} & 1.3 / 16 \\ & 1.516 \\ & 1.9 / 16 \\ & 1.716 \\ & 1.11 / 16 \end{aligned}$ | $1 / 2$ $1 / 2$ $3 / 4$ $1 / 4$ | 5 | 4.25 4.25 4.50 4.45 4.70 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Television Speakers |  |  |  |  |  |  |  |  |  |  |  |
| $E 1$ | $5 E 62$ | ${ }^{5}{ }^{\prime \prime}$. | C | 62 Ohms | 3.5 | 1．1／4 | 2－7／16 | 1－19／32 | 1－1／4 | 5 | 4.60 |
|  | $5 E 95$ | $5^{\text {4＇}}$ | C | 95 Ohms | 3.5 |  | 2－7／16 | 1－19／32 | 1－1／4 |  | 4.60 |
|  | 46E62 |  | E | 62 Ohms | 3.5 | 1－5／64 | 2－15／64 | 1．5／8 | 1－1／4 |  | 5.30 |
|  | 46E95 | $4^{\text {＇}} \times 1 \times 6^{\prime \prime}{ }^{\prime \prime}$ | E | 95 Ohms | 3.5 | 1－5／64 | 2－15／64 | 1．5／8 | 1．1／4 |  | 5.30 |
|  | 6E62 | $61 /{ }^{1 / 1}$ | C | 62 Ohms | 5 | 1－1／4 | 2－23／32 | 2－1／32 | 1－1／2 |  | 5.40 |
|  | $6 E 95$ | $61 / 2{ }^{\prime \prime}$ | C | 95 Ohms | 5 1－1／4 |  | 2－23／32 | 2－1／32 | 1－1／2 |  | 5.40 |

## Outdoor Theatre Speakers

QUAM weatherproofed speakers are designed for outdoor application． A time tested moisture resistant cone treatment and a special finish A $i m e$ tested moisture resistant cone treatment and a special finish
over air gap surfaces plus the rugged QUAM construction assure
long，trouble free life under the most adverse conditions．Quantity quotations on request．All types and sizes are available．

＊Very shallow construction．$\ddagger$ Without Adjust－a－Cone suspension．

| 2.5 | $3 / 4$ | $1-19 / 32$ |
| :--- | :--- | :--- |
| 3 | 1 | $2.3 / 16$ |
| 3.5 | 1 | $2-5 / 16$ |
| 5 | 1 | $2.5 / 8$ |

$1-3 / 16$
$1.9 / 16$
$1.11 / 16$

## utak

THE WIDEST LINE OF REPLACEMENT SPEAKERS AVAILABLE TO THE TRADE

## RADIO PRODUCTS CO., INC.

HUNTINGTON, INDIANA

STANDARD PERMANENT MAGNET GROUP

| Group | Model Number | Voice Coil Impedance Ohms | Voice Coil <br> Diameter Inches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Weight Pounds | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 " | SP35A | 3-4 | 9/16 | 2-4 | . 68 | $3 / 4$ | \$ 3.95 |
| $3 \prime \prime$ | SP35B | 3-4 | 9/16 | 2-4 | 1.00 | $3 / 4$ | 4.10 |
| $3^{\prime \prime}$ | SP35C | 3-4 | 9/16 | 2-4 | 1.47 | $3 / 4$ | 4.45 |
| $4^{\prime \prime}$ | SP4A | 3-4 | $9 / 16$ | $2-4$ | . 68 | $3 / 4$ | 3.95 |
| 4" | SP4B | 3-4 | $9 / 16$ | 2-4 | 1.00 | 3/4 | 4.35 |
| 4"1 | $\mathrm{SP}_{4} \mathrm{C}$ | 3-4 | $9 / 16$ | 2-4 | 1.47 | 1 | 4.60 |
| 5" | SP5A | 3-4 | $9 / 16$ | 2-4 | . 68 | $3 / 4$ | 4.10 |
| 5" | SP5B | 3-4 | $9 / 16$ | 2-4 | 1.00 | $3 / 4$ | 4.45 |
| $5^{\prime \prime}$ | SP5C | 3-4 | $9 / 16$ | 2-4 | 1.47 | 1 | 4.90 |
| $6^{\prime \prime}$ | SP6A | 3-4 | $9 / 16$ | 2-4 | . 68 | 1 | 4.75 |
| $6^{\prime \prime}$ | SP6B | 3-4 | $9 / 16$ | 2-4 | 1.00 | $11 / 2$ | 4.90 |
| $6^{\prime \prime}$ | SP6C | 3-4 | $9 / 16$ | 2-4 | 1.47 | $11 / 2$ | 5.30 |
| $6^{\prime \prime}$ | SP6D | 3-4 | $3 / 4$ | 4-9 | 1.47 | $11 / 2$ | 5.40 |
| $6^{\prime \prime}$ | SP6E | 3-4 | $3 / 4$ | 4-9 | 2.15 | $11 / 2$ | 5.90 |
| $6^{\prime \prime}$ | SP6F | 3-4 | $3 / 4$ | 4-9 | 3.16 | $11 / 2$ | 6.65 |
| $71 /{ }^{\prime \prime}$ | SP75D | 3-4 | 3/4 | 4-9 | 1.47 | $13 / 4$ | 6.95 |
| $71 / 2^{\prime \prime}$ | SP75E | 3-4 | $3 / 4$ | 4-9 | 2.15 | $13 / 4$ | 7.25 |
| $7{ }^{11 / 2^{\prime \prime}}$ | SP75F | 3-4 | $3 / 4$ | 4-9 | 3.16 | $13 / 4$ | 8.55 |
| $8^{\prime \prime}$ | SP8G | 3-4 | 1 | 6-12 | 3.16 | $21 / 2$ | 8.90 |
| $8^{\prime \prime \prime}$ | SP8H | 3-4 | 1 | 6-12 | 4.64 | $21 / 2$ | 9.25 |
| $8^{\prime \prime}$ | SP8J | 3-4 | 1 | 6-12 | 6.80 | 3 | 9.55 |
| $10^{\prime \prime}$ | SP10D | 3-4 | $3 / 4$ | 4-9 | 1.47 | 3 | 9.45 |
| $10^{\prime \prime}$ | SP10E | 3-4 | $3 / 4$ | $4-9$ | 2.15 | 3 | 9.85 |
| $10^{\prime \prime}$ | SP10F | 3-4 | 3/4 | 4-9 | 3.16 | 3 | 10.35 |
| $10^{\prime \prime}$ | SP10G | 3-4 | 1 | 6-12 | 3.16 | 4 | 10.95 |
| $10^{\prime \prime}$ | SP10H | 3-4 | 1 | 6-12 | 4.64 | 4 | 11.60 |
| $10^{\prime \prime}$ | SP10J | 3-4 | 1 | 6-12 | 6.80 | $41 / 4$ | 13.35 |
| 12" | SP12D | 3-4 | $3 / 4$ | 4-9 | 1.47 | 4 | 9.95 |
| $12^{\prime \prime}$ | SP12E | 3-4 | $3 / 4$ | 4-9 | 2.15 | 4 | 10.50 |
| $12^{\prime \prime}$ | SP12F | 3-4 | $3 / 4$ | 4-9 | 3.16 | 43 | 10.95 |
| $12^{\prime \prime}$ | SP12G | 3-4 | 1 | 6-12 | 3.16 | $43 / 4$ | 11.25 |
| 12" ${ }^{\prime \prime}$ | SP12H | 3-4 | 1 | 6-12 | 4.64 | $43 / 4$ | 12.75 |
| 12" | SP12J | 3-4 | 1 | 6-12 | 6.80 | $43 / 4$ | 14.55 |

STANDARD ELECTRO DYNAMIC GROUP

| Group | Model Number | Voice Coil Impedance Ohms | Voice Coil <br> Diameter Inches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Weight Pounda | List <br> Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $4^{\prime \prime}$ | SE445 | 3-4 | 9/16 | 2-4 | 450 ohma | 1 | \$4.3 |
| $5^{\prime \prime}$ | SE545 | 3-4 | $9 / 16$ | 2-4 | 450 ohma | $11 / 4$ | 4.5 |
| 6" | SE645 | 3-4 | $3 / 4$ | 4-9 | 450 ohms | 2 | 5.40 |

PUBLIC ADDRESS SPEAKER GROUP
Deluxe Series

| Group Size | Model Number | Voice Coil Impedance Ohms | Voice Coil <br> Diameter Inches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Weight Pounds | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $6^{\prime \prime}$ | PA6F | 8 | 3/4 | 6 | 3.16 | $13 / 4$ | \$ 7.50 |
| $8^{\prime \prime}$ | PA8J | 8 | 1 | 6-12 | 6.80 |  | 12.50 |
| $10^{\prime \prime}$ | PA10.J | 8 | 1 | 6-12 | 6.80 | $41 / 4$ | 13.95 |
| 12" | PA12J | 8 | 1 | 6-12 | 6.80 | 5 1/4 | 15.95 |

Heavy cadmium plating.

## Supreme Series

| Group Size | Model Number | Voice Coil <br> Impedance Ohms | Voice Coil Diameter Inches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Weight Pounds | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $8 \prime$ | PA8M | 8 | $11 / 4$ | 15 | 14.70 | 5 | \$24.95 |
| 10" | PA10M | 8 | $11 / 4$ | 15 | 14.70 | 5 | 25.95 |
| 12" | PA12M | 8 | $11 / 4$ | 15-25 | 14.70 | 7 | 27.95 |
| $12^{\prime \prime}$ | PA12P | 8 | $11 / 2$ | 20-30 | 21.50 | $9 \mathrm{1} / 4$ | 34.95 |
| $15^{\prime \prime}$ | PA15P | 8 | $11 / 2$ | 20-30 | 21.50 | $12 \mathrm{3} / 4$ | 37.95 |
| $15^{\prime \prime}$ | PA15R | 8 | 2 | 30-40 | 31.80 | 14 3/4 | 59.95 |

Finished ingold lacquer over cadmium plating, and complete with pot cover and solderless brass binding posts.

Deluxe Series speakers can be factory mounted in Utone wall baffles at no extra charge.
Also available with transformer mounted.


SP75D


PA8)


PA8M

EXPORT DEPT. - ROCKE INTERNATIONAL CORP. - N. Y. C.


OVAL PERMANENT MAGNET GROUP

| Group Size | Model Number | Voice Coil Impedance Ohms | Voice Coil Diameter Inches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Woight Pounds | List <br> Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $4 \times 6^{\prime \prime}$ | SP46A | 3-4 | 9/16 | 2-4 | . 68 | 1 | 4.50 |
| $4 \pm 6{ }^{\prime \prime}$ | SP46B | 3-4 | $9 / 16$ | 2-4 | 1.00 | $11 / 4$ | 4.70 |
| $4 \geq 6^{\prime \prime}$ | SP46C | 3-4 | 9/16 | 2-4 | 1.47 | $11 / 4$ | 5.20 |
| $5 \times 7$ - | SP57A | 3-4 | 9/16 | 2-4 | . 68 | 1 1/4 | 4.95 |
| $5 \times 7$ \% | SP57B | 3-4 | 9/16 | 2-4 | 1.00 | 1 1/4 | 5.50 |
| $5 \times 7$ " | SP57C | 3-4 | $9 / 16$ | 2-4 | 1.47 | $11 / 4$ | 5.75 |
| $5 \times 7 \prime \prime$ $5 \times 7$ | SP57D | 3-4 | $3 / 4$ | 4-9 | 1.47 | 1 | 6.25 |
| $5 \times 7$ \% | SP57E | 3-4 | $3 /$ | 4-9 $4-9$ | 2.15 3.16 | 1 1/2 | 6.50 6.95 |
| $\mathrm{Cl}_{6} \mathrm{E} 9^{\prime \prime}$ | SP69A | 3-4 | $9 / 16$ | 2-4 | 3.16 .68 | $11 / 4$ | 6.95 6.50 |
| $6 \pm 9^{\prime \prime}$ | SP69B | 3-4 | 9/16 | 2-4 | 1.00 | $11 / 2$ | 6.25 |
| $6 \times 9^{\prime \prime}$ | SP69C | 3-4 | 9/16 | 2-4 | 1.47 | $11 / 2$ | 6.95 |
| ${ }^{6} \times 9^{\prime \prime}$ | SP69D | 3-4 | $3 / 4$ | 4-9 | 1.47 | $13 /$ | 7.40 |
| $6 \pm 9^{\prime \prime}$ | SP69E | 3-4 | $3 / 4$ | 4-9 | 2.15 | $13 / 4$ | 8.15 |
| $6 \times 9^{\prime \prime}$ | SP69F | 3-4 | 3/4 | 4-8 | 3.16 | $13 / 4$ | 9.00 |
| $6 \pm 9{ }^{\prime \prime}$ | SP696 | 3-4 | 1 | 6-12 | 3.16 |  | 9.40 |
| $6 \times 9{ }^{\prime \prime}$ | SP69H | 3-4 | 1 | 6-12 | 4.64 |  | 9.75 |
| $6 \times 9{ }^{\prime \prime}$ | SP69.J | 3-4 | 1 | 6-12 | 6.80 | $31 / 4$ | 10.95 |
| $8 \times 12^{\prime \prime}$ | SP812D | 3-4 | 3/4 | 4-9 | 1.47 | 2 | 9.25 |
| $8 \times 12^{\prime \prime}$ | SP812E | 3-4 | 3/4 | 4-9 | 2.15 | $21 / 4$ | 9.75 |
| $8 \times 12^{\prime \prime}$ | SP812F | 3-4 | $3 / 4$ | 4-9 | 3.16 | $21 / 2$ | 10.95 |
| $8 \times 12^{\prime \prime}$ | SP812G | 8 | 1 | 6-12 | 3.16 | $21 / 2$ | 11.25 |
| $8 \times 12^{\prime \prime}$ | SP812H | 8 | 1 | 6-12 | 4.64 | $23 / 4$ | 12.75 |
| $8 \times 1{ }^{\prime \prime}$ | SP812.J | 8 | 1 | 6-12 | 6.80 | 3 | 14.55 |
| AUTOMOTIVE SPEAKER GROUP |  |  |  |  |  |  |  |
| Group Size | Model Number | Voice Coil Impedance Ohms | Voice Coil Diameter Inches | Optimum <br> Audio <br> Watts | Alnico $V$ Weight Ounces | Shipping Weight Pounds | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| 47 | C4Z | 3-4 | 5/8 | 2-4 | . 45 |  | \$3.15 |
| $5^{\prime \prime}$ | C5Z | 3-4 | 3/8 | 2-4 | . 45 | 1/2 | 3.75 |
| $51 /{ }^{\prime \prime}$ | C52Z | 3-4 | 3/4 | 2-4 | . 45 | 3/4 | 4.15 |
| $6^{\prime \prime}$ | C6BZ | 3-4 | $3 / 4$ | 4-9 | 1.00 |  | 4.90 |
| $7{ }^{\text {7 }}$ | C7BZ | 3-4 | 3/4 | 4-9 | 1.00 | $11 / 4$ | 6.50 |
| $71 /{ }^{\prime \prime}$ | C75EZ | 3-4 | 1 | 4-9 | 2.15 | $13 / 4$ | 7.50 |
| $4 \times 6^{\prime \prime}$ | $\mathrm{C}_{4} \mathrm{C}_{57 \mathrm{Z}}$ | 3-4 | 5/8 | 4-9 | . 45 | 1/2 | 4.15 |
| $5 \times 7$ $6 \times 9^{\prime \prime}$ | C57BZ | 3-4 | $3 / 4$ | 4-9 | 1.00 |  | 5.25 |
| $6 \times 9$ $6 \times 9$ $6 \times 9$ | C698EZ | 3-4 | 3/4 | $4-9$ $4-9$ | 1.00 2.15 | $11 / 4$ | 6.95 7.95 |
|  |  |  |  |  |  |  |  |
| OUTDOOR SPEAKER GROUP |  |  |  |  |  |  |  |
| Group Size | Model Nurnber | Voice Coil Impedance Ohms | Voice Coil Diameter Inches | Optimum <br> Audio <br> Watts | Alnico V Weight Ounces | Shipping Weight Pounds | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| 4* | SP4CO | 3-4 | 9/16 | 2-4 | 1.47 |  | \$4.95 |
| 5 " | SP5CO | 3-4 | 9/16 | 2-4 | 1.47 | 1 | 5.10 |
| 6 " | SP6CO | 3-4 | 9/16 | 2-4 | 1.47 | $11 / 2$ | 5.50 |

Finished in bright blue outdoor enamel over heavy cadmuim plating for extra protection.
AIRCRAFT INTERCOMMUNICATION SPEAKER GROUP

| Group Size | Model Number | Voice Coil Impedance Ohms | Voice Coil Diameter Inches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Weight Pounds | $\underset{\text { Price }}{\text { List }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 " | A5F1 | 45 ohms | 3/4 | 4-9 | 3.16 | $11 / 4$ | \$7.75 |
| INTERCOMMUNICATION SPEAKER GROUP |  |  |  |  |  |  |  |
| Group Size | Model Number | Voice Coil Impedance Ohms | Voice Coil Diameter 1nches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Weight Pounds | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| $3{ }^{1 / 1 / 2^{\prime \prime}}$ $4^{\prime \prime}$ | SP35A1 SP4A1 SP5A1 | 45 ohms 45 ohms 45 ohms | $9 / 16$ $9 / 16$ $9 / 16$ | 2-4 $2-4$ $2-4$ | .68 .68 .68 | $1^{3 / 4}$ | $\$ 3.75$ 3.95 4.10 |
| TELEVISION ELECTRO-MAGNETIC GROUP |  |  |  |  |  |  |  |
| Group Size | Model Number | Voice Coil Impedance Ohms | Voice Coil Diameter Inches | Optimum Audio Watts | Alnico V Weight Ounces | Shipping Weight Pounds | $\underset{\text { Price }}{\text { List }}$ |
| 5 5 5 $\mathbf{6}^{\prime \prime}$ $\mathbf{6}^{\prime \prime}$ | $\begin{aligned} & \text { SE5T6 } \\ & \text { SE5T10 } \\ & \text { SE6T6 } \\ & \text { SE6T } 10 \end{aligned}$ | $3-4$ $3-4$ $3-4$ $3-4$ | $\begin{aligned} & 9916 \\ & 9 / 16 \\ & 3 / 16 \\ & 3 / 4 \\ & \hline \end{aligned}$ | $\begin{aligned} & 2-4 \\ & 2-4 \\ & 5-7 \\ & 5-7 \end{aligned}$ | 62 ohms 100 ohms 62 ohms 100 ohms | $\begin{array}{ll}1 & 1 / 4 \\ 1 & 1 / 4 \\ 2 & \end{array}$ | $\mathbf{\$ 4 . 5 0}$ <br> 4.60 <br> 5.25 <br> $\mathbf{5 . 3 0}$ |



SPS7A


C69EZ


ASFI


SE6T10

See also listing of all permanent magnet speakers this advertisement.
EXPORT DEPT. - ROCKE INTERNATIONAL CORP. - N. Y. C.

## utak

FINE HIGH-FIDELITY SPEAKER SYSTEMS AND SPEAKER ENCLOSURES

## RADO PRODUCTS CO•r INC。

HUNTINGTON, INDIANA

## CHORDETTE

The Chordette is a fine piece of functional furniture. Use as a chair side or end table, bookshelf, or without legs-mount vertically.
SPEAKER SYSTEM: Utah two-way, two speaker high-fidelity speaker and enclosure system. One Utah $8^{\prime \prime}$ high-fidelity speaker-one, $31 / 2^{\prime \prime \prime}$ high frequency unit. Speaker system designed so full
compensation is made for deficiency in human ear, as shown by Fletcher-Munsen curves. Enclosure volume 1.4 cubic feet. Air gap flux density averages 9,500 gauss. Rated at 8 watts of program material.
OVERALL DIMENSIONS: Height (with legs) $22^{\prime \prime}-$ Cabinet only $11^{\prime \prime}$-Width $22^{\prime \prime}$ - Depth $131 / 4^{\prime \prime}$

SHIPPING
WEIGHT
25 lbs.
AUDIOPHILE
NET
$\$ 49.95$
549.95
52.50
52.50

MODELS
DESCRIPIION
M - Mahogany, complete with speaker system HF 501
500 - Korina, complete with speaker system HF 501
HF 500 C - Cherry, complete with speaker system HF 501
HF 502 - Chordette Leg Assembly (Specify finish)

5.00

## CONCERTO



The fine woods and construction features of the new Concerto are a master achievement in the art of sound engineering and woodworking. Accoustically correct, the Concerto is modified labyrinth type. dampened with $1^{\prime \prime}$ of fibre glass with a volume of 4.5 cubic feet.

SPEAKER SYSTEM: A Utah high-fidelity speaker system - with the unique Trio high irequency unit a two-way, four speaker system. One Utah $12^{\prime \prime}$ high.
fidelity speaker, plus three, $31 / 2^{\prime \prime}$ high frequency units, gives full coverage of the audio spectrum with a deep, rich bass. The two outer tweeters are angle mounted to assure in excess of 90 degrees dispersion of high frequencies. Frequency response of plus or minus 6 db from 30 to 15,000 cps. Usable range 20 to $20,000 \mathrm{cps}$. Air gap density- 11,000 gauss. Rated at 16 watts of program material. OVERALL DIMENSIONS: Height $30^{\prime \prime}-$ Width $21^{\prime \prime}$ - Depth $171 / 2^{\prime \prime}$

| MODELS | S DESCRIPTION | SHIPPING WEIGHT | AUDIOPHILE NET |
| :---: | :---: | :---: | :---: |
| HF 300 M | M - Mahogany, complete with speaker system HF 301 | 63 lbs . | \$142.50 |
| HF 300 B | B - Korina, complete with speaker system HF 301 | 63 lbs . | 147.50 |
| HF 300 | C - Cherry, complete with speaker system HF 301 | 63 lbs . | 147.50 |

## TRIO

A finely designed and executed small cabinet with three high frequency units, the Trio can be connected with any radio, phonograph, tele. vision or audio amplifier - extending response beyond 15,000 cps. Reaches greatest effectiveness above 5,000 cycles - but the better the audio source - the better the Trio will sound. 8egins functioning at 3,000 cps.

SPEAKER SYSTEM: Three Utah, $31 / 2^{\prime \prime}$ high fre quency units, facing directly forward, the two outer units angle mounted to assure 90 degree dispersion of high frequencies. The Trio will match any voice coil impedance. It is complete with resistance, allowing user to match sensitivity to his present audio system. Rated at 16 watts of program material.
OVERALL DIMENSIONS: Height $5^{\prime \prime}-$ Width 12" - Depth $5 / 16^{\prime \prime}$

6 lbs
6 lbs. $\$ 32$
6 lbs. $\quad 32.50$
6 lbs. $\quad 34.95$

6 lbs.

```
MODELS DESCRIPTION
```

WHPPING
WEIGHT
HF 400 RM - Red mahogany, complete with speaker system HF 401 HF 400 BM - Brown mahogany, complete with speaker system HF 401 HF 400 B - Korina, complete with speaker system HF 401 HF 400 C -Cherry, complete with speaker system HF 401


## BRILLANTE

The Brillante is a finely styled cabinet made from the finest hard wood veneers with expert woodworking craftsmanship. The enclosure is a modified laby. rinth type, accoustically correct, dampened with ${ }^{\prime \prime}$ of fibre glass with a volume of 4.8 cubic feet.
SPEAKER SYSTEM: Full coverage of the audio spec. trum in achieved with one Utah $12^{\prime \prime}$ high-fidelity speaker of unique cone and special basket design,
which handles more than the usual amsunt of power Frequency response of plus or minus 5 db from 30 o 10,000 cps. Usable range from 20 to $19,500 \mathrm{cps}$ Air gap flux density averages 9,500 gauss. Rated at 10 watts of program material.

OVERALL DIMENSIONS: Height 30"-Width 21" -Depth 171/2"

MODELS DESCRIPTION

| SHIPPING | AUDIOPHILE |
| :--- | :---: |
| WEIGHT | NET |
| 58 lbs. | $\$ 99.50$ |
| 58 lbs. | 104.50 |

The . 1 - As \% I: R - 20th Edition FINE HIGH-FIDELITY SPEAKER SYSTEMS AND SPEAKER ENCLOSURES

## RADIO PRODUCTS CO., INC.

HUNTINGTON. INDIANA


## ESQUIRE

The Esquire has a beauty, style and grace of design. executed in fire woods that are hand rubbed to a patina of the finest furniture. It is a matched vented type of enclosure with a volume of 5.25 cubic feet.
SPEAKER SYSTEM: The Esquire has a Utah developed two-way, four speaker high-fidelity sound system, em-two-way, four speaker high-fidelity sound system, em-
ploying one Utah, $12^{\prime \prime}$ speaker and three, $31 / 2^{\prime \prime}$ high
frequency units. More than o 90 degree dispersion of high frequencies is assured by angle mounting. Usable range 20 to $20,000 \mathrm{cps}$. Reasonably flat response from 40 to $15,000 \mathrm{cps}$. Rated at 16 watts of program material.
OVERALL DIMENSIONS: Height $309 / 16^{\prime \prime}$ - Width 237/:" - Depth 18"

## MODELS DESCRIPTION

HF 800 M - Mahogany, complete with speaker system HF 801 HF 800 K - Korina, complete with speaker system HF 801

| SHIPPING | AUDIOPHILE |
| :--- | :---: |
| WEIGHT | NET |
| 45 Ibs. | $\$ 89.95$ |
| 45 | lbs. |
| 45 | lbs. |

## SQUIRE

The Squire is sty'ed and designed as a perfect companion piece to all the Utah High-Fidelity line of speaker enclosures, but it especially complements the Esquire.

The Squire has bsen engineered and designed to house in one complete console unit, an AM-FM tuner, high-fidelity amplifier, s:andard record changer or professional three-speed turntable and pick-up arm. The compartments are arranged for the high-fidelity enthusiast's convenience. The pull-out record changer drawer is at the top, and the tilt-out tuner com-

MODELS DESCRIPTION
HF 700 M - Mahogany, Console equipment enclosure only ..............
HF 700 B - Korina, Console equipment enclosure only HF 700 C - Cherry, Console equipment enclosure only

DIMENSIONS: 23 $7 / 8^{\prime \prime}$ - Depth 18" -Depth 16" Depth 12"
partment is at the bottom with ample space for the high-fidelity amplifier at the rear.

OVERALL CABINET: Height $309 / 16^{\prime \prime}$ - Width
CHANGER DRAWER: Height $11^{\prime \prime}$ - Width $181 / 2^{\prime \prime}$
TUNER DRAWER: Height $10^{\prime \prime}$ - Width $1738^{\prime \prime}-$
AMPLIFIER: Height 10" Width $1^{\prime \prime \prime}$ - Depth $12^{\prime \prime}$

| SHIPPING | AUDIOPHILE |
| :--- | :---: |
| WEIGHT | NET |
| 69 lbs. | $\$ 79.95$ |
| 69 | lbs. |
| 69 lbs. | 89.95 |
| 69.95 |  |

## QUARTET



The Quartet is a perfect high-fidelity console for room corner applications. Its beautiful styling, fine woods and construction features will fit any decor. It is a matched vented type enclosure, accoustically surfaces and has a volume of 4.6 cubic feet.
SPEAKER SYSTEM: The Quartet has a Utah developed two-way, four speaker high-fidelity system, comprised of one Utah, $12^{\prime \prime}$ unit with a voice coil diameter of $11 / 4^{\prime \prime}$. and three Utah, $31 / 2^{\prime \prime}$ high frequency units,
MODELS DESCRIPTION
angle mounted to obtain a more than 90 degree dispersion. Frequency response of plus or minus db from 30 to $15,500 \mathrm{cps}$. An air gap flux density of approximately 11,500 gauss. Rated at 18 watts of program material.

OVERALL DIMENSIONS: Height $381 / 2^{\prime \prime \prime}$ - Width $3014^{\prime \prime}$ (at widest point) - $21^{\prime \prime}$ (at front)-Pilaster $61 / 2^{\prime \prime}$ Depth $1911 / 16^{\prime \prime}$ (from back to face)- $215 / 16^{\prime \prime}$ (along wall)

|  | SHIPPING <br> WEIGHT |
| :--- | :--- | | AUDIOPHILE |
| :---: |
| NET |

## UTONE WALL BAFFLES

BUILT TO SELL - BUILT TO LAST UTONE WALL BAFFLE SPEAKER SIZE

| Utone Finishes | 6 Inch |  | 8 Inch |  | 10 Inch |  | 12 Inch |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Model | Price | Model | Price | Model | Price | Model | Price |
| Standard Line Red Mahogaray | RM-6 | \$5.50 | RM-8 | \$6.75 | RM-10 | \$8.25 | RM-12 | \$10.50 |
| Brown Mah. | BM-6 | 5.50 | BM-8 | 6.75 | BM-10 | 8.25 | BM=12 | 10.50 |
| Futuristic Blonde | BB-6 | 5.95 | BB-8 | 7.50 | BB-10 | 8.95 | BB-12 | 11.50 |
| Deluxe Line Mahogany |  |  | DM-8 | 9.50 |  |  | DM-12 | 13.50 |
| Mahogany <br> Futuristic |  |  |  | 9.50 |  |  | DM-12 | 13.50 |
| Blonde |  |  | DBB-8 | 10.50 |  |  | DBB-12 | 214.95 |
| Corner Models Mahogany |  |  | CM-8 | 6.75 |  |  | CM-12 | 10.50 |
| Futuristic Blonde |  |  | CB-8 | 6.75 |  |  | CB-12 | 10.50 |

Utone wall batfles will complement any interior where speaker housing is needed. Quality built of five ply, $3 / 3^{\prime \prime}$ veneer, they are morticed and secured with waterproof glue and free from vibration and rattles. Their beautiful lacquer finish with matching grill cloth, makes them attractive without being obtrusiveand they are priced right. Utone wall baffles are also available with a quality Utah Public Ad. dress Speaker mounted at the factory-at no additional charge for factory mounting. Can also be supplied with line matching transformersfactory mounted.


WEIGHT

83 lbs.
$\$ 179.95$
189.95
189.95

RE－ENTRANT TRUMPETS<br>RADIAL HORNS and SPEAKERS PM DRIVER UNITS

## Re－Entrant Trumpets，Radial Horns and Speakers



RE． 35 RE． 50 RE． 60

RACON re－entrant horns and speakers are designed to deliver highly concentrated sound with great efficiency over long dis－ tances．This is due to true ex－ ponential design throughout and the climination of all vibratory members and sound dissipating devices．The base and inside tone arms are husky aluminum castings and bell is a heary gauge aluminum spinning．The TR：－－8．R，RE－50 and RE－60 incorporate reflectors made of patented RICON ACOLSTIC MATERIAL to pre－ rent resonant effects．All models are supplied with ＂L＂－bracket mounting（ratchet swivel type on re－ quest．Finish is in weatherpronf hard baked gray hammertone．RE－f0 \＆RE－50 recommended for maximum low frequency music reproduction．RE－35 and IRE－25 best suited for incidental music and high speech intelligibility．
The SR－35R and SR－60R are weatherproof radial re－ entrant horns designed to project sound over an area of 360 degrees．The centre reflectors are of patented R．ICON ．ICOUSTIC MATERIAL and the deflectors are aluminum spinnings covered with this same non－ vibratory material．Standard＂C＂＂bracket supplied． Thread size is $13 / s^{\prime \prime}-18$ ，permitting the use of any Wriver unit listed below． $\mathbf{1}_{10}{ }^{\circ}$＂ 16 thread on request． The SR－60R is ideal for church tower sound installa－ tions and the SR－35R for incidental music and speech．


SR－こ5F SR－60R


SR．15R SR－12R

The SR－15R and SR－12R are rated at 20 and 10 watts respectively and are supplied complete with built－in 15 ohm＊diver units．These models are intended primarily for speech in paging and＂talk back＂ systems and are completely weatherproof．Supplied with cast swivel ratchet and wall bracket．

| $\begin{aligned} & \text { Model A } \\ & \text { No. } \end{aligned}$ | Acoustic Lengtr | $\begin{aligned} & \text { Bell } \\ & \text { Diam. } \end{aligned}$ | Over－all <br> Length | Cut－of （cycles） | Distrib． Angle | Ship． <br> Wt．Ib． | Code | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ＊＊RE－60 | ＂i＇ | 20＂ | 20＂ | 112 | $45^{\circ}$ | 21 | REMOL | \＄72．50 |
| ＊ 5 RE－50 | 二1／4， | － 2.51 | ＂$\because 31.20$ | 141 | $500^{\circ}$ | 19 | REMOY | 60.00 |
| ＊＊RE． 35 | 3： 3 \％ | ，14＂ | 141．＂ | 15\％ | $30^{\circ}$ | 1212 | REMOX | 35.50 |
| ＊${ }_{\text {\％}}$ RE 25 |  | －1：1120＂ | ＂1！＂ | 20．7 | （1）${ }^{\circ}$ | 9 | REMOD | 29.50 |
| ＊${ }^{\text {a }}$ SR 60 R | 5190 | ，34＂ | 34 等＂ | －11．\％ | $31.4{ }^{\circ}$ | 47 | RADAL | 100.00 |
| ＊${ }^{\text {S }}$ R－35R | ！${ }^{\prime}$ | $17 \%$ | $11^{\prime \prime}$ | 1\％\％ | $3+10^{\circ}$ | 16 | RADAK | 47.50 |
| SR－15R |  | ！＂ | 12＂ | 3.510 | $36110^{\circ}$ | 7 | RADAS | 39.75 |
| SR－12R | 15＂ | ：＇＂ | ！${ }^{\prime \prime}$ | 4.51 | $3^{110} 0^{3}$ | 1 | RADAB | 31.00 |

： 8 ohms on request at same arice． 4 or 45 ohm 1.00 list additional． 4，horn only

## Waterproof Permanent Magnet Driver Units

Thr．Hriver unit is the most important single element in a successful public address system．In these four new driver units，primary emphasis is on：high con－ timuous power handling capacity with ample reserve

for overload peaks up to $100 \%$ ，maximum conversion efficiency，response ranges suitable for every type sound system．and waterproof construction．

These four units employ Alnico V magnets and Armeo magnetic iron throughout．All soft steel parts are doubly plated to prevent corrosion．An automatic electromagnctic cut－out switch is used in the mag－ netizing process．assuring maximum flux density in the gap and high uniformity．Units are individually measured fo：flux density．Fach unit is tested with special equipment for power handling capacity as well as a 350 －volt ground test．

Long life plastic diaphragms and formers are sup－ plied．Voice coil leads are non－fatiguing beryllium copper，insuring lifetime performance．All units are completely waterpoof，yet permit ready replacement of diaphragm where needed．

## NEW SUPER X UNITS USING LATEST ALNICO V MAGNETS

|  | Net Weight ${ }_{\text {Ship }}$ |  | Flux Density | FrequencyRange | Imp． | Diam． | Ht． | Thiead Capacity（watts） |  |  | Code | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Model No． |  |  |  |  |  |  |  |  |  |  |  |  |
| PM－623 | 1：His． | 1．5．515\％ | 1－8．510）gavesw |  | 1.5 | －＂ | 5 ＂ | $13{ }^{3}-18$ | $1 . \%$ | 3.5 | RETiX | \＄52．50 |
| PM． 615 | （i．）．5 lls | －lls | 12，5170 gialses | 90－7000 | 1.5 | 5＂ | 4 \％＂ | $13^{3} \times 18$ | （i） | 30 | RETIN | 38.50 |
| PM． 609 | 4 11s． | 4.5 lus． | 12．1010 gausses | 90－i000 | 15 | $4 "$ | 31．＂ | 10s\％－18 | 1：01 | 311 | RETEG | 29.00 |
| PM－708TR | if llic． | 6．5）lis． | 11.000 galusers | 90－\％ 0 （100 | 1.5 | ＋ 6 ＂ | 51／3＂ | 14＂s＂－18 | 50 | 3.5 | RETOY | 42.75 |

DOUBLE RE-ENTRANT MARINE SPEAKERS<br>RE-ENTRANT PAGING SPEAKERS<br>CONE SPEAKER ENCLOSURES

## DOUBLE RE-ENTRANT MARINE SPEAKERS

The Models MR-30M, MG-21J, MG-21B and MN-15B marine speakers are designed mimarily to meet the vigorous sound systems requirements aboard ship.

The driver unit and connecting leads are all enclosed, resulting in a completely waterproof speaker. Heavy aluminum spinnings are used throughout and back base is a husky, non-corrosive aluminum casting. A baked chromatic undercoat plus an outside lacquer finish is assurance of lasting service under severe conditions of humidity and temperature. Designed for three legged flush rear momnting. All models provided with cast aluminum transformer housing, Model MN-15B supplied with "U" bracket; "U" bracket for other models on request at slight additional cost.

Model No.
MR-30-M
MR-32M
MG-21J
MG-21-B
MN-1513
MN-15C
MN-15D

Frequency Distribution Bell Capacity (watts)

| Range | Angle | Diam. | Oper. | Peak |
| :---: | :---: | :---: | :---: | ---: |
| $250-6000$ | $50^{\circ}$ | $14^{\prime \prime}$ | 30 | 60 |
| $250-6000$ | $50^{\circ}$ | $14^{\prime \prime}$ | 60 | 120 |
| $350-5000$ | $55^{\circ}$ | $31^{\prime \prime}$ | 25 | 50 |
| $350-6000$ | $55^{\circ}$ | $91 / 2^{\prime \prime}$ | 20 | 35 |
| $450-6000$ | $65^{\circ}$ | $6^{1 / 4 \prime}$ | 20 | 35 |



MR.30M


MG-21B
MG.21J
MN-15B
(same as MN-1bB, but less (Coracket and less transformer box)
Ship.
W. 10.
$291 / 4$
43
$133 / 4$
$91 / 4$
$61 / 4$

| Code | List <br> Price |
| :--- | ---: |
| REDIX | $\$ 175.00$ |
| REDIT | 262.50 |
| RASOM | 75.00 |
| RASOB | 70.50 |
| REIVUP | 48.00 |
| REDUT | 45.75 |
| REDE'Z | $\mathbf{4 2 . 0 0}$ |

* 8 ohms on request at sante price. Four or 45 ohm 1.00 list alditional.


## RE-ENTRANT PAGING SPEAKERS



RE- 15 RE. 12

| Model No. | Frequency Range | Distribution Angle | 0 perating Capacity | Imp. |
| :---: | :---: | :---: | :---: | :---: |
| RE-15 | 350-8500 | $60^{\circ}$ | 20 watts | *15 olims |
| RE-12 | 450-10,000 | $155^{\circ}$ | 10 watts | \% 10 ohms |
| DW-9R | 750-10,000 | $70^{\circ}$ | 8 watts | *15 ohms |

These weatherproof re-entrant paging speakers are capable of high intelligibility in locations where high noise levels prevail. Construction is non-vibratory througbout and consists of heavy aluminum spinnings and castings. Voice coils are designed to provide a high degree of efficiency when these speakers are also used as microphones in "talk-back" systems. Ideal for replacing conventional cone speakers. RE-12 and RE-15 provided with heavy cast aluminum ratchet bracket. DW-9R is supplied with flange for flush mounting.

| Bell | Over-all | Ship. |  | List |
| :---: | :---: | :---: | :---: | :---: |
| 3im. | Length | Wt. ib. | Code | Price |
| $9^{\prime \prime}$ | 93/4" |  | REMAC | \$36.00 |
| $7^{\prime \prime}$ | $61 / 2{ }^{\prime \prime}$ | $31 / 4$ | REMAB | 27.80 |
| $5^{\prime \prime}$ | $21 / 2$ " | 2 | REDOX | 32.50 |

REMA $\$ 36.00$
27.80

## NEW PAGING AND TALK-BACK SPEAKERS

RE-20 - Molel RE-? 0 has a nominal rating of 25 watts and incorporates a varnish vacuum inpregnated transformer provided with a renovable weatherproof aluminumi spinning. Primary impedances are 625, 1250,2500 and 5000 ohms and the secondary is tapped at $4, x$, and 16 ohms. By conrecting directly to and between these terminals, the resulting impedances of $310,625,1250,2500,3650,5000,7300,10000,14,500$ and 29,000 ohms are equivalent to $16,8,4,2,1.3,1.0,0.7,0.5,0.34$ and 0.17 watts respectively when connected aeross a 70 volt line. Weatherproof construction throughout.

RE-11 - Similar to the RE-20, but has a higher cutoff and a nominal rating of 12 watts. The huilt-in 10 watt transformer has primary impedances of $500,1000,1500 \mathrm{and}$ 2000 ohms and a secondary tapped at 8 and 15 ohms.

RE-18 - This is the economical answer to all paring and "talk-back" applications where low to medium power levels are necessary and where "specs" do not call for line transformers. Hell and back cover are intearally spun of aluminum to assure weatherproof performance of the 12 watt driver unit. Complete with adjustable "U" bracket.

## Sl'ECIFICATIONS

MODEL. NO.
1'ower
Range (cps.)
Dist. Angle V C 1 Imp. Hensifivity
Hell Dia
Weight (net)
Weight (net)
Weight (ship.)

| HE-20 | RE-11 | RE-18 |
| :---: | :---: | :---: |
| 25 W . | 12 W. | 12 W . |
| 350.8 .5 ta 0 | 450-10.000 | 350-10,000 |
| $60^{\circ}$ | $65^{\circ}$ | $60^{\circ}$ |
| tr ohms | $+150 \mathrm{hms}$ | - 15 ohms |
| 107.5 (lb. | 104 db . | 10.4 db . |
| 9 " | 7 " | 9 " |
| 12.5" | 9.75 " | $9.25{ }^{\prime \prime}$ |
| 7 lbs . | 4 lbs . | 3 lbs . |
| 9 Ibs. | 5.5 lbs. | 3.5 lbs . |
| List Price $\$ 48.75$ | List Price S38.50 | List Price $\$ 31.00$ |

* 4 ft ., 1 watt input, warble signal $1,200-2,000$ cps.
\# 8 ohm available at same price. 4 and $45 \mathrm{ohm} \$ 1,00$ list additional. + kuilt-in transformer. See text.


MODEL RE.20, RE-11
RE-18

$$
12 \mathrm{~W}
$$ $350-10,000$ \# 150 hms 10.4 db . $9.25^{\prime \prime}$ 3 lbs. List Price $\$ 31.00$



MODEL RE-18

## STRAIGHT EXPONENTIAL TRUMPETS

Output from any straight trumpet is approximately 2 DB higher than corresponding re-entrant type because it lacks the attenuation inherent in all re-entrant horns. "Stormproof" Trumpets are made of non-vibratory RACON ACOUS'lIC CLOTH. Weather-treated for indoor or outdoor use. "All Aluminum" Trumpets are made of

heavy gauge aluminum spinnings with rolled beaded edge and cast aluminum throat sections. "Unbreakable" Trumpets are made of heavy gauge aluminum spinnings reinforced and damped with Patented RACON ACOITSTIC MATERIAL. Large sizes are useful for church chime systems, C-D systems, airports and stadiums, parks, playgrounds, music festivals, for both speech and music. Smaller sizes for railroad and bus terminals, waiting rooms, factories.

NOTE: Models with 2, 4 and 8 unit throats available. Prices on request.

## CAST ALUMINUM HORN TWEETERS

Response is essentially flat to 12,000 cycles, with excellent usable output to 15,000 cycles. Horn design permits wide angle distribution. Designed for a 1000 and 1500 cycle crossover to assure optimum cone response. These
No'TE: Instructions are packed with each tweeter, providing an easy method of home buikding a professional type 1000 -cycle crossover network.

models must be used with a cross-over. network. The networks listed below are recommended and when employed, the CHU-5 and CHU-2 may be used with amplifiers having an output rating to 25-30 watts.
 models include HF level controls. Model No. CON-15R CON-17R CON-20 Description Iar. Aulin Tapier Yar, Audin Taper
 Code RAFIR RAFIT List Prise $\quad \$ 11.80 \quad \$ 11.80$

## CROSSOVER NETWORKS

The models CON-20 and CON-15R have crossovers of 1000 cyeles. The CON-30 and CON-17R cross over at have cycles. The CON-20 and CON-30 Hye R-C-L Networks. The CON-15R and CON-17R are of the high-pass filter type. Cone speaker impedances may vary from 4-15 ohms. Both

CON-20 Viar. Atulia Taber li-c'- Nitwnrk Niar. Aurlio Taper $\begin{array}{ll}31 \\ \text { RAOUX } & \text { RADUT }\end{array}$ $\begin{array}{ll}\text { RADUX } & \text { RADUT } \\ \$ 24.00 & \$ 24.00\end{array}$

## COBRA TYPE HORN



The RACON COD-11 "cobra" type horn is designed for public address systems requiring high clarity reproduction with maximum concentration of sound in a horizontal plane. It is of "straight" horn design and exponentially flared for maximum transfer of energy. The low cutoff of 250 cycles results in crisp, highly articulate quality without a trace of boominess. The holn consists of a heavy two-piece non-vibratory aluminum casting and is provided with a two-section serrated mounting bracket. Finish is baked gray hammertone over a zinc chromate primer.

| Cut-off | .250 cycles |
| :---: | :---: |
| Dispersion | . $120^{\circ} \mathrm{H}, 40^{\circ} \mathrm{V}$ |
| *Thread | . $13 / 8$ "-18 |
| Dimensions | .175/8" H, 221/4" W, 133/8" D |
| Net Wt. | .12 lbs. |
| Shipping Wt. | . 17 lbs . |
| Code | . ROBON |
| List Price | . \$75.00 |
|  |  |

## CONE SPEAKER ENCLOSURES

These housings are strongly constructed, practically abuse. proof. Back spinnings are steel and incorporate a watertight overlap seal which eliminates rain leakage at the juncture of front bell and rear housing. Two offset mounting hooks are provided for easy installation. Aluminum Bell; Steel back acoustically damped - cone opening pro-


CP-12AW CP-8AW gauze.

| Model No. | CIP-12AW | (1P-8AW |
| :---: | :---: | :---: |
| Cone Size | $12^{\prime \prime}$ | 8" |
| Bell Diameter | $17^{\prime \prime}$ | $15^{\prime \prime}$ |
| Length | 20" | $15^{\prime \prime}$ |
| Shipping Wt. | 8 lbs. | 6 lbs. |
| Code | ROBOT | RIFLE |
| List Price | . \$21.00 | \$17.00 |

## PRICES

All prices listed in The MASTER are subject to change without notice they should not be considered final.

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## DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your oider.

## STEprand SPEAKER SYSTEMS <br> FOR THEATRE AND HOME



## STEPHENS MANUFACTURING CORPORATION CULVER CITY, CALIFORNIA

# STEPHENS <br> TRU SONIC 

## THE CITADEL DIRECT DRIVE AMPLIFIER

- Frequency response $\pm 1 / 4 \mathrm{db} 20-70,000$ c.p.s.
- Full 20 watts of audio.
- Distortion is less than $1 / 2$ of one per cent.
- Phase shift—less than $15^{\circ}$ at 20 c.p.s.
(Above figures are a true picture at full output of 20 watts.)
Here's the first amplifier to successfully eliminate the output transformer. All distortion introduced by transformers is eliminated. Great clarity of tone is noticeable at once. Hum and noise are at a minimum. Frequency response is $\pm 1 / 4 \mathrm{db} 20.70,000$ c.p.s., achieved with far less phase shift than can be obtained with a transformer... especially on the low end. Matching Stephens Tru-Sonic speakers with 500 ohm v.c. impedance designed as companion units for the Citadel Amplifier are shown on adjoining page.


## CHARACTERISTICS - ELECTRICAL

POWER SUPPLY: 117 V. AC $50-60$ OUTPUT: 1 mpedance: 500 chms c.p.s. 1.2 amps. 140 va full output. nominal. One side groundec. 5 INPUT: 0.1 megohm. One side VOLTAGE GAIN: 1.5 v . rms deliv. ers full 20 watt output. ohms at 1000 c.p.s. (apparent), 100 ohms at 20 c.p.s. (apparent). LEVEL: 100 V.p. rms across 500 ohms, 20 watts.

## CHARACTERISTICS - PHYSICAL

DIMENSIONS: $7334^{\prime \prime}$ wide by $151 / 4^{\prime \prime}$ POWER: Permanently attached 6 . long by ${ }^{\text {" }}$ "high.
foot cord.
NET PRICE $\$ 138.00$

CABINETS AND RECOMMENDED SYSTEMS
36 WITH No. 801 TWO.WAY SYSTEM. Has $105 L X 15^{\prime \prime} 10$ w fre MODEL 610 wep 216 high frequency drivany cabinet $20^{\circ}$ deep $x$. quency speake lowboy blonde or mautput. Weight 115 lis. 500 ohm $\$ 303.00$ mounted igh. Delivers full 25 Net Price 16 ohm . Has $103 \mathrm{LX} 15^{\prime \prime}$ low CYCLE TWO-WAY SYSTEM No. 802 . Has 800 X crossover MODEL 617800 CYCLE 16 high frequency driver mertone or natural hardwood frequency speaker, and high requeep $201 / 4^{\prime \prime}$ deep wide X Net Price 160 hm \$27.150 103LX 15" low cabmet TWO.WAY SYSTEM. Has $824 \mathrm{H} 2 \times 4$ Horn, 800 X crossMODEL 618 WITH 803 high frequency driver, 824 H . $2 \times 4$ in a blonde or frequency speakers, high frequency attenuator. $36^{\prime \prime}$ high. Weight $\$ 444.00$
 MODEL 620 WITH II2FR $12^{\prime \prime}$ FULL RANGE 5 PEAKER. Weight 54 Ibs 114.00 mahogany cabinet $14^{\prime \prime}$ deep $\times 2$ Net Price $^{\prime} 16 \mathrm{ohm} \$ 109.50,500$. Blonde or MODEL 622 WITH 122AX $12^{\prime \prime}$ COAXIAL SPEAKER. high. Weight 60 lbs.
 MODEL 626 WITH 152AX $15^{\prime \prime}$ COAXIAL SPEAKER. 2 deep $\times 32^{\prime \prime}$ wide $\times 17.50$ Alnico $V$ magnet. Blonde or mat Price $16 \mathrm{ohm} ~ \$ 20.50$ voice coils: $7 / 2 \mathrm{lb} \mathrm{l}^{\prime \prime}$ Aigh. Weight 131 lbs. $206 A X A$ COAXIAL SPEAKER. 2 voice $34^{\prime \prime}$ high $\times 17{ }^{\prime \prime}$ MODEL 627 WITH 206AXA COAXIA cabinet $32^{\prime \prime \prime}$ wide $\$ 264.75$, 500 ohm $\$ 273.75$ Alnico Weight lis lbs.

TEM. Two 103LX low frequency drivers; deep. Weig WITH 3-WAY SYSTEM. Fwoncy multicellular horn associated MODEL 628 - crossover; a 625 H high and the $21^{\prime \prime}$ Super tweeter and associs high. 600 eycle croigh freauency drive cabinet $21^{\prime \prime}$ deep $x 30$ high with a p. Mahogany or blend enly. Weight 318 lbs. $\$ 618.75$, 500 ohm $\$ 636.75$ Her COMBINATIONS ARE AVAILABLE OTHER COMBINATIONS ARE AVAILABL Net Price $\$ 129.00$
 MODEL 618 cabinet only, Weight 43 lbs . MODEL 620 cabinet only. Weight 47 lbs... MODEL 622 cabinet only. Weight 105 lbs ., MODEL 626 cabinet only. Weight 90 lbs MODEL 627 cabinet complete unit only. MODEL 617 sold as, complete unit only. MODEL 628 sold as complete unit only.
$\qquad$ Net Price $\$ 78.00$ Net Price $\$ 120.00$ Net Price $\$ 120.00$
$\qquad$ Net Price $\$ 131.25$
$\qquad$

Model 618

## STEPHENS MANUFACTURING CORPORATION

## LOUDSPEAKERE ov Undersidy

 a complete line for every oomnmeroial sound
## and public address need



REFLEX TRUTMPETS

for directional sound projection
Pioneered by University，the most effi－ cient modern method of sound distri－ bution．
－Economical－More sound output for －less amplifier power．
－Ruggedly constructed－weatherproof ．．．install it and forget it．
－Five trumpet sizes to cover varied response and coverage requirements．

| MODEL | GH | LH | PH | SMH | 4A4－ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| LOW FREQUENCY CUTOFF | 85 cps ． | 120 cps ． | 150 cps ． | 200 cps． | 200 cps ． |
| SOUND DISTRIBUTİON | $65^{\circ}$ | 75 | $85^{\circ}$ | $95^{\circ}$ | 80 degs． |
| AIR COLUMN LENGTH | 61／2 ft． | $41 / 2 \mathrm{ft}$ ． | 31／2 ft． | $2 \mathrm{t} / 2 \mathrm{ft}$ ． | 21，2 ft |
| BELL DIAMETER | 307／8＂ | 255／8＂ | 201／4＂ | 161／4＂ | 16\％\％ |
| ＊HORN LENGTH | 277／8＂ | 19＂ | 153／4＂ | $12^{\prime \prime}$ | 20\％$⿻ 丷 木^{\prime \prime}$ |
| ＊LIST PRICE | \＄65．00 | \＄44．50 | \＄31．00 | \＄26．00 | \＄93．00 |
| ＊Less Driver Unit <br> ＊＊This model takes 4 | ivers- | oduces | $10 \text { wat }$ |  |  |

FOR WIDE ANGLE HORIZONTAL DISPERSION


The New COBREFLEX－2

Meets every requirement for
－Paging and Talk Back installations
applications
－Fixed or Mobile－ 2 or 3 way hi－fi systems systems
Heavy－duty design provides wide an gle dispersion of sound．Use with any University drive 1 －pe．die－casting


## NEW：



Provide moderate power with maxi－ mum intelligibility and wide angle dispersion pattern．Builtin hermeti－ caliy sealed driver．In 4,8 ，and 45 ohms．CIB 12 watts，CMIL 3 watts．

PAGING AND TALK－BACK SPEAKERS
for maximum penetration through areas with high noise density．


MODEL 188
HIgh efficiency provides maximum coverage with
minimum power．
fea． mintes high power．capac． ty．．．nign sens litivity characteristics．inequency

MODEL MIL
For Installations requlf． ing concentrated requlf． Th8 concentrated power
 cy conserves amplifier power，sideal for tow level


MODEL MIS
Deslgned for flange or thish mounting in cabl．
nets
not nets wallsic cellings，
bullihheads，etc．Ideal for repiacement of cic．cone speakers to Increase

FOR BI－DIRECTIONAL
COVERAGE

| MOOEL | 188 | MIL | MIS | 1BR | CR | 2W25 | CMIL | CIB | Cobreflex－2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cont．Power | 12 watts | 3 watts | 3 watts | 12 watts | 20 watts | 25 watts | 3 watts | 12 watts | Dependent on University Driver Unit used． |
| Impedances | 8 ohms | 8 ohms | 80 hms | 8 ohms | 16 hms | 16 ohms | 8 ohms | 8 ohms |  |
| Frequency | 300．13，000 | 400－13，000 | 500－13，000 | 300－10，000 | $250 \cdot 6000$ | 350.6000 | $400 \cdot 13,000$ | $300 \cdot 13,000$ |  |
| Dispersion | $90^{\circ}$ | $120^{\circ}$ | $150^{\circ}$ | $360^{\circ}$ | 90 | $120^{\circ}$ eacy horn | $120^{\circ} \times 60^{\circ}$ | $120^{\circ} \times 60^{\circ}$ | $120^{\circ} \times 60$ |
| Dimensions | $\begin{aligned} & 81 / 2^{\prime \prime} \text { dia. } \\ & 9^{\prime \prime} \text { high } \end{aligned}$ | $\begin{aligned} & 6^{3} \mathrm{a}^{\prime \prime} \text { dia., } \\ & 7^{\prime \prime} \text { high } \end{aligned}$ | $\begin{aligned} & 37 / \text { " }^{\prime \prime} \text { deep. } \\ & 51 / 2^{\prime \prime} 0 . D_{1} \\ & 47 / 9^{\prime \prime \prime} \text { mi. dia. } \end{aligned}$ |  | 111／2＂dia． | 201／2＂Ig．bell $81 / 2^{\prime \prime}$ dia．mouth | $\begin{aligned} & 66^{7 \prime \prime} \text { high } \\ & 91 / 2^{\prime \prime} \text { wide } \\ & 8_{1 n \prime \prime \prime}^{7} \text { long } \end{aligned}$ | $73 / 8^{\prime \prime}$ high <br> 14＂wide <br> $12^{\prime \prime}$ long | $10^{1 / 4^{\prime \prime}} \mathrm{lg}$ ．bell， $181 / 2^{\prime \prime} \times 91 / 4^{\prime \prime}$ mouth |
| List Price 40 | \＄32．50 | $\$ 25.00$  <br> $\$ 26.25$  <br> 10  | \＄21．50 | \＄39．00 | \＄42．00 |  | $\begin{array}{ll} \$ 28.75 & \\ \$ 30.00 & 4 \Omega \end{array}$ | $\begin{aligned} & \$ 40.00 \\ & \$ 42.00 \end{aligned}$ | \＄35．00 |
| $4 ?$ $45 ?$ | $\begin{array}{lr}\$ 34.00 & 42 \\ \$ 34.00 & 4532\end{array}$ | $\begin{array}{lr}\$ 26.25 & 4 ? \\ \$ 26.25 & 45 \Omega\end{array}$ | 22．75 $\$ 22.75$ |  |  | （inc．driver） $45 \%$ | \＄30．00 $45!$ | \＄42．00 |  |

RELIABLE RUGGED DRIVER UNITS
with these exclusive built-in features

- W-shaped Alnico 5 magnet results in maximum efficiency by reducing reluctance losses and surface leakage.
- Built-in transformers provide installation flexibility to meet any impedance and constant voltage system requirement.
- Bi-sectional mechanism with foolproof automatic "rim-centered" diaproof automatic "rim-centered" dia-
phragm voice coil assembly assures immunity to shock and vibration.
- Full selection to meet all power, frequency response, impedance and mechanical requirements.
$\qquad$


## Unerotrity <br> loudspeakers <br> are APPLICATION ENGINEEREO

to provide optimum performance
with maximum economy

| MODEL | $P A-30$ |
| :--- | :--- |



| MODEL | PA-3 | SA. 30 | SA.HF | MA-25 | T-30 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Continuous Power | 30 watts | 30 watts | 25 watts | 25 watts | 20 watts |
| Frequency Response | 80-10,000 cps. | 90-10,000 cps. | 90-10,000 cps. | $90 \cdot 6000 \mathrm{cps}$. | 250-15,000 cps. |
| Voice Coil Impedance | 16 ohms | 16 ohms | 16 ohms | 16 ohms | 8 ohms |
| Transformer Impedances | $\begin{aligned} & 165 / 250500 / \\ & 1000 / 2000 \mathrm{ohms} \end{aligned}$ | $\begin{aligned} & 45 / 165 / 250 / 500 / \\ & 1000 / 2000 \text { ohms } \end{aligned}$ | - | - | - |
| Constant vol. sys. pwr. | 30-20-10-5-21/2 watts | 30-20-10-5-21/2 watts | - | - | - |
| Diameter, Overall | $63 / 4^{\prime \prime}$ | $5{ }^{\prime \prime}$ | 41/2" | 41/8" | 31/2" |
| Length, Overall | 67/4" | 63/4" | 5" | 37/4" | 37/8 |
| List Price | \$50.00 | \$45.00 | \$35.00 | \$27.50 | \$27.50 |

WIDE RANGE
WEATHERPROOF
COAXIAL


## designed to

simplify indoor and outdoor "high quality" sound installations.

Two versions of a fine speaker system . . . both offering the finest reproduction found in P.A. The WLC Theatre Sys. tem has successfully proven itself in deluxe stadium and self in deluxe stadium and The BLC a smaller, more The BLC. a smaller, more for general application in pubfor general application in public address work. Both units feature separate drivers for the | wooter and tweeter sections. |
| :---: | :---: | :---: |
| MODEL ELC WLC |

| MODEL | BLC | WLC |
| :---: | :---: | :---: |
| Powef <br> Cap. | 25 w | 30 w |
| Imped. | 8 ahms | 8 ohms |
| Resp. | $70-15,000$ <br> cps. | $50-15,000$ <br> cps. |
| Disp. | $120^{\circ}$ | $90^{\circ}$ |
| Dlam. | $22^{\circ} 2^{\prime \prime}$ | $331 / 2^{\prime \prime}$ |
| Depth | $9^{\prime \prime}$ | $20^{\prime \prime}$ |
| List | $\$ 75.00$ | $\$ 250.00$ |
|  |  |  |

SUBMERCENCE PROOF SPEAKERS immune to salt spray, gases, live steam, tungi, and all harmful dirt and dusts.
Designed to U. S. Navy submergence specs . . . provide reliable uninterrupted service with negligible maintenance under the most gruelling conditions. Numerous commercial and industrial applications: docks, bridges,


| MODEL | MM-2TC | MM-2F | MSR | MM-2 |
| :---: | :---: | :---: | :---: | :---: |
| Continuous Power | 15 watts | 15 watts | 15 watts | 15 watts |
| Impedance | 16 ohms | 16 ohms | 16 ohms | 16 ohms |
| Dispersion. | $120^{\circ}$ | $150{ }^{\circ}$ | $360{ }^{\circ}$ | $150{ }^{\circ}$ |
| Frequency | $300 \cdot 6000$ cycles | 300-6000 cycles | 250-6000 cycles | 300-6000 cycles |
| Dimensions | $\begin{aligned} & 10^{\prime \prime} \text { high } \\ & 41 / 8^{\prime \prime} \text { depth } \\ & 6 t / 4^{\prime \prime} \text { wide } \end{aligned}$ | $\begin{aligned} & 71 / 4 " \text { O.D. } \\ & 33 / 4 \text { depth } \\ & 65 / 8 " \text { mtg. hole dia. } \end{aligned}$ | 103/4" high 81/4" depth 73/4" wide | $\begin{aligned} & 6^{\prime \prime} 0 . D . \\ & 43 / 4^{\prime \prime} \text { depth } \end{aligned}$ |
| List Price | \$65.00 | \$40.00 | \$55.00 | \$42.00 |

WEATHERPROOFLINE MATCHING TRANSFORMERS
Designed to afford maximum util. ity in application and utmost convenience of installation....assure
perfect performance throughout perfect performance throughout the entire audio spectrum. PRIMARY IMP. 45, 500, 100, SECONDARY IMP. $4 \cdot 8.16000 \mathrm{ohm}$ POWER HANDLING cap. 25 watts SHIPPING WEIGHT LIST PRICE 3 lbs.
$\$ 15.00$ $\$ 15.00$
Model 5420-Same as above, but for indoor use; strap mtg. List $\$ 6.00$

## WEA Adapter

Adapts WE and RCA Horns for use with any University driver.


## EXPLOSION PROOF SPEAKERS



Model 7102-for Class I, Groups C and D, and. Class II, Groups E.F and $G$...... $\$ 150.00$ list.

## 2YC Connector

Used with two driver units. provides to 60 watts for any trumpet or projector.
PMA Adapter
For mounting Unlversity "U'' bracket speakers on standard $1 / 2^{\prime \prime}$ pipe. List $\$ 1.50$



## Model 6200 Extended Range Speaker

 The Model 6200 is ideal for improve. ment of commercial-type radio and pho-no-combinations, for high quality P.A. and for sound reinforcement in restaurants, night clubs, churches, schools, hospitals, stores, etc. High effriciency of this speaker requires only a fraction of the audio power needed for ordinary 12" loudspeakers. Specially shallow overall depth is perfect for flush celling or wall mounting and other tight places.Response $45 \cdot 10,000 \mathrm{Cps}$
Power Capacity 30 Watts
Impedance 8 Ohms
Baffle Opening 101/2" Dia. Circle Dimensions 121/8" Dia. $-4 \frac{14 \mathbf{h}^{\prime \prime}}{}$ Depth Shipping Weight 5 lbs.
Mounting 8 Equally Spaced Holes
on $111_{2}^{19 "}$ Diameter Circle

Model 6201 Dual-Range Coaxial Speaker The 6201 is acknowledged as the industry's finest value in a high quality $12^{\prime \prime}$ loudspeaker. It is a true dual range coaxial system which reduces intermodulation distortion. The "Reciprocating Flare" horn tweete is driven by a sepFrate high frequency driver for greater high frequency output, plus built-in inductance/capacitance crossover network ductance/capacitance crossover net" concomplete to $36^{\prime \prime}$ of connecting cable the only such speater in its price class the

Response 45-15,060 Cps
Power Capacity 25 Watts
Impedance 80 hm :
Baffle Opening 101/2" Dia. Circle Dimensions 121/9"' Dia. - $81 / 4^{\prime \prime}$ Depth Mounting 8 Equally Spaced Holes on
114" Diameter Circle
Shipping Weight 7 lbs.
$\$ 75.00$ list

The Diffusicone 8 and 12-Wide Range Speakers . . . at amtazing low cost
University Diffusicone (patented) speakers bring within every music lover's grasp the endless pleasures of true concert hall quality reproduction without need for undue concern over speaker location. Exclusive "Diffusicone" design results in full fidelity anywhere in the room . . . full undistorted response, without loss of highs at listening points progressively off speaker axis.

| MODEL | Diffusicone-8 | Diffusicone-12 |
| :---: | :---: | :---: |
| Frequency Response | $70-13,000 \mathrm{cps} .$ uniform field pattern | $\begin{aligned} & 45-13,000 \mathrm{cps} \\ & \text { uniform field pattern } \end{aligned}$ |
| Power Capacity | 25 watts | 30 watts |
| Impedance | 8 ohms | 8 ohms |
| Dimensions | $8{ }_{312}{ }^{\prime \prime}$ dia. $-33 / 8^{\prime \prime}$ depth | $12^{1 / 8} 8^{\circ} \mathrm{dia} .-41 / 4^{\prime \prime}$ depth |
| Baffle Opening | $61 / 2^{\prime \prime}$ dia. circle | $10^{1 / 2 \prime \prime}$ dia. circle |
| Mounting | 8 equally spaced holes on $75 /$ a' $^{\prime \prime}$ dia. circle | 8 ecually spaced holes on $111{ }^{\prime \prime \prime}$ dia. circle |
| Shipping Weight | 5 lbs. | 6 ibs. |
| List | \$35.00 | \$45.00 |
| Proven By Years Of Experience |  |  |



## TWEETERS... by

## Unioursity

WHATEVER THE PROBLEM...

- CROSSOVER
- IMPEDANCE
- RESPONSE
- POWER CAPACITY
- DISPERSION
- COST

NEW! MODEL HF-206 SUPER TWEETER High frequency response for beyond audibility. Super-efficient high output driver and horn assembly using "recipro cating flares" principle. Suitable for crossover 3500 cycles or above. Disper. sion $120^{\circ} \times 60^{\circ}$, B ohms impedance. $\$ 45.00$ list


MODEL 4401 TWEETER
Uses "reciprocating flares" wide angle horn and bonafide compression driver. Exceptional performance at modest cost. 8 ohms impedance, suitable for cross. over down to 2000 cps . $\$ 25.00$ list


MODEL 4402 WIDE ANGLE
DUAL TWEETER
Electrical and acoustical characteristics make it the most versatile high frequency tweeter available. Driver can be connected for use in $4-8$ and 10.16 ohm systems. Dispersion pattern variable with interconnection of drivers. High power capacity. For 2000 cycle crossover or above. $\quad \$ 40.00$ list

MODEL 4409
A heavy duty version of Model 4408 to handle the full, undistorted power of 25-40 watt amplifiers in 2 -way systems, and 50 watts in 3 -way systems. $\$ 40.00$ list


NOOFERS . . . by /ininctert/
nothing like this
in bass before!


MODEL C15W

## * $\underbrace{11}$ DUAL

 IMPEDANCE RANGE SUPER WOOFERAcme of attainable perfection in the specific re production of low frequencies. Two spiders fo positive piston action. Greatest axial voice coil depth and excursion-Six lb. Alnico 5 magnet. Die-cast girder construction for lifetime-trouglefree operation. Adjustable voice coil permits match to 4.8 ohms and 10.16 ohms. Defies obsolescence. For 50 watt systems. $\$ 125.00$ list

12
ADJUSTABLE RESPONSE WOOFER Contains exclusive built-in facilities for limiting
high end response to 700,2000 or 5000 cycles, high end response to 700,2000 or 5000 cycles thus suiting crossover requirements of mos tweeters. 8 ohms impedance, 30 watts power capacity.
$\$ 55.00$ list

## 011 LOW FREQUENCY REPRODUCER

deal for assembling a compact limited space high quality system
perfect too, as midrange unit in low cost three-way system. Can 8 ohms impedance, 25 watts power capacity. 8 ohms impedance, 25 watts power capacity. \$22.50 list



MODEL CAW

ADJUSTABLE SPEAKER NETWORKS


N28

As 2-way network:
MODEL N-2A

| MODEL N-2B |  |
| :---: | :---: |
| Impedance | Crossover Selections |
| 80 hms | 1250, 2500, 5,000 |
| 16 Ohms | 2500, 5000 |
| 4 Ohms | 2500 |
| List | \$20.00 |

These units can be used singly as 6db/oct 2-way L/C networhs, singly as 12 db /oct $\mathrm{L} / \mathrm{C}$ filters, in pairs as 12 db oct 2 -way networks and in combination as 3 -way networks.

MOOEL N-3 THREE-WAY CROSSOVER NETWORK
Complete with built in conComplete with buititin coninuously variable "pres. ence and "brilliance controls. For 8 ohm 3-way yystems using 350 and 500 cps crossovers. Ad ustable mounting arrange ments.
$\$ 40.00$ list
MODEL N-1 ADJUSTABLE HIGH PASS FILTER
Built-in continuousiy variable high frequency control. Matches 16 ohms to 1250, 2500, 5000 cycle crossover: 8 ohms to $2500,5000,10,000 \mathrm{cy}-$ cles; 4 ohms to 5000 and 10,000 cycles.



Small, compact 3 -way speaker system, designed for limited space applications. Rich, full-bodied response to $15,000 \mathrm{cps}$. Power handling capacity is 25 watts. Continuously variable "balance" control. Automatic electric clock for remote on-off control of associated hi-fi equipment at any desired time. Impedance 8 ohms. Mahogany or Blond. Less wrought iron legs. Size: $95 \mathrm{~g}^{\prime \prime} \times 24^{\prime \prime} \times 10^{\prime \prime}$. S-3 Companion $\$ 79.50$ net MD-4 Wrought Iron Legs $\$ 5.00$ net


THE"COMPANIONETTE"
2-Way Speaker System
Expressly designed for table or shelf-mounting, this ultra-compact enclosure offers performance comparable to much larger, more expensive units. Solves hi-fi installav tion problems where space or budget are limiting factors. Uses C8W $8^{\prime \prime}$ woofer, 4401 tweeter, high pass filter, Mahogany or Blond. Capacity 25 watts, Impedance 8 ohms. Size $95 / 8^{\prime \prime}$ high $\times 24^{\prime \prime}$ wide $\times 10^{\prime \prime}$ deep.
S-1 Companionette
$\$ 59.50$ net
MD. 4 Wrought tron Legs
$\$ 5.00$ net
University offers two $\mathrm{Hi} \cdot \mathrm{Fi}$ booklets. containing interesting information about speakefs and speaker systems. Write for your free copies day to Dept. UCP. UNIVERSITY LOUDSPEAKERS INC. 80 S . KENSICO AVE., WHITÉ PLAINS. N. Y.

UNIVERSITY'S NEW CATA. LOG - "The Ultimate in Sound"-a 24 page booklet describing the complete line

Speakers and Network Components.

UNIVERSITY'S Progressive Sjeaker Expansion Plan for Soeaker Expansion Plan for
building the ultimate in building the ultimate in
multi-speaker systems. De-multi-speaker systems. De-
scribed in a colorful, easyscribed in a cole.
to-read brochure.


Model S-8 "ctassic" 3-Way Deiuxe
Console speaker system


The CLASSIC enclosure is available sepa rate'y as Model EN.C in Mahogany or Blond.
Model S-8 "CLASSIC" 3-Way Deluxe Console Speaker System $\$ 395.00$ net

Mode, EN.C
Enclosure Only
$\$ 231.50$ net

Consisting of the incomparable C15W 15 , woofer, Cobreflex-2 with T-30 driver for rich, full-bodied middles, the new HF-206 Super Tweeter and the $\mathrm{N}-3$ network complete with "Brilliance" and "Presence" controls, the CLASSIC incorporates some of the finest University engineering achievements. The enclosure is the versatile, newly designed folded front-loaded horn which operates the C15W wooter as a compression driver for maximum efficiency. Due to this design, the acoustic performance of the CLASSIC is independent of the walls and floor of the room, and may be used either as a "lowboy": console or "highboy". Base is adjustable for this purpose.
Dimensions: $341 / 2 \times 401 / 2 \times 243 / 4$ " Available in Mahogany or Blond at no extra cost. Impedance 8 ohms, Power Capacity 50 watts

## Model S-7"DEAN" Cornerless-Corner Deluxe



The DEAN enclosure is available separately as Model EN.D in Mahogany or Blond.
Model S-7 "DEAN" Cornerless-Corner Deluxe 3-Way stem $\$ 395.00$ net
Model EN-D
Enclosure Only
$\$ 231.50$ net

3-Way Speaker System

For use with equal efficiency in a corner or against a wall. Amazing results are derived from the C15W 15" woofer, Cobreflex-2 with T-30 driver for the mid-range and the HF-206 for the highs. The N-3 network is used to cross over at 350 and 5000 cycles. The enclosure is a newly designed compression type, folded, front-loaded horn, so completely independent of the walls and floor of a room that it is truly the one and only "cornerless corner" cabinet. By unique internal design, wasted space has been ellminated so that the overall dimensions of this sensational system are only $361^{\prime \prime}$ high, $36^{\prime \prime}$ wide, $22^{\prime \prime}$ deep. Avallable in Mahogany or Blond at no extra cost. Impedance 8 ohms, Power Capacity 50 watts.

MIGHTY
MIDGET
Enclosure
A unique $8^{\prime \prime}$ speaker enclo. sure originally designed to demonstrate Diffusicone. 8 coaxial speak. coaxial speaker. Incorporates combination rear horn loading for unex. celled power handling with.
out distortion.

Model EN-E The EN- 8 uses a tuned horn mouth for phase inversion. hence, increased bass phaticiency. Only $285 / 9^{\prime \prime} \times 18^{\prime \prime} \times 12^{\prime \prime}$. The EN- 8 has cul-outs for the 4401 tweeter EN- 8 has cul-outs for

and $\operatorname{C8W}$
$8^{\circ}$
woofer. it may also be used ideally with University $8^{\prime \prime}$ coaxial and traxial speakers Available in Mahogany triaxial speakers Available in Mahogany
or 8 glond; also in unfinished Manogany or N - UU -Unfinished Mahogany $\$ 30.00 \mathrm{net}$ EM EM - Mahticany Mahogany $\$ \$ 48.00$ net EN 8C Mahagany
$\$ 48.00$ net


Madel EN-15 Enclosure
The EN-15 is a highly efficient enclosure capable of unusual power handling capacity and excellent transient response. It is designed for use with $12^{\prime \prime}$ or $15^{\prime \prime}$ single or multi - speaker

## Model EN. 15

 systems, having provision for mountıng tweeter, mid-range and woofer speakers. Adaptor boards (supplied) provide extreme flexibility. The EN-15 may be used in a corner or against a wall. Avarlable in Mahogany or Blond, Dimensions: $37^{\prime \prime} \times 28^{\prime \prime} \times 19^{1 \%}, \quad \$ 150.00$ netThe Bozak Loudspeakers and Speaker Sys－ tems are recognized as being the most suitable of any available today for use in wide－range，low－distortion music systems． The line includes only three basic units－ Treble，Mid－Range and Bass－all of which are of equal quality and compatible de－ sign．Each is designed solely for optimum performance in its range，and for use in multiples with other Bozak Speakers to form various two－way and three－way sys－ tems of power－handling capacities from 15 Watts up．Existing Bozak Speaker Sys－ tems may easily be expanded at any time by the addition of more Bozak units and without problems of balancing and level－ ing．Each Bozak Speaker System，properly mounted and powered，affers the finest transient respanse，lawest distartians，wid－ est usable frequency and dynamic ranges， that can be had at anywhere near its price． Experienced listeners agree that Bozaks are unrivalled for realism and listening ease． All Bozak Speakers，being of the direct－ rodiating type with gradual rolloff，are
completely compatible with each other No leveling controls or pads are required for use in multiples．The＂slow＂crossover rate of 6 db per octave is achieved through non－resonant networks that cannot cause the＂ringing＂（transient distortion）com． monly associated with sharp－cutoff networks． Mounting should be in on infinite baffe （large wall），or a true horn，or in a rugged， acoustically－lined，completely－enclosed box． Under no circumstances should a＂tuned＂ or resonant chamber be used for Bozak Speakers，becouse this type of enclosure destroys the perfect transient response in－ herent in the drivers，and introduces spur－ ious peaks that distort the smoath，rabust， true－pitch bass．
Associated Equipment must be af uni－ formly high quality throughout，because even a Bozak Speaker cannot compensate for deficiencies in the signal fed to it．Turn－
range of the bozaks extends well down into the 30 －cyc．e region．tine amplifier must have low disicr on uicer speaker load，as well as in sleau，．．．．．－esis，and should have a powe $a$ ar sast 20 Watts for a B－207A Cua；．．a and pro，sortionately higher for the ：arger iy－，em．
Efficiency is not a measure of quality，but ＂high efficiency is an indication of unbal－ anced response（specifically，too－heavy a mid－range）．Because of the uniformity and realism of their response throughout the entire audible range，Bozak Speaker Sys－ tems will not sound as toud as other sys． ems of similar size with equal inpuls of power．Therefare，in A－B Tests the amplifier gain should be adjusted sa that all speak－ ers sound equally loud；this will put＂effi－ ciency＂and quality in their proper relationship，and emphasize the realism and freedom from listening fatigue that distinguish the Bazaks．
BOZAK LOUDSPEAKERS

| Bozak Speakers | Range cps | $\begin{aligned} & \text { Impd } \\ & \text { ohms } \end{aligned}$ | Reson－ ance | Power Rating | Mntg Hole | $\underset{\text { Weight }}{\substack{\text { LDS }}}$ | Retail Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| B．200X Treble | $\begin{aligned} & 2000 \\ & 16,000 \end{aligned}$ | 8 | － | 15W＊ | $6^{\prime \prime} \times 3^{\prime \prime}$ | 23／4 | \＄30．00 |
| $\begin{gathered} \text { B-209 } \\ \text { Mid-Ronge } \end{gathered}$ | $\begin{aligned} & 200 \\ & 3500 \end{aligned}$ | $\begin{aligned} & 4.8 \\ & 16 \end{aligned}$ | nane | 50w＊ | $51 / 2^{\prime \prime}$ diom | $61 / 2$ | 48.00 |
| $\text { B. } 199 \text { A }$ <br> Bass | $\begin{gathered} 30 . \\ 4500 \end{gathered}$ | 8 | below $40 \mathrm{c}$ | 15w＊ | $111 / 2 \mathrm{l}$ diam | 8 | 49.50 |
| 8－200XA <br> Tweeter Array | $\begin{aligned} & 1500 \\ & 20,000 \end{aligned}$ | 8 | － | 50w＊ | $\dagger$ | 11／4 | 132.00 |
| 8－207A Canxial | Twa－way | $\begin{gathered} \text { System- } \\ \text { see } \\ \text { "Sys } \end{gathered}$ | ems' | low | 121／4＂diam | 13 | 82.50 | $\dagger$－Maunts autside waofer cavity．



B．310

BOZAK SPEAKER SYSTEMS

| Bozak Systems | Speaker |  | Complement |  | Impd ohms | Power <br> Rating | Network <br> ＊＊ | Enclosure |  | Retail Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | B－199A | B－209 | B－200X | B－200xA |  |  |  | Model | Vol cuft |  |
| 8－207A | 1 | － | 1 |  | 8 | 15 W | 4．mfd | E． 300 | 5 | \＄74．50才† |
| 8－302 | 1 | 1 | 1 | － | 8 | 20w | N－101 | B－302 | 7 | $290.00 \dagger+\dagger$ |
| B－305 | 2 | 1 | 2 | － | 16 | 30w | N． 102 | B． 305 | 8 | $390.00+$＋ |
| B－310A | 4 | 2 | － | 1 | 8 | 50W | N． 104 | B．310 | 18 | $795.00 \dagger \dagger \dagger$ |
| － | wa | bl | cro | r | nci |  | tit | Enclos | only； 3 | akers extra |

## ENCLOSURE SPECIFICATIONS

| Enclosures with Systems | Outside Dimensions |  |  | Weight lbs |
| :---: | :---: | :---: | :---: | :---: |
|  | hght | with | dipth |  |
| E．300 $\dagger$ | 301／2 | ＂x24＂ | $\times 17{ }^{\prime \prime}$ | 50ヶ† |
| B－302才† $\dagger$ | 39＂ | $\times 26^{\prime \prime}$ | $\times 181$ | $85 \dagger \dagger$ |
| B－305 $\dagger \dagger \dagger$ | 32 ＂ | $\times 361 / 2$ | ＂×181／2＂ | $110 \div \dagger \div$ |
| B－310tt $\dagger$ | $53^{\prime \prime}$ | $\times 36^{\prime \prime}$ | $\times 19{ }^{\prime \prime}$ | $250+t+$ |
| $\dagger-\mathrm{E}-300$ | sald | only w | hout spor | kers |
| $t \dagger$ Weig | witho | spe |  |  |
| ttt－Sold | with | speak |  |  |

NETWORKS

| Bozak <br> Networks | Used <br> with | Crossovers <br> cps | Impd <br> ohms | Retail <br> Price |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{4 - m f d}$ | B－207A | 2500 | 8 | $\$ 1.50$ |
| N－101 | B－302 | $800-2500$ | 8 | 25.00 |
| N－102 | B．305 | $800-2500$ | 16 | 25.00 |
| N－104 | B－310 | $400-2500$ | 8 | 37.50 |



# ATLAS 'DR' WEATHERPROOF DOUBLE-REENTRANT PROJECTORS 

## Non-Resonant * Uniform Response - Sturdy - Stormproof Compact - Demountable

The modified exponential taper developed in Allas projectors has proved most efficient for werall performance. Ali accustical paths are clean and uniform. Reilex turns are smooth ana flowing. These important features eliminaie turbulence, frequency cancellenon and iesultant signal distortion. Ruggedly constructed of leavy casting:, precisior slampings, accurate die castings and uniform metal sp nnings. All metal-to-metal surfaces insulated with non-
vibratory material. Bell nm dampened and mechanically protected with formed rubber rim. All metals sperally processed by chemical and electro-chemical rubber rim. All metals sperially processed by chemical and electro-chenica.
means to impart complete weathe:-protection. Heavy " $U$ " braciset mountings, means to impart complete weathe:-protection. Heavy "U" bracket mountings,
securely fastened to man pedy casing of each model, do not fail even under extreme stress, strcin or vibration. $1=8, 夕^{\prime \prime}-13$ thread. For greatest efficiency and low frequency response, the larger Eze horns are recommended. The smaller
horns are excellent where space and zost limitations pertain.

| Model | Air Column | Low Frequency | Lgth. | Diam. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| DR-32 | $21 / 2 \mathrm{ft}$. | 175 c.p.s. | 12 in . | 14 in. | \$26.00 |
| DR-42 | $31 / 2 \mathrm{ft}$. | 135 c.p.s. | 15 in. | 21 in . | 31.00 |
| DR-54 | $41 / 2 \mathrm{ft}$. | 105 s.p.s. | 18 in . | 23 in . | 43.00 |
| DR-72 | 6 ft . | 85 c.p.s. | 25 in . | 31 in. | 65.00 |

## ATLAS SUPER-POWER ALNICO-V-PLUS DRIVER UNITS

All models nclude Atlas "Alnico-V-Plus" super-eff1cient magnetic circuit magnetically shielded, hermetically sealed. One-piece unbreakable, high temperature and iatiguz - proof phenolic diapl.ragm. Deluxe PD-5VT and PD-8VT include built-in "Uni-Match" transformer for universal matching to constant impedance and constant voltage systems. All transiormer taps and direct voice coil connections are brought out to waterproof "termiral window" on rear of phenolic unit housing. 13/8" - 18 thread.


PD-5VH


| Model | Power | Impedance | Frequency | List |
| :--- | :---: | :---: | :--- | :---: |
| FD-4V | 25 watts | 16 ohms | $90-6000$ | $\mathbf{\$ 2 7 . 5 0}$ |
| FD-5VH | 25 watts | 16 ohms | $80-9000$ | $\mathbf{3 5 . 5 0}$ |
| FD-5VT | 25 watts | 16 ohms | $80-9000$ | $\mathbf{4 5 . 0 0}$ |
| PD-8VT | 39 watts | 16 ohms | $80-10,000$ | $\mathbf{5 0 . 0 0}$ |
| FD-8VL.. | 30 watts | 16 ohms | $80-10,000$ | $\mathbf{4 2 . 5 0}$ |



- Actral vorce coil impedance. "UniMatch" transformer offers 165, 250 $500,1000,2000$ ohms and variable 70-volt line connections
Identical to Model PD-8VT, but supplied less transformer.


RADIAL DRIVER UNIT PROJECTORS

- Non-Resonant - Dual Rubber Rims
- Uniform 360c Coverage
- $100 \%$ Stormproof

One of these models often -s more efficient for large and high noise level areas than several ordincty projectors. For sreech and music. All. chiminum smooth, uniferm response. Theecd 1 "发"-18. Use of H-2U 2-unit $\begin{array}{lll}\text { adapler doubles power ou:Flion. } \\ \text { application. } & \text { RC-8 } & \text { RC-6 }\end{array}$ .
Air Column $\qquad$
Bell Diameter …..........................................................................
Overall Ht. (incl. bracke1)..................................... $26^{\circ \prime}$
Low Frequency Cutoff.
$-\$ 53.50$


Input Power (cont.) 15 watts Input Impedance -...... 8 ohms Response $\qquad$ Dispersion

$\qquad$ $120^{\circ} \times 60^{\circ}$ Opening List . 45 imp $\$ 40.00$

- Indestructible Fiber-Glass
- All-Weather
- Wide Angle Dispersion

New, versatile, all-purpose Penetrating articulation as sures wide angle intelligibla coverage even under adverse sound conditions. Omni-directanal mounting bracket Amazing "power packages" -excellent for the 'tough' CJ-14
5 watts.
400.9000 cps
$120^{\circ} \times 60^{\circ}$
Opening, $91 / 2^{\prime \prime} \times 512^{\prime \prime}$ :
Overall Length, $81 / 2^{\prime \prime}$ $\mathbf{\$ 2 8 . 0 0}$

## ATLAS soum con

the complete line for every public address need!
ATLAS NEW ALNICO-V-PLUS PAGING AND TALK-BACK SPEAKERS


| Model | HU-12 | HU-15V | HU-24V | TP-15V | TP-24V |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Power* | 5 watts | 15 watts | 12 watts | 12 watts | 12 watts |
| Impedance | 8 ohms\# | 8 ohms + | 8 ohms + | 8 ohms + | 8 ohms + |
| Frequency | $\begin{gathered} 375-9000 \\ \text { c.p.s. } \end{gathered}$ | $\begin{gathered} 300-7000 \\ \text { c.p.s. } \end{gathered}$ | $\begin{gathered} 200-7000 \\ \text { c.p.s. } \end{gathered}$ | $\begin{gathered} 250-7000 \\ \text { c.p.s. } \end{gathered}$ | $\begin{gathered} 190-7000 \\ \text { c.p.s. } \end{gathered}$ |
| Length | $71 / 2 \mathrm{in}$. | 11 in . | $141 / 2 \mathrm{in}$. | $151 / 2 \mathrm{in}$. | 22 in. |
| D.ameter | $61 / 4 \mathrm{in}$. | $81 / 2 \mathrm{in}$. | 10 in . | $81 / 2 \mathrm{in}$. | 10 in . |
| Air Column | $131 / 2 \mathrm{in}$. | $161 / 2 \mathrm{in}$. | $\begin{aligned} & 24 \mathrm{in}, \\ & \text { ea. side } \end{aligned}$ | $\begin{aligned} & 101 / 2 \mathrm{in}, \\ & \text { ea. side } \end{aligned}$ | $\begin{array}{r} 27 \text { in. } \\ \text { ea. side } \\ \hline \end{array}$ |
| List | \$25.00 | \$32.50 | \$35.75 | \$47.50 | \$52.00 |



- Given pmorer ratings are con Servalive and are for contin uous inprit. Peak power rat ings may safely exceed this * Model HU 12 available in 45

These speakers irclude the newly developed, unbreakable, hermetically sealed driver units using the Alnico V-Plus magnetic circuit. As reproduzers, and as microphones in talk-back circuits, they provide $a$ maximum of eff:ciency. The new ball swivel mounting brackel oermits quick and simple directional adju:t ment in every position, horizontal and vertical. All-aluminum construction, fanish in high lustre gray enamel over electro chemically treatel surfaces.
Model HU-12-Subniniature speaser with high intelligibilıty at
SPEAKER SUPPORT STANDS
SS-2 - Folding le 3 s atomatically leve.
ort uneven ground.
Supports a clust or Supports a clust 3 r or speckers even candi:ions. Doub:e Gquinst protecticn against accident il sembly and legs assembly and legs a:e steel; clutches ard lonks are machined ren castincs. "Easyof ${ }^{\prime \prime \prime}$ " top fitting $p \in T$ removal of projecto: witheut tools. Fit. extension $5-10 \mathrm{ft}$. . lbs List $\$ 38.00$
20. HM-2 Horn Mountizs Azcessory - Perm ts Siand and theiorientation in any direction. No tocli. hreded for settinc List Price \$14,00

## TWO-WAY ENCLOSURE for $\mathbf{8 "}^{\prime \prime}$ Cone Speaker



TW-8


MODEL SS-2

MODEL SS-2 With HM-2

+ Availabic in 16 ohms.
Model HU-15V-Medium-size speaker that v--thstands consider able input power. Larre diaphragm and magnetic assembly Model HU-24V-Oversize speaker with oterioducers. longer air column, so that it also reprodures music with excelModel TP-15V-Dual speaker ideal for indmet-ial and talk-back Model $T P-24 V$ producing two-speaker resulte forr a single unit added efficiency, especially ot the with lariger air column fo

NEW WEATHERPROOF LINE MATCHING TRANSFORMER


Specifically designed for high efficiency and ease of installation, these new trans formers enable the mutching of the popu lar Atlas "TP" and "HU" paging and talk-back speakers to either constant voltage (70-volt line) or constant imped ance systems. The transformer taps elimi nate the need for complex computations. Protective housings are heavy steel. Double rubber grommsts and gaskets protect cable connecticus entering the hous ing. Convenient transformer bracket is easily integrated with speaker mounting bracket-no extra fastenings needed. Ere quency response assrares efficiency over entire range required, with a minimum insertion loss. Powe-handling capacity
of both models is $1:$ watts. Finish is in of both models is watts. Finish is in Model T-Il-Primary: 500, 1000, 1500, 2000 ohme Secondary: 4 and Model T-12-כrimary: 45 ohms. Secondary: 4 amel Ehist Price $\$ 8.50$ List Price $\$ 8.00$

## TWO UNIT TO ONE PROJECTOR



When it is necessary to obtain the greatest fcossible power output from a single projector, the H-2U is recommended. It permits the use of 2 driver units with any type of projector. Cast aluminum construction. Threads 13/8"-18.

List $\$ 11.00$

## PIPE STANCHION FITTING



DR" reentrant cir "RC" radial " U " brackets adapted 3,4 " ${ }^{\prime \prime}$ pipe fittings. This steel adapfer has holes prop bracket. All monanting bolts supplied Female $3 / 4^{\prime \prime}$ pipe thread. List $\$ 1.50$

HIGH-FIDELITY

## speakers

## FUIL-RANGE REPRODUCERS - DRIVERS



TRIAXIAL SPEAKERS
Exclusive features include concentric mounting of all elements for smooth room coverage; augmented bass response in conjunction with extended "silly" HF reproduction; tailored mid-ranse provides realism and "presence" at usual sound levels.

Adjustable AT37 brilliance control matches room acoustics. Includes crossover network. Edgewise wound voice coil design affords $18 \%$ more portion; heavy magnet structures.

Model 12TRXB. Integrated 3-way assembly completely wired with brilliance controt. Overall diameter $12 \frac{1}{}{ }^{\prime \prime}$. Resonance 45 cps . 20 watts. Magnet weight I bb . 2 oz. Response $35-15.000$ cps in recommended ARISTOCRAT enclosure. Mechanical crossover 2010 cps; builtin electrical crossover 3500 cps. Depth be 13 lbs. List price ( $\times 36$ not required) . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 99.50$

Model 12TRX. Overall diarieter $121 /{ }^{\prime \prime}$. Resonance 40 cps .25 watts. Magnet weight 31/2 lbs Response $30-15,000 \mathrm{cps}$ in recommended Aristocrat enclosure. Mechanical cressover 2500 cps ; electrical crossover 3500 cps . Depth behind mounting panel $8^{\prime \prime}$. Impedance 16 ohms. Sens. rig. 49 db . Shpg. wt. 32 lbs .

Model 15 TRXB. Integrated 3 -way assembly completely wired with brilliance control. Overall diameter $151^{\prime \prime}$. Resonance 38 cps. 20 watts. Magnet weight I lb. 2 oz. Response $30-15,000 \mathrm{cps}$ in recommended Regency enclosure. Mechanical crossover 2000 cps. Ale trical crossover 3500 cps . Depth behind mounting panel $75 / x^{\prime \prime}$. Impedance 16 ohrns. Sens. reg. 47 db . Ships. wt. 15 lbs .
List Price ( $\times 36$ not required) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 130.00$
Model 15 TRX. Overall diameter $151 / \mathrm{m}$. Resonance 40 cps .30 watts. Magnet weight $5 \% / \mathrm{lbs}$. Response $30-15,000 \mathrm{cps}$ in recommended REGENCY enclosure. Mechanical crossover 2000 cps; electrical crossover 3500 cps . Depth behind mounting panel $91 \mathrm{~s}^{n}$. Impedance 16 ohms. Sens. rig. 51 db . Ships. wt. 48 lbs . List Price with X 36 and AT 37

## LOW FREQUENCY DRIVERS



Model 12BW. 12-inch LF driver. Resonance 45 cps . As used in EV 108 System. 1 lt . Alnico V mag. net. Sens. $^{\prime 2}$ ti $^{\prime \prime}$ dance, Sens, the the opening, o' $^{\prime \prime}$ depth behind mtg. panel. Shag. wist Price.
$\$ 49.50$
Model 12W. 12 -inch LF driver. Resonance 40 cps. 3 lb . Alnico $V$ magnet. $20-30$ watts. 16 ohms impedance. Sons. rig. 48 dit. opening. $71 / 2 \%$ depth behind mtg. opening. List Price.
$\$ 95.00$
Model 12WK. Same as 12W but 3.2 ohms d.c. (for Klipsch "K" type baffles). 16 ohms nominal impedance.

Model 15 BW . 15-inch LF criver. Resonance 38 cps . 1 ib . Alnico V magnet. 15.20 watts. 16 ohms imperiance. Sens. rig. 46 db . $151 / \mathrm{k}$ diam., $131 / 2^{\prime \prime}$ max. baffle opening, -5 "" depth behind mig. panel. Shag. wt. 12 lbs .
List Price. .
. $\$ 65.00$
Model I5BWK. Same as I5BW but 3.2 ohms d.c., (for Klipsch "K" type baffles). 38 cps resonance, 16 ohnis nominal impedance.

Model 15 W . 5 -inch LF driver. Resonance 30 cps . 51/4 ib. Alnico $V$ magnet. 20.30 watts. 16 ohms impedance. Sens. rig. 50 db . 15 ]," diam., $131,2^{\prime \prime}$ maximum baffle opening. $9^{\prime \prime}$ depth behind mtg, panel. Shag. wt. 41 lbs.
isp Price................................. . . . . . . . . . . . . . . . . . . . . . . . . . . . .$\$ 130.00$

Model 15WK. Same as 15 W but 3.2 ohms dc, 29 cps resonance (for Klipsch "K" type baffles). 16 ohms nominal impedance.

Model 18W. 13 -inch LF driver. Resonance $27.30 \mathrm{cps} .51 / 4 \mathrm{lb}$. Alnico V magnet. $20-30$ watts. 16 ohms impedance. Sens. rig. 53 db . $181 / 4^{\prime \prime}$ diam., $16 \frac{1}{2 \prime \prime}$ max. baffle opening, $10^{\prime \prime}$ depth behind mtg. panel. St.pg. wt. 43 lbs .
List Price. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .
.$\$ 150.00$
Model 18 WK . Same as 18 W but 3.2 ohms dc, $24-27 \mathrm{cps}$ resonance (for Klipsch ''K" type baffles). I6 ohms nominal impedance.
${ }^{40}$ far
Electiovorice

## RADIX COAXIAL SPEAKERS



Discovery of the E.V RADAX Principle provides an economical and super efficient method of ut lizing two disparate coaxially mount while both operate from scrum while both operate from only single voice coil.
Built-in mechanical crossover from the low-frequency cone to the hist frequency propagator permits design of each cone for optimum response: This provides a true coaxial two-way speaker system that assures clean sparkling wide-range reproduction Frames are extra sturdy. Bot speaker cones are moisture inhibit:
Model SP8B Radax Super-Eight. 8 -inch coaxial speaker. Resonance fo cps. 15 -20 watts. Response $35 \cdot 13,000 \mathrm{cps}$. 16 ohms impedance. Sens, 1 th opening. $43 / 4$ " depth behind mtg. panel. Shpt. wit. 8 lbs. List Price $\$ 47.50$ Model SP12B Radix Twelve. 12 -inch coaxial speaker. Resonance 45 cps. $15-20$ watts. Response $30 \cdot 13,000 \mathrm{cps} .16$ ohms impedance. Sens. ry. th db . Crossover, 4500 cps . I lb. Alnico V magnet. $121 / 4^{\prime \prime}$ diam., $11^{\prime \prime \prime}$ hatil. opening. $\mathbf{F}^{3 / 40}$ depth behind mtg. panel. Shpg.wt. 11 lbs. List Price $\$ 49.50$ Model SP 12 Radax Super-Twelve. 12 -inch coaxial speaker. Resonance 40 cps . 25 watts. Response $30.13 .000 \mathrm{cps}, 16$ ohms impedance. Sens, rt opening, $71 / 2^{\prime \prime}$ depth behind mtg. panel. Shpt. wt. 25 lbs. List Price $\$ 95.00$ Model SPI5B. 15 -inch coaxial speaker. Resonance 38 cps. $15-20$ watts. Response $30-13,000$ cps. 16 ohms impedance. Sens. rig. 47 db . Crossover,
 Model SPI5 Radax Super-Fiffeen. 15 -inch coaxial speaker. Resonate 40 cps . 30 watts. Response 30.13 .000 cps . 16 ohms impedance. Sens. rte, 30 db . Crossover, 3000 cps . $51 / 4 \mathrm{lb}$. Alnico V magnet. $151 / \mathrm{g}^{\prime \prime}$ diann., 131 " baffle opening. $9^{\prime \prime}$ depth behind mtg. panel. Shag, wit. 41 lbs.
List Price.
$\$ 130.00$
COAXIAL MID-RANGE DRIVER


848 HF

Model $8 \mathbf{8 4 8 1 F}$. Coaxial compression type mid-bass and treble assembly 25 watts from $300 \cdot 10,000$ cps. Acous tical crossover 1000 cps . $1 / 2 \mathrm{jb}$. mag. net in close tolerance gap of high flux density; impedance 16 ohms Sens. rig. $51^{\prime} \mathrm{db}$. Size $201 / 2^{\prime \prime} \mathrm{w}, 10^{1}$, h., $20^{\prime \prime}$ depth overall. With mount in hardware. Shpg. wt. 15 lbs. Lis! Price ................ $\$ 80.00$

## HIGH FREQUENCY DRIVERS



Model T10A. HF driver. 20 watts. Response $400 \cdot 1$. .lull ens, db . $1 / 2 \mathrm{lb}$. Alnico $V$ magnet $33 / 4^{\prime \prime}$ diam. $31 / 4^{\prime \prime}$ dep. That diam. $7 / 8^{\prime \prime}$. Shag. wt. F Ihs. 87.50
Model T25A. HF driver. $20-30$ watts. Response $400 \cdot 13,000 \mathrm{cps}$. Impedak 16 ohms. Sens. rtg. 53 db . I Ib. Alnico V magnet. $38 / 4^{\prime \prime}$ diam., 4 Kin deep. Threat
diam. $7 / \mathrm{B}^{\prime \prime}$. Shag. wt. 8 lbs . List Price .................................... $\$ 95.00$

## SUPER SONAX VHF DRIVERS



At least one more octave of silk V highs is afforded by super-sothax VHF drivers. Response 3500 cps to be version audible range. Wis.

Model T35B. For systems with speakers using smaller magnet size. Sens. reg. 53 db . X 3 o crossover required. Horn $41 / 2^{\prime \prime} 1,11 /{ }^{\prime \prime}$ w; pot size $13 / 4$ " diam..
List Price.
$\$ 35.00$
Model T35. For high efficiency systems. Higher sensitivity rating 56 dh.


## HIGH-FIDELITY

 systems
## SEPARATE MULTI-WAY SYSTEMS

Model 108. As used in Aristocrat 1. Separate 2-way system, 800 -cps crossever Consists of 12 BW LF driver. T10A HF driver with 8 HD horn, X 825 crossover, AT37 level control, mounting kit, cable harness, baffe board. Can be used in custom installations. Size $27^{\prime \prime} \mathrm{h}, 18^{\prime \prime} \mathrm{w}, 1212^{\prime \prime} \mathrm{d}$. Shps. wt. 39 lb . List Price, less cabinet.

Model 108A. As used in Aristocrat 1A. Identical to 108 except with addition of T35B VHF driver, X36, AT37. Shpg. wt. 50 lb
Lis! Price, less cabinet.
Model 11 . As used in Aristocrat Il. Deluxe separate 2 .way
Model 111. As used in Aristocrat II. Deluxe separate 2-way system, $800-\mathrm{cps}$ crossover. AT37 level control, mounting kit, cable harness, baffe board. Size $27^{\prime \prime} \mathrm{h}$, $18^{\prime \prime}$ w, $12 \frac{1}{2 \prime \prime} \mathrm{~d}$. Shps. wt. 55 lb . List Price, less cabinet......... $\$ 227.00$ Model IIIA. As used in Aristocrat 111 . Identical to 111 except with addition of T35 VHF driver, X36, AT37. Shps. wt. 68 lb .
List Price, less cabinet
$\$ 352.00$
Model 116. As used in Regency 1. Separate 2-way system, 800 ocps crossover. Consists of 15 BW LF driver, T10A HF driver with 8HD horn, X 825 crossover, AT37 level control, mounting kit, cable harness, baffe board. Size $26, \delta^{\prime \prime} \mathrm{h} .321$, " w, $121 / 2^{\prime \prime}$ d. List Price, less cabinet. .......................................... $\$ 199.50$ Model 116 A. As used in Regency IA. Identical to $1 / 6$ except with addition of T35B VHF driver, X36, AT37. Lisi Price, less cabinet................. $\mathbf{\$ 2 5 4 . 5 0}$ Model 114 A. As used in Regency 11 . Deluxe separate 2 -way system, 800 ccps crossover. Consists of 15 W LF driver, T25A HF driver with 8 HD horn, X8 crossover, AT37 level control , mounting kit, cable harness, baffle board. Size $265 / 8^{\prime \prime} \mathrm{h}, 3212^{\prime \prime}$ w, $131 / 2^{\prime \prime} \mathrm{d}$. Shpg. wt. 95 Ib . List Price, less cabinet.... $\$ 312.00$
Model 114B. As used in Regency III. Identical to II4A except with addition of T35 VHF driver, X36, AT37. Shpg. wt. 107 lb . Lis! Price, less cabinet. $\$ 387.00$


105 in 106


106

$103 C$ in 115


108


111


1148

Model 117 Package. Driver components only, as used in Centurion. Inclucies complete instructions for constructing exclusive Electro-Voice "W" single-path bass section. Consists of 15 BWK LF driver, 847 HF coaxial mid-range assemb; $y$ T35B VHF driver, X 336 crossover network, two AT37 level controls , cable
harness. AVAILABLE SOON.

Basic "W"' LF Driver Horn only as used in Centurion. For 15EWK driver unit; painted fiat matte black. Size approximately $34^{\prime \prime} \mathrm{h}, 27^{\prime \prime} \mathrm{w}, 20^{\prime \prime} \mathrm{d}$.
AVAILABLE SOON.

Model 105 Pockage. Driver components only, as used in Georgian. Includes complete instructions for constructing "K" bass section anc suter furniture housing for Georgian. Consists of 15 WK LF driver, 848 HF coaxial mid-range assembly. T35 VHF driver. X336 crossover network, two AT37 level controls cable harness. Shpg. wt. 97 lb . List Price. . . . . . . . . . . . . . . . . . . . . . . . $\$ 342.00$

Model 106. Klipsch "K" bass horn only as used in Georgian. For I5WK LF driver; painted flat matte black. Size $38 \frac{1}{2 \prime \prime} \mathrm{~h}, 321 / /^{\prime \prime} \mathrm{w}, 22 \frac{3}{4 / 4} \mathrm{~d}$. Shpg. wt. 97 lb

Model 103C Package. Driver components only, as used in P.strician. Includes complete instructions for constructing "K' bass section. Consists of 18 WK VLF driver, two 828 HF drivers with two A8419 LF horn sections, T25A HF driver with 6HD horn, T35 VHF driver, X2635 crossover network, three AT37 level controls, cable harness. Shpg. wt. 106 lb.

Model 115. Klipsch "K" basic VLF driver horn only, as used n Patrician. For 18WK VLF driver; includes mid-bass horn bell for LF iora sectoons. Painted flat matte black. Size $573 / 4^{\prime \prime}$ h. $371 / 2^{\prime \prime}$ w, 271/4" d. Shpg. wt. 150 lb .

## CROSSOVERS

All EV crossovers use high- $Q$ air core coils. Low insertion loss, phase rotation $270^{\circ}$ $\left(135^{\circ}\right.$ in X825) attenuation 12 db per octave in $1 / 2$ section, 6 db per octave in $1 / 4$ sectioh crossovers.

Model Xa25 Crossover as used in EV 108 system. $1 / 4$ section. Crossever pointe 800 cps . Impedances 16 ohms in and out. Size $5^{\prime \prime} \times 7^{\prime \prime} \times 2^{\prime \prime}$. Shps. wt. 3 lb .

Model X8 Crossover. $1 / 2$ section. Cressover point, 800 cps . Impedances 16 ohms in and out. Size $4 \frac{5}{8^{\prime \prime}} \times 8 \frac{1}{4^{\prime \prime}} \times 5 \frac{1}{2} 2^{\prime \prime}$. Shpg. wt. 5 lb . List Price . . . $\$ 50.00$

Mode! X6 Crossover. $1 / 2$ section. Crossover point, 600 cps . Impedances 16 ohms in and out. Non-metallic container measures $4111_{6}{ }^{\prime \prime} \times 91^{\prime \prime} \times 6^{\prime \prime}$. Shps. wt. 7 lb . Model X336 Crossover desisned for GEORGIAN systems. Crossover points at 300 and 3500 cps . 1 mpedances 16 ohms in and out; non-metallic container Size $4411_{10} \times 914^{\prime \prime} \times 6^{\prime \prime}$. Shpg. wt. 9 lb . List Price...................... . $\$ 65.00$
Model $X 2635$ 4-Way Crossover. $1 / 4$ and $1 / 2$ sections. Crossover points. 200, 600, and 3500 cps . lmpedances 16 ohms in and out. Non-metallic container; size
$43 / 4=10^{\prime \prime} \times 8^{\prime \prime}$. Shpg. wt. 11 lb . List Price............................ $\$ \mathbf{1 2 0 . 0 0}$


Model X36 Crossover. Recommended for use with T35 and T35B. $1 / 2$ section. Cressover peint. 3500 cps . Impedances 16 ohms in and out. Metal case. Size
 List Price...........................

## DIFFRACTION HORNS

Model 8HD Diffraction Horn. New principle provides perfect dispersion of hish frequencies through a $120^{\circ}$ solid angle. Actual cutoff 600 cps , crossover 800 cps , eliminating cutoff disturbances. Made of fiberglass. For T10A and T25A drivers. $33 / 8^{\prime \prime} \mathrm{h}, 141 / 4^{\prime \prime} \mathrm{w}, 71 / 2^{\prime \prime} \mathrm{d}$. Mounting hardware included. Shpg. wt. 4 lb. List Price.
. . . $\$ 27.00$
Model 6HD Diffraction Horn. For systems utilizing 600 cps crossover. Horn designed with actual 400 cps cutoff; prevents response disturbances associated with operation too near actual cutoff point. Diffraction principle effects $120^{\circ}$ dispersion. $31 / 2^{n} \mathrm{~h}, 1984^{\prime \prime} \mathrm{w}, 12^{\prime \prime}$ d. For T10A and T25A drivers. Mounting
hardware included. Shpg. wt. 6 lb . List Price............................... $\$ 35.00$
$\$ 35.00$

$$
\text { Model AT37 Level Control, } 160 \mathrm{hm} \text { "L" "pad. For use with T35, T35B, T10A }
$$

T25A, 848 HF drivers and similar applications. Adjusts ouput level to individua


8HD


AT37

HIGH-FIDELITY

## enclosures

COMPATIBLE SYSTEMS


THE BARONET
THE SKYLARK


THE ARISTOCRAT
THE REGENCY


## is fanercfociet tan <br> Electrovorice

## NEW CONCEPTS IN HIGH-FIDELITY LOUDSPEAKER ENCLOSURES AND SYSTEMS

The Baronel. For EV or other $8^{\prime \prime}$ speaker. Response down to 35 cps . Con
$\begin{aligned} & \text { servative styling with graceful sloping front. Hand-rubbed hardwood veneers. } \\ & \text { Can be used anywhere. Size } 22^{7} \mathrm{~m}^{\prime \prime} \mathrm{h}, 141 . \text {, }^{\prime \prime} \text { w, } 138 /^{\prime \prime} \mathrm{d} \text {. Shpg. wt. } 24 \mathrm{lbs} \text {. }\end{aligned}$
Can be used anywhere. Size $22^{7} 8^{\prime \prime} \mathrm{h}$, $141.2^{\prime \prime}$ w, $138 /^{\prime \prime} \mathrm{d}$. Shpg. wt. 24 lbs
Mahogany cabinct only - List Price
Blonde Korina cabinet only - List Price.

The Skylark. 3.way speaker system in attractive functional design for book case or table use, vented with two tapered low-frequency ports to properly feed T35B VHF driver from 3500 cps 10 beyond 10 ge of feeds T35B VHF driver from 3500 cps to beyond range of audibility. Britliance control*. Impedance 16 ohms; sens. rtg. 44 db . Size $14^{\prime \prime} \mathrm{h}, 33^{\prime \prime} \mathrm{w}, 108 / /^{\prime \prime} \mathrm{d}$,
$113 / 4^{\prime \prime \prime}$ high with legs removed. Shpg. wt. 32 lbs .
Mahogany complete - Lisf Price...

## $\$ 149.50$

The Arisfocpal. For EV or any full range 12" speaker or EV separate 2 or 3-way systems, without modifications. Unusually smooth reproduction down to 35 cps . Selected mahogany veneers. Brushed brass grill. Size 295/8" h, $19^{\prime \prime}$ w, $16 /{ }^{5} \mathrm{~m}^{\prime \prime} \mathrm{d}$. Shpg. wt. 38 Ibs.
Mahogany cabinet only - List Price. . $\qquad$ $\$ 110.00$
Blonde Korina cabinet only - List Price. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 120.00$
Aristocral t. Includes EV Model 1082 -way system completely wired and installed in Aristocrat enclosure. Shpg. wt. 56 !bs.
Mahogany complete - List Price. . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 299.00$
Blonde Korina complete- List Price $\$ 299.00$
$\$ 309.00$

Aristocrai IA. Complete 3 -way system. Consists of Model 108A separate 3-way speaker system completely wired and installed in Aristocrat enclosure.
Mahogany. Audiophile Net . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 354.00$
Blonde. Audiophile Net .
.$\$ 364.00$

Aristocrof II. Includes EV Model 11| deluxe 2-way system completely wired and installed in Aristocrat enclosure. Shpg. wt. 70 lbs.
Mahosany complete - List Price.
.$\$ 392.00$
Blonde Korina complete - List Price .$\$ 402.00$

Aristocrol 111 . Includes EV Model 111A 3-way system completely wired

Mahogany complete - List Price.

$\$ 467.00$
$\$ 477.00$

The Regency. For EV or other $15^{\prime \prime \prime}$ speaker, or EV 2 or 3 -way systems, without modifications. Has integral "built-in corner". Can be used in corner or against flat wall. Response essentially flat to $30^{\circ} \mathrm{cps}$. Selected mahogany vencers. Grill in brushed brass finish. Size $2958^{\prime \prime} \mathrm{h}, 331_{2^{\prime \prime}}$ w and $19^{\prime \prime} \mathrm{d}$. Shps. wt. 88 lbs.
Mahovany cabiner only-List Price. . . . . . . . . . . . . . . . . . . . . . . $\$ 200.00$
Blonde Korina cabinet only-List Price. . . . . . . . . . . . . . . . . . . . . . $\$ 215.00$
Regency I. Includes Model 116 separate 2 -way system. Completely wired and installed in Resency enclosure. Shipping wt. 125 lbs.
Mahogany complere - List Price. . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 404.50$
Blonde Korina complete - List Price $\$ 419.50$

Regency IA. Includes Model 116A separate 3 -way system. Completely wired and installed in Resency enclosure. Shipping wt. 130 lbs.

Mahosany complete - List Price...

Regency II. Includes Model 114A separate 2-way system. Completely wired and installed in Regency enclosure. Shps. wt. 130 lbs.
Mahogany complete - List Price..
.$\$ 517.00$
.
Regency III. Includes EV $114 B$ 3-way system completely wired and in. stalled in Regency enclosure. Shpg. wt. 135 lbs .
Mahosany complete - List Price. . . . . . . . . . . . . . . . . . . . . . . . $\$ 59200$
Blonde Korina complete - List Price ........................................ $\$ 607.00$

## NEW CONCEPTS IN HIGH-FIDELITY LOUDSPEAKER ENCLOSURES AND SYSTEMS

The Centurion. Complete 4 -way system incorporating all design features of the magnificient Electro-Voice Georgian, but on a smaller scale. Uses exclusive E-V "W" single path indirect radiator folded horn with 15 BWK LF driver from $30-300 \mathrm{cps}$. X 336 crossover feeds 847 HF coaxial mid-bass and treble assembly with acoustical crossover at 1500 cps . $3500 \cdot \mathrm{cps}$ section of X 336 feeds T35B VHF driver to beyond audibility. Two AT37 level controls for presence and brilliance. Sensitivity rating 48. Power handling, 15 watts programı material, 30 watts peak. Size $40^{\prime \prime}$ h. $30^{\prime \prime} \mathrm{w}, 22^{\prime} \mathrm{a}^{\prime \prime}$ d. AVAILABLE SOON.

The Georgion. A complete t-way system of exceptional cleanliness in handsomely styled cabinet of medium proportions. Uses Klipsch "K" indirect radiator folded corner horn with I5WK LF driver from $30-300 \mathrm{cps}$. X336 crossover feeds 848HF coaxial middbass and treble assembly with acoustic crossover at 1000 cps. 3500 -cps section of X 336 feeds T35 VHF driver to beyond audible range. Two AT37 level controls adjust presence and brilliance to balance room acoustics. Sens. rts. 51 db . Power handling: 35 watts program material, 70 watts peaks. Size $53^{\prime \prime}$ h. $34^{\prime \prime}$ w. $26^{\prime \prime}$ d. Shpg. w. 290 lbs .
Mahogany complete - List Price
. $\$ 825.00$
Blonde Karina complete - List Price .
.$\$ 858.33$

Model 107. Georgian outer decorative furniture housing only. Shpg. wt. I47 Ibs.
Mahogany without reproducer components - List Price. . . . . . . . . . . $\$ 333.00$ Blonde Korina without reproducer components - List Price........... $\$ 366.33$

Model AK3 Georgion Accessory Kit. Consists of Ceorgian srille and two decorative handles.
$\qquad$

The Potricion IV. Complete 4 -way speaker system in custom-crafted corner cabinet for very finest in reproduction. Divides audio spectrum between four drivers, each specifically designed for distortion-free fidelity. Includes EV 18 WK $18^{\prime \prime}$ LF driver; two E-V 828 HF drivers for mid bass, each with an A8419 LF phenolic horn section, T25A treble driver with 6HD horn, T35 super twevter, three AT37 level controls, X2635 4-way crossover. Crossover frequencies 200. 600 and 3500 cps . Entire system wired and installed in elegant cabinet of selected woods and beautiful inlays. Heirloom finish in exquisite hand-rubbed mahogany or Korina. Size $62^{\prime \prime} \mathrm{h}, 39^{\prime \prime}$ w, $29^{\prime \prime} \mathrm{d}$. Shpg. wt. 390 lb .
Mahogany or Blonde - List Price . . . . . . . . . . . . . . . . . . . . . . . . . . . 1287.50

The Peeroge Equipment Console. A beautiful and practical console designed to house any combination of the popularly known tuners, amplifiers and record chansers. Simple. sraceful styling harmonizes with EV speaker enclosures and lends itself to any contemporary setting. Supplied with list of tuner, amplifier and changer combinations which can be installed. Size $29.58^{\prime \prime} \mathrm{h}, 20^{1} \mathrm{~g}^{\prime \prime} \mathrm{w}$ and $183^{3 / 4} \mathrm{~d}$. Shpg. wt. 61 lbs .
Mahogany cabinet only-List Price . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 160.00$
Blonde Korina cabinet only-List Price . . . . . . . . . . . . . . . . .

The Piccolino. Compact housing for T35 or T35B driver, X 36 crossover, and AT37 level control. An attractive addition to any $\mathrm{Hi}-\mathrm{Fi}$ installation; provides silky, extended high frequencies for better listening. Lumite grille cloth. Size 63 sh h, $8^{\prime \prime}$ w. $58^{3} 8^{\prime \prime}$ d. Shps. wt. 6 lbs .

Mahogany or Blonde Korina cabinet only - List Price
.$\$ 15.00$


THE CENTURION


THE PATRICIAN
the peerage


HIGH-FIDELITY

## p. a. projectors

MATCHED ACCESSORIES

## Public Address Loudspeaker System for perfect

## VOICE PENETRATION AND FULL RANGE MUSICASTING

The COMPOUND DIFFRACTION PROJECTOR* provides a loudspeaker system so advanced in concept-so efficient in performance that there is no basis for comparison with conventional P.A. reentrant horns. The "CDP" works in the same manner as an optical slit. When the slit width is of a shorter dimension than the wave length of the sound it passes, the sound energy is highly dispersed in the direction of this short dimension. Polar response of the "CDP" is phenomenal.
An increase in efficiency of three db over multi-cellular horns is achieved with better dispersion. There is no pinpointing effect since there are no cells to beam the sound path. Eliminafion of multiple throats at the driver mouth permits sreater hich-frequency efficiency as compared to multi-cellular horns. The direct path and optimum throat dimension of the "CDP" also has these advantages over the reentrant horn resulting in a greater transfer efficiency and smooth extended hishofrequency response.
The Model 848 "CDP" provides peak-free response $\pm 5 \mathrm{db}$ to $10,000 \mathrm{cps}$-delivers 21 octaves more musical range than usual P.A. units of even larger size. Speech arriculation index is substantially increased. Polar distribution pattern exceeds $120^{\circ}$. The Model 848 utilizes two coaxially mounted horns working from opposite sides of a single diaphragm. Each horn is designed for taper. which insures at least one-half octave added bass over that possible from larger contaper. Whith insures
ventional P.A. horns.
The "CDP" bell and diaphragm are fabricated of molded fiberglass. Other parts are die-cast zine and steel treated against corrosion. Edgewise-wound copper ribbon voice coil puts $30 \%$ more conductor in the gap, raising the efficiency $200 \%$. In EV tests the "CDP" driver has been subjected to months of continuous cperation under 30 watts of power at 60 cycles $A C$ without failure for any reason wharsoever. Should it become necessary, the diaphragm is easily replaced in a moment. Silver contacts eliminate the need for soldering operations.
The "CDP." with its hisher sensitivity and power handling on a basis of distributed signal, provides superior coverage of the listening area with fewer unuts and at far lower cost. The CDP", unit is weather-proof, snlash and blast proof, and virtually indestructible. It represents something so entirely new in public address efficiency and fidelity that it is indecd hard to believe such reproduction is possible.


## MODEL 848 COMPOUND DIFFRACTION PROJECTOR

Conservatively rated at 25 watts. Nominal impedance is 16 ohms. The attractive neutral sray color is molded right into the bell material, which is impervious to acids. alkalies and most solvents. Hans up bracket has two mountins positions. Prosector may be installed horizontally, or vertically for ausmented dispersion. Dimensions at mouth: $10^{\prime}$, $2^{\prime \prime}$ wide, $20^{\prime}$. $2^{\prime \prime}$ high. Overall
depth $20^{\prime \prime}$. Shipping weight 17 Ibs , List Price. . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 69.50$

## ACCESSORIES

Model 87625 Waff Line Matching Transformer. In protective case for mount ng on rear of Model 848 System. Primary aps for 2000 ohms. Transformer bypasses frequencies below Model 848 Horn cutoff. Casc extends $31.2^{\prime \prime}$ behind Projector when mounted. 51, maximum diameter. Shipping weisht 3 lb . List Price . . . . . . . . . . . . . . . . . . . . . . $\$ 16.50$ Model 877 Line Motching Transformer Same as Model 876, but with added full-ranse hermal bimetalic relay for maximum pro ection against overlcad. Size: same as Model 876. Shupping weight 3 lbs.

List Price. . . . . . . . . . . . . . . . . . . . . . \$17.50
Model 878 Bass and Thermal Overload Profector. Prevents distortion and excessive diaphrasm excursion due to frequencies below Model 848 horn cutoff. Automatically reduces power to driver when 25 watt limit is exceeded without turning unit off and allows operation to continue. When overload clears the Model 878 restores full power to driver. Mounted in case similar to Model 876 Transformer. Shipping weight 3 1bs.

Model 879" Joining Kir. Required for fasening multipic propectors together in any array; use one Model 879 k it for each june. tion betwcen herns. Shipping wersht I lb.

*Design Potent 169,904 Additionol Potent Pending


SIMPLE MULTIPLE JOINING USING 879 JOINING KIT



THE 175DLH HIGH FREQUENCY ASSEMBLY
with the Koustical Lens

 Kount is distributal smosthly wry a solial $\boldsymbol{m}^{\circ}$ ansle to all points in


 Which includes a high-precision hish treduence driver, machined pure iron




User Net $\$ 118.50$

## COMPLETE TWO-WAY SYSTEM KITS

The D001 and D050 speaker systems can be purchased as a kit for installation in your own cabinet or for built-in installations.


 2-130B .............15" low frequency unils 1-175 DLH

1-N1200
1-N1200 wingut
himh frequens Iriver and horn-lifls iss.mbly .............dividing net work User Net \$299.25

EXTENDED RANGE SPEAKERS


| D208, 8 ohms D216. 16 ohms User Net $\$ 25.92$ | ה |  | $\begin{aligned} & \text { E } \\ & \stackrel{n}{0} \\ & \infty \\ & \infty \end{aligned}$ | $\begin{gathered} \dot{0} \\ \vdots \\ \vdots \\ \dot{0} \\ \infty \\ 0 \end{gathered}$ | $\begin{aligned} & = \\ & \frac{\pi}{\infty} \end{aligned}$ | $\begin{aligned} & \text { N } \\ & \underset{\sim}{N} \end{aligned}$ |  | ${ }^{\ddagger}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

ENCLOSURES All Jim Lansing enclosures are furnished separately, or with systems factory installed. Enclosures to be used with Jim Lansing General Purpose Speakers must be ordered separately and will be shipped separately. All enclosures are available in Magohany, Prima Vera Blond or Utility Gray finishes. Prices listed below are for mahogany only. Weights listed are for enclosures only.


C31 Front Exponential Horn Enclosure
For use with the 050 sustem only.
Height
..... $49^{\prime \prime}$
Pepth widu ..........28" shipuing $1{ }^{\circ} \mathrm{t}$. 157 ll s

Malurgaw, emelosure anly User Net $\$ 240.00$


C30 The HARTSFIELD For use with the 08: Heatre componemts systum. Experts chaic.o for himpl, filelity "Dream set." Wripht …..........45\%"
 Shipping Wt.... 199 Its. Silugany. enelusurr unly User Net $\$ 309.00$


C34 Folded Rear Exponential Horn Enclosure for flat wall or corner For use wiols the olol swisem or D131 Feneal Purpose Npoakers.
Ifriplst ............. $3933^{\prime \prime}$



User Net $\$ 135.00$


C35 Console Reflex Enclosure
Fior use with the 0 apo or foll systems. or the 11130 or 11131 Cen. "ral Purpuse spuaksors. Hright …........ 381/9,
 shippint Wt. ....s.s lts.

Wahogany, enclosure maly User Net $\$ 96.75$


C36 General Purpose Reflex Enclosure For use with the boon D130 ar I)131 Gem ral lourpose Sipakers Hublut
1forirht
withont legs .... 23 3/4" lyemb
 chium wis 1 ! $\boldsymbol{R}^{8}$ Mahogaty enclusime anly User Net ; 5\%. 30

## Clutron The Choice for Vaice

| Stondord Group PERMANENT MAGNET SPEAKERS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { SIZE } \\ & \text { INCHES } \end{aligned}$ | CATALOG NUMBER | Magnet WEIGHT OUNCES | vOICE COIL SIZE \＆IMPEDANCE | WATTS | MOUNTING HOLE CENTERS INCHES | DEPTH <br> INCHES | LIST PRICE |
|  | （3） | I＇M－3A | ．tis |  | $2-1$ |  | $13: 4$ | \＄3．43\％ |
|  | $i$ | 1＇M．4．1 | ，ii， | 3.2 uhms i＂，＂ | $\because-1$ | 3） $10 \times 3$ \％ | $1 \%$ | 3 SN |
| － | 1 | 19－4＇3 | $\because$ |  | $\cdots$ | $\because$ is x 3 | 1 \％ | 3．9\％ |
|  | 4 | 13I－＋3 | 1.110 | $3 . \geq$ whms ${ }^{2}$ an | －-1 |  | \％${ }^{1 / 10}$ | 1.111 |
| 48 | 1 | MM－40 | 1．4\％ | 3.2 whms if＊ | $2 \cdot 4$ | 0 ：${ }^{3}$ | $\cdots$ | 1．510 |
| $\cdots$ | $\therefore$ | 1＇M－̇． | tis | ：3．2 whims＂．＂，＂ | －-1 |  | － 3 | 4.111 |
|  | $\therefore$ | 1－sp－j｜ | $1.1+11$ | 3，$\because$ uhms ${ }^{\circ}+$ | －-1 |  | － | 1.30 |
|  | ； | $1 \mathrm{M}-\mathrm{il}$ | 1．4\％ | 3.2 ulats $\because$＂，＂ | $\cdots \cdot 1$ | 3 \％i $\times 13$ | $\cdots$ | 4.75 |
|  | 1 | 1－M－4il | 1．111 |  | $2-4$ | 4\％84\％\％ | － 3 | 1．7． |
|  | i | ＇M－fil | 1．47 | 3.2 ultms ${ }^{2}$＂＂ | $2-4$ |  | 131 | $\therefore 11$ |
|  | $1 ;$ | －M－61： | $\because 15$ | $3 . \therefore$ mhms＂\％＂ | 4.9 | $13 \times 8$ \％ | $\begin{array}{lll} \\ 0 & & \\ 0\end{array}$ | 二，\％ |
|  | 1 i | b－urif | ： 1 1； | $\therefore 2$ ohnss $3_{4}$＂ | 4－9 | $138 \times 48$ | $\bigcirc$ | 16.5 |
|  | ， | リM＊） | 1.4 | 3.2 ohims $3^{3}$ | $1-1$ |  | $3{ }^{3} 6$ | 4．8． |
| $1$ | － | JM－rk | $\xrightarrow{2} 15$ | $\because .2$ ohms＂t＂ | ＋－9 |  | －3 ${ }^{3} 6$ | $\bigcirc{ }^{3} 11$ |
|  | － | リM－\％ | 3.16 | ：$\because$ ，whms＂i＂ | 1－9 | $3^{7}$ | $3{ }^{3}$ | ＊， |
| 5 | 111 | JM－14E： | $\because .1 \%$ | B． 2 ohme ：${ }_{1}$＂ | 1－！ 1 |  | $3{ }^{3} 6$ | ！．う口 |
|  | 111 | 1－M－1） | $\because, 14$ | 3.3 whme $1^{\circ}$ | （i． 12 |  | $11 / 8$ | 10.8 |
| ，120 | 111 | 1－3－1111 | 4．ti4 | 3.3 chmm 1＂ | （i．12 |  | $15 / 8$ | 13.50 |
|  | $1:$ | 1＇M－1 2 | 3.16 | $3 . \ddot{\text { alms 1＂}}$ | 1．1\％ | K $1 / 4 \mathrm{x}=1 / 4$ | 17／8 | 11.30 |
|  | 1.2 | 1）1－1211 | 4.61 | $3 . \ddot{2}$ uhms $1^{\prime \prime}$ | 1－1\％ | $\cdots 1 / 18=1 /$ | is 3 | 13．75 |



| Group | T MAGNET SPEAKERS |  |  |  |  | MOUNTING HOLE CENTERS INCHES |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { SIZE } \\ & \text { INCHES } \end{aligned}$ | CATALOG NUMBER | MAGNET WEIGHT OUNCES | VOICE COIL SIZE \＆IMPEDANCE | WATTS |  | DEPTH <br> INCHES |  | LIST RICE |
|  | 1xt | IM－lulk | 1．106 |  | $\stackrel{-1}{ }$ |  | $\stackrel{\square}{\square}$ | ＊ | 1.65 |
|  | $4 \times 1$ | IM－1 HC | 1．4\％ |  | $\cdots-1$ | $3^{3}$ | $\cdots$ |  | \％，0\％ |
|  | $\therefore \mathrm{x}$ | PN－：79 | 1.15 |  | $\cdots \cdot 4$ | 118 x 1 | $\cdots 7 / 8$ |  | \％．4． |
|  | ix \％ | 19\％\％ | 3.15 | St．olime＂í＂ | 1－9 | $11 / \mathrm{x} 410$ | $31 /$ |  | 4．35 |
|  |  | 小М－ヵ\％ | 3.14 | ：3．0nms＂\％＊ | 1－9 | 11， 14 | $31 / 4$ |  | \％．75 |
|  | fi x ！ | 1－9－4；\％ | 1.15 | ：3．2＂hms 3＂ | 1－9 | $9^{\prime \prime} \times 848$ | \％ |  | 16.96 |
|  | ti x ！ |  | $\because 15$ |  | $4-9$ | $1{ }^{1 / 3}$ | 3 |  | AN： |
|  | （i） x ： | 1＇M－6i9ド | 3.16 | 3.2 nhms 1＂ | 4－！ | $10^{\prime \prime} \times 140$ | 3 \％ |  | N．s． |


| Oval Group ELECTRO D | DYNAMIC | SPEAKERS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { SIZE } \\ & \text { INCHES } \end{aligned}$ | CATALOG NUMBER | $\begin{aligned} & \text { FIELD } \\ & \text { RESISTANCE } \end{aligned}$ | VOICE COIL SIZE \＆IMPEDANCE | WATTS | MOUNTING CENTERS INCHES | DEPTH <br> INCHES | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ |
|  | $1 \times 10$ | Fil）－tiat | 1．1）（blims |  |  |  | $\cdots$ | \＄\％\％ |
|  | $1 \times 1$ | F゙イ－＋il1） | 1000 ohmens |  | $\stackrel{-1}{1}$ |  | 30 | 4．a゙号 |
|  | $\therefore \mathrm{x}$ | 1：1）－5：5\％ | Lill nlims | 3．${ }^{3}$ ohms \％＂ | 1－！ |  |  | 1．2． |
|  | $\therefore \mathrm{x}$ | Fil－5710 | 10061 olums |  | $4-1$ | \％x ${ }^{\text {a }}$ | $31 / 4$ | 6．2． |
|  | fix | 1：1－4i＋4．3 | 1，ion ohms | 3.8 ohms 8 ＂${ }^{3}$ | 1－！ | 10， | 3 | 7．3． |
|  | $4 \times$ x | 1：1）－6：1111 | 11060 ohms |  | 4－！ | 1 is $\times 6$ i． | $31 \%$ |  |
| Replȧcement Group | P ELECTRO | DYNAMIC | SPEAKERS | VOICE COIL SIZE \＆IMPEDANCE | WATTS | MOUNTING CENTERS INCHES | DEPTH <br> INCHES | LIST PRICE |
|  | $\begin{aligned} & \text { SIZE } \\ & \text { INCHES } \end{aligned}$ | CATALOG NUMBER | $\begin{gathered} \text { FIELD } \\ \text { RESISTANCE } \end{gathered}$ |  |  |  |  |  |
|  | i | 1；）－ite | ill ulims |  | $\cdots$ | 3 \％${ }_{3}$ | $\stackrel{7}{\square}$ | － 4.75 |
|  | － | 1：1－5＇10） | 100 alims | ：3．3 whms | －1 |  |  | －2\％ |
|  | $1 \times 10$ | rillefitic | 1 ll olims | 3．\％whrns if＂， | $\cdots$ |  | 20 | 3.0 |
|  | $1 \times 10$ | Fll－tirlo | 1101 chims | \＃i． 3 ohtms i6\％ | －1 |  | 50／8 | \％．．511 |
|  | $1{ }^{1}$ | H：D－6icto | （in）whms | ：B，2 chluns | $2-4$ | 1\％ \％$_{6}$ \％\％ | 2\％ | F．5．50 |

HIGHEST QUALITY ALUMINUM VOICE COIL CONSTRUCTION

# Cletron The Choice for Voice 

## WEATHERPROOF SPEAKERS



| MAGNET |
| :---: |
| WEIGHT |
| OUNCES |
| 1.111 |
| 1.1. |
| 1.1011 |
| 1.417 |
| 1.47 |
| .17 |



OLECENTERS DEPTH INCHES

## OUTDOOR IN-A-CAR SPEAKERS

features:

- Wheimerd for vasy acoess to jnside cabinet for repair Whan merexsirs.
- Stromer ami attractibe gras cart aluminam calrituet with hamerer, Suatater imelimed.

- Ilimh grala, wiru w"onald

- llizpla qualits
- Wáash querprone w in Price LIST: \$15.50


Model 20

|  | AUTO R |  | REPLACEMENT | GROUP | P PERMANENT |  | MAGNET | SPEAKERS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | MAGNET <br> WEIGH |  |  |  |  |  |  |
| SIZE <br> INCHES | CATALOG NUMBER | WEIGHT OUNCES | VOICE COIL SIZE <br> \& IMPEDANCE | WATTS | CENTERS INCHES | $\begin{aligned} & \text { DEPTH } \\ & \text { INCHES } \end{aligned}$ | PRICE | theplacement for helico extrubed hule type. |
| 51/4 | PM-ict | \$ 1.47 | 3.2 olme io | $\underline{L}$ |  |  |  |  |
| (i11/ | 1-M-6:1 | 2.15 | 3.2 ohms | -1\% | $4 \% \times 4{ }_{4}$ |  | 5.25 | **Replawement for Decico plain tepe. |
| $\bigcirc$ | *M-MA | ${ }_{3}^{2.15}$ | 3.2 ohme ${ }^{\text {a }}$ | 4.9 | 411973/4 | $33 / 4$ | \% |  |
| fi' $\times 9^{\prime \prime}$ |  | ${ }^{3.15}$ |  | 4.9 | 41 4 4 4 | 3 | 50, | included). |
|  | M5-693 | 1.73 | 3.2 colme ${ }^{\text {a }}$ | 44 | 40, $\times 10$ | , | \% | - Replacement for merithe type |
|  | PM-6914 | 1.7.3 | 3.2 (lims 1 ", | 4.4 | 15, 106 | : | ix | (lvads inctuded). |
|  |  | 1.73 | 3.2 alme ${ }^{\text {c/ }}$ | 4-9 |  |  |  |  |

AUTO REPLACEMENT GROUP ELECTRO DYNAMIC SPEAKERS

| $\begin{aligned} & \text { SIZE } \\ & \text { INCHES } \end{aligned}$ | CATALOG NUMBER | FIELD <br> RESISTANCE | Voice coil size \& IMPEDANCE | WATTS | MOUNTING CENTERS INCHES | DEPTH <br> INCHES | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | NOTES: <br> *Rotaten prots are nol mended on this spoaker lematse of smatl shebll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | WATTS |  |  |  | (lime-nsions. |
| 4 |  | 4 (3)ms: | 3.2 ohmes if | $2-4$ | $3{ }^{5} \times 38$ | 236 | * 4. 511 |  |
| 5 | EI-5ゾ1 | 4 ohms | 3.2 ohms it " | 2.4 |  | $\square 1^{7}$ | 4.75 | hate symare type monntinge. <br> 5 - - 10 - 12 - 15 inch speakern |
| $\therefore 1 / 1$ | Jilligit | 4 ohms | 3.2 ohms in" | 2.4 | $4 \times 4$ | $2!8$ | 5.17 | hase round tybe monatinus. |
| $f$ |  | 4 ohns | 3.2 ohms 3/4" | 4-9 | $43 / 8 \times 48$ | 3 1\% | ¢, ¢! | Wrillod atul tapund looles in Joot are |
| (1) 14 | Vill-bisit | 4 (blims | 3.2 ohme 3 " | 4-:1 | $43 / 4 \times 43$ | 3 1\% | 5.75 | prowidnel on all spakers with ion soriep coils. |
| 7 |  | 4 olims | 3.2 whms 3\%" | $4 \cdot 11$ | $41 / 4 \times 53$ | 3 | 8.6 .7 |  <br> Hracket is sumpliad with earli |
| $6 \times 9$ |  | 4 11) 1 m \% | 3.2 (1) Hns $^{3 / 4}$ | 4-4 4 | $45 \times 68$ | 88 | 7.4 |  verere (milk. |

AUTOMOBILEREAR SEAT SPEAKERS
highest puality aluminum voice coil construction

## SPEAKER GRILLKITS

The (1FFOROMN Rear
 Seat Smaker in. mita clear tomail recention to both fromi athd rear kuat bassumpers.
Now, aty car owner can "comomicially luxurs: Simple. illastrited instruc. fions aro inc-Inelend with each sweaker

- Ample wira, 's position switch, attrative erill, and tillings incladed.
 (o) fit the desira already brosiden lay marly erery antomohile bailt lodis. as will as oblefe cats.
- Allows choict of front stat, raar seat, of beth as lone sumere.
COMPLETE . . . Speaker, Grill, Trim Ring, Switch and Leads





WITHOUT SPEAKER, SWITCH AND LEADS:


WITH SWITCH AND LEADS, BUT WITHOUT SPEAKER:


 4.95

SWITCH and HARNESS ASSEMBLY MODEL 29

 necossary luals.


List
Price
$\$ 2.25$


Model 28

## HIGHEST QUALITY ALUMINUM VOICE COIL CONSTRUCTION

# Clution the Choice for Vocice 

## HI-Fidelity speakers



Model PMI2NR

$15^{\prime \prime}$ COAXIAL 50 to 18,500 Cycles
In kempine with the ewor inersasing standards for highest puality sombl reprodnetion,
 conil forms for lons, trouble-freq oneration. In addition to himh jowor capacity, this suraker has a hailt-in remssover netwark and a high frequency rentrol to turn off the tweeter when desired
Power llamdlimg daparity 25 to 35 watts. Voic* (wil Impordance: 8 ohms. Frequancy


 lunhind Mountius l'ankl. Model PM15NCR: List Price: $\$ 69.95$
AL5O 15" WOOFER 30 to 12,500 Cycles
This spather is speritioally designeal to deliver olear undishommb hass ranges with rioh ruat flualits.

 how hammertone bakel whamel finish. Model PM15NR: List Price: \$59.95

## 12" DYNAMIC 30 to 16,000 Cycles

Hore is the answer for a rich, fullobodied reproducer that will deliver the exceptiomal richness of the antire andios suretrum.
 30 to 16,000 eycles. Aluminnm Voice ('oil Form: ?". Alnico V Magnet: 1 ll ).

Model PM12NR: List Price: $\$ 44.50$

## $8^{\prime \prime}$ EXTENDED RANGE 50 to 16,500 Cycles

The (letron 8-inch extonded rampe sumaker will surprise you with its rathe and edarity. Hear this speaker perform and you will agree.
Power Handling C'apacity: 8 watts. Voice ('oil impedance: 3.2
 Aluminum Voice (onil Formı. Alnico ov Marnet. Mechanical cross-
 Model PM8FW ( 8 ohm )
Model PM8FW3 ( 3.2 ohm ) : List Price $\$ 19.95$

## 5" TWEETER 1200 to 18,500 Cycles

Model PMoFR, ideal for use with any standard 12 " speaker to add real "presence." Easy to install, brackets and complete instruetions furnished. Voice Coil Impedanee: $\delta$ ohms. Aluminum Voice Coil Form. Alnico I Marnet: 3.16 o\%. Mounting Holes Centers: $31 / /^{\prime \prime} \times{ }^{\frac{8}{8} 6^{\prime \prime}}$. Depth 3 behind Sountine Panel: $212^{\prime \prime}$.

Model PM5FR: List Price: $\$ 6.95$
AL5O Model PM5CR 1200 to 14,000 Cycles
Voice Coil Impedance: 3.2 ohms. Ahminum Voice Coil Form. Alnice V




 Kindly : alvist dulails of soma myuiremb-H1s.


HIGHEST QUALITY ALUMINUM VOICE COIL CONSTRUCTION

# Densen Hypex Projectors 



Because of the mypex ormula (Patent 2,338,262) giving wider sound distribution and greatly mproved acoustical perormanee, JENESEN Mypex profectors are superior ybe horns. The Alnico 5 unit is entirely enelosed within the one-picee ribid horn yet easily removed and replaced. Stainless resistant othaterials and resistant arcated anc
 parts insure against weather e:nosure. Modejs VH-24, VH-20 and VH-15 have mountirg brackets with clutch-ty.ine heavy .' With elutch-tyle heavy y trunmons when aliord ockine into dealred position. Weatherproof termtna! boxes providic casy, sulderiess connections with no exposed terininals. Model VH-91 has a universal inounting bracket which permits pointing in any direction and secure locking by a single wing nut.

SPECIFICATIONS


VH-1:-

| Model No. | Stock No. | Cut-OH CPS | $\begin{gathered} \text { Acoust. } \\ \text { Path, } \\ \text { In. } \\ \hline \end{gathered}$ | $\begin{gathered} \text { Coverage } \\ \text { Angle } \\ \text { Deqrees } \\ \hline \end{gathered}$ | Power Rating Watts | VoiceCoil Imped. Ohms | Diam. In. | Length In. |  | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| VH-24 | ST-685 | 110 | 58 | 75 | 25 | 16 | 25 | $22^{26}$ | 1x11/6 | \$2:3.50 |
| $V \mathrm{H}-20$ | ST-684 | 1.40 | 52 | 80 | 25 | 16 | 21 | $201 \%$ | 1×14 | 75.00 |
| VH-15 | ST-757 | 180 | 36 | 90 | 15 | 8 | 16 | 15 | $81 / 8$ | :in. 50 |
| VH-91 | ST-171 | 300 | 16 | 100 | 15 | 8 | $8{ }^{7}$ | $75 / 4$ | ${ }_{5} \times{ }^{\text {P }}$ | $: 85.80$ |



## HYPEX "Three-sixfy" PROJECTORS

Destgned for the reproduction of speech and inualc signats at highemeicncy where high nolse levels exist The hypex tormula is heorporated in their design With the sound distributed over a eircle. they are eypecially suitable for installations where coverage of relatively large areas and susponion from the celling are deatred. Model VR-11 is recommended or speech reproduction while Model VR-241, of larger size, is intended for spech and music reinCorecment. Driver unit has phenolic diaphragm:
 VH-91. VR-241 is cquipped with weatherproo terminal box with connecting eable passing through tubber grommet and leads attached to serew rerminals provided. VR-11 has two-conductor rub)-ber-covered cable for connections. Both equipped
 with heavy eycbolt at top for suspension.

SPECIFICATIONS

| Model No. | Stock No. | Cut-OH CPS | Acoust. Path, In. | Coverage <br> Angle <br> Degrees | Power Rating Watts | VoiceCoil Imped. Ohms | Diam. In. | Helght In. | Trans.* Core Size | $\begin{aligned} & \text { Lust } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { VR-241 } \\ & \text { VR-11 } \end{aligned}$ | $\begin{aligned} & \text { ST-789 } \\ & \text { ST-791 } \end{aligned}$ | $\begin{array}{r} 140 \\ 280 \\ \hline \end{array}$ | $\begin{aligned} & 54 \\ & 18 \\ & \hline \end{aligned}$ | $\begin{aligned} & 360 \\ & 360 \\ & \hline \end{aligned}$ | $\begin{aligned} & 2.5 \\ & 1.5 \\ & \hline \end{aligned}$ | 16 | 125 | ${ }^{23} 108$ | $5 \times 1$ | $\begin{array}{r} 38 \pm .50 \\ 46.50 \end{array}$ |

*Not included.

## Jensen Speech Master LOUDSPEAKERS

The JENSEN Speech Master series of Toudspeakers is a groun of spectallzed units designed for aphlicathons where highly intelligible speech reproauction is a prime requisite. Cood basic design und sturifiness of construction as well ad pleasing appearance and tunctonal styling are outstandink eatures of these unit. All loudspeakers in this group use highertheiency direet radiator driver units of the rermanent magnet type.

## MODEL AP-10 SPEECH MASTER

Because of its exeellent sxeech reproducing and "talk-back" cha-acior'stics, this unit has found extensive appleations for amacenters for alreratt iruch and rallroad dic
utching ro strudy 5 - anch speater is atching. The ined cover with protectre front sereen and satla ehrome trim ring. locknut. Fower rating. F wat ts maximum sueceh signal. Equipped with $36^{*}$ rubber covered cable. Helght $63^{\circ}$, depth $53{ }^{\circ}$, width $5^{\prime \prime}$. Gray hammer fintsh. Shipplag Welght. 51/4 Its.
ST-590-3-4 ohms. List Price. $\$ 19.30$.
ST-591-45-50 ohms List Price, \$24.50.
MODEL AR-10 SPEECH MASTER PROJECTOR
Specially designed for intercom and paging systems where added airectlonality is desirad. Sbecially designed reentrant horn directs sound and adis speerh tange eftleleney and quality. Used extensively in industriat plants, garases, ete. for paging and announcing service. Sturdy 5 -inin driver. Power rating 6 watts, maximum overals ilameter Verali hameter 10 , ceqt ST-643-3-1 ohms. List Price, 523.50.
ST-644-45-50 ohms. Llit Price, S24.50.

connecting eable. Overall diameter $10^{\circ}$, depth $\varepsilon^{\prime \prime}$. Gray hammered ellect tinish. Shipping Wright 431 the
ST-644-45-50 ohms. List Prjee 24.50.

## MODEL RK-61 "CORRIDOR" SPEECH MASTER

Spectaily designed for two-direction sound corrrage in corridior or office. Ifeavy arawn stcel case has catended tor rorations on both slifes to permilt high quality speech coverage in tioth direc: 10 ns , but still offers complete protection to the heave dute b-iceh loudprovides tlexillity for installation Enorg we pall mountlug bracket and hardware or standard 3 - condult and fittings fatter not supplied with unlt) meet most requiremenis. Heavy joye sj cable two fect long proviled for clrcult connection. Transformers up to " $x$ "size can be installed inside the case clrectly on the loudspanker trame. Excellent "talk-back'" eharaeteristics. (quality on musie is also aeceptable for many areas. Piswer ratilng. 8 wat ta maximum sperch and musle slynal. Case diametpr $8^{\prime \prime}$; ihickness 3if overall distanee from wall (with wall mounting bracket) $91 /{ }^{\prime \prime}$ "
$\mathbf{S T}-850-3-4$ olims. List Price, $\$ 12.60$.

## Jensen Speakers CONCERT SERIES

These well known loudsineakers uffer the best for replacement service and for original equipment in sound rejnforeing systems of all klods. All models arr dustproof. PM models use Alntro 5 magnets; theld coil models include hum neutralizing coils. Cones are chosen for high sensitivity and oftimized reswnise ellaranteristies.

| $\underset{\text { Size }}{\text { Nominal }}$ | Model No. | Stock No. | $\begin{aligned} & \text { †Gap } \\ & \text { Energy } \\ & \text { Level } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 15 | P45-N | ST-654 | 6.6 |
| 15* | P15-P | ST-655 | 4.6 |
| $12^{\prime \prime}$ | P12-N | ST-656 | 6.6 |
| $12^{\prime \prime}$ | -P12-P | ST-657 | 4.6 |
| $12^{\prime \prime}$ | P12-R | ST-103 | 2.2 |
| $12^{\prime \prime}$ | P12-S | ST-102 | 1.5 |
| $12^{\prime \prime}$ | P12-S | ST-871 | 1.5 |
| 12 " | P12-T | ST-101 | 1.1 |
| 12" | P12-T | ST-872 | 1.1 |
| $10^{\prime \prime}$ | P10-S | ST-873 | 1.5 |
| $10^{\prime \prime}$ | P10-T | ST-119 | 1.1 |
| $10^{\prime \prime}$ | P10-T | ST-874 | 1.1 |
| $8{ }^{\prime \prime}$ | P8-R | ST-169 | 2.2 |
| 8" | P8-5 | ST-104 | 1.5 |
| $8{ }^{\prime \prime}$ | P8-S | ST-851 | 1.5 |
| $8{ }^{\prime \prime}$ | P8-T | ST-117 | 1.1 |
| 8" | P8-U | ST-116 | . 74 |
| $8{ }^{\prime \prime}$ | P8-V | ST-115 | 51 |
| $6^{\prime \prime} \times 9^{\prime \prime}$ | P6y-V | ST-814 | 51 |
| $6{ }^{\prime \prime}$ | P6-T | ST-112 | 1.1 |
| 6" | P6-V | ST-113 | . 51 |
| $6{ }^{\prime \prime}$ | P6-X | ST-103 | 25 |
| 5" $\times$ 7" | P57-V | ST-83y | . 51 |
| $51 /{ }^{\prime \prime}$ | P525-V | ST-803 | 51 |
| $5{ }^{\prime \prime}$ | P5-V | ST-107 | . 51 |
| 5 " | P5-X | ST-105 | .25 |
| 5" | P5-X | ST-74n | 25 |
| $4^{\prime \prime} \times 6^{\prime \prime}$ | F46-W | ST-910 | . 31 |
| $4 *$ | P4-X | ST-113 | .25 |
| 4 | P4-X | ST-739 | 25 |
| 23/4" | P275-Y | ST-921 | 160 |

CONCERT SERIES PM SPEAKERS

| Nominal Size | Model No. | Stock No. | iGap | Dimensions. incries |  |  | Voice Coil |  |  | Fiend |  | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Energy Level | n.0. | Depth | Baffie Opening | viam., Inches | imp.. ohm: | Power, Watts | Resist., Ohm: | Power, Watts |  |
| $1<^{\prime \prime}$ | r'2<-S | ST-175 | 1.5 | 12\% | $\mathrm{b}^{1 / 18}$ | 101\% | T | 3-4 | 10.0 | 164 | 8.5 | sis. 12 |
| $10^{\prime \prime}$ | F10-S | ST-175 | 1.5 | 101/4 | $53 / 8$ | 83/4 | 1 | 3-4 | 4.0 | 15 (\%) | 8.5 | 8.52 |
| $8{ }^{\prime \prime}$ | F8-W | ST-736 | . 36 | x1/ | 13/8 | 14/1 | $3 / 4$ | 3-4 | 4.0 | 1100) | 5.11 | 4.95 |
| 6" | F6-X | ST-189 | .25 | $6^{11} 16$ | $2{ }^{15}$, 18 | 6,4 | \% | 3-4 | 3.4 | 450 | 4.5 | 3.57 |
| 6" | F6-X | ST-883 | 25 | $6^{11}$ + | $2{ }^{15} 5$ | $51 / 2$ | \% 自 | 3-4 | 3.0 | 85 | 4.5 | 3.57 |
| $5^{\prime \prime} \times 7^{\prime \prime}$ | F57-W | Sr-884 | 36 | $7 \mathrm{M} \times \mathrm{x}$ | $23 / 4$ | 642941/4 | ${ }^{81}$ | 3-4 | 3.5 | 85 | 5.11 | 4.77 |
| 5 " | F5-X | ST-882 | . 25 | 5 | $2_{4}^{2} 816$ | 4 | 9 | 3-4 | $\stackrel{2}{2.5}$ | 85 | 4.5 | 3.51 |
| 5" | F5-X | ST-194 ST-196 | . 25 | 5 | $\frac{2718}{21 / 4}$ | $\frac{4}{31 .}$ | - 隹 | $\frac{3-4}{3-4}$ | 2.5 | 450 | 4.5 | 3.51 |



JENSEN VIKING REPLACEMENT SPEAKERS


CTM-1 Bracket. For mounting up to $1 / z^{\prime \prime}$ X $\frac{1 / 2 "}{2}$ iransforiner ont sheaker and speaker on ehassis. Fits speakers up through $\boldsymbol{d}^{\prime \prime}$ size.

| $\begin{aligned} & \text { Nom. } \\ & \text { Size } \\ & \text { In. } \end{aligned}$ | Model No. | Fig. | Dimensions |  | $\begin{aligned} & \text { V.C. } \\ & \text { I mped. } \\ & \text { Ohms } \end{aligned}$ | Net <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | O.D. | Oepth |  |  |
| 12 | 12310 | A | $1{ }^{12}$ | 4\% | 3-4 | S6.37 |
| 10 | 10110 | B | $10 \%$ | $35 / 8$ | 3-4 | 5.72 |
| 8 | 889 | C | 71146 | 215 | 3-4 | 3.56 |
| 7 | 719 | 1 | $67 /$ | $2^{15}$ | 3-4 | 3. |
| $6 \times 9$ | 6959 | E | 931/863/8 |  | 3-4 | .72 |
| 6 | 656 | F | 61 , | $2^{5}$ \% | 3-4 | 2.50 |
| $5 \times 7$ | 5739 | G | 71/45 | $2{ }^{\text {\% }}$ | 3-4 | 3.36 |



J K

$L$


M request by your distributor.

| Nom. Size In. | Model No. | Fig. | Dimensions |  | V. C. I mped. Ohms | Net <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | O.D. | Depth |  |  |
| 514 | 52536 | 11 | 5 | $21 / 1$ | 3-4 | 2.38 |
| 5 | 516 | I | 5 | 119 | 3-4 | 2.31 |
| $4 \times 6$ | 4636 | J | 61/84416 | $1{ }^{15}$ | 3-4 | 2.68 |
| 4 | 4.16 | K | $41 / 8$ | $13 / 4$ | 3-4 |  |
| 31/2 | 3556 | 1. | $31 / 2$ | 11 in | 3-4 |  |
| 3 | 356 | M | 3 | 17/4 | 3-4 | 2.11 |

## Jensen High Fidelity Loudspeakers



RP-2O1 H-F UNIT
leproduces the range from $6(0)$ to 40 (eveles as the inid-channu! in a 3-way system. Driver unit loaded by cast aluminum Hypex horn. Coverage angle, $115^{\circ}$ Impedance. 16 ohms. lower rating with A-61 nctwork, 35 watts speech and music signal input to
system. Shipplag Weight, 8 Ibs. $\$ 7-897$.

## RP-302 ULTRA H-F UNIT

Covers the top of the range from 4000 eycles to the highest audible frequencles with unexeclled smoothness and irecdom from dise torion. Coverage angle, $120^{\circ}$. Impedance, 16 ohms. Power rating with A-402 nctwork, watta speech and music signal input to system. Mounts in liping Weight, 3 lbs. ST 899 . Net Jiach.

## A-402 CROSSOVER NETWORK

Two-ehannel type: high pass transmits everything above 4000 cycles, low-pass everything below this frcquency. lisio constantresistance type, $43 / /^{\prime \prime} \mathrm{high}, 31 / 2^{\prime \prime}$ wide, $31 / 4^{\prime \prime}$ deer.. Shlpping $\$ 820$ Welght. 3 its. ST-898. Net Each

## A-61 600 CYCLE NETWORK

Sends frequencies above 600 cyctes to $A-402$ for further division; helow foo cycles to the P15-1. L . unit. $1 \mathrm{r}^{\text {wo-channel, } 180^{\circ} \text { constant- }}$ resistance type, with 12 db/oetave attenuation oufslde pass band
 5i-x


P12-NL LOW FREQUENCY UNIT
New, rugged 12 " woofer" especially deslgned for 2-way systemis. ower rating 25 watts. Shas welght 10 lbs. S'l".912 500 Net Each.

## RP-102 HIGH FREQUENGY UNIT

$36^{50}$

A now advanced clesien "twecter" for use in 2-way systems crossnh over at 2000 cycles. Reproduces an unusually wide range from 2001 cycles to extremely high frequencies with sniooth response exceltent batance and very low distortion. Impedance, 16 ohnis. rower rating, 35 watts speech and music signal to input of 2-way system when used with A-204 network. Shipping ..... $\$ 2835$

## A-204 CROSSOVER NETWORK

Two-channel tyne, High-pass section transmits everything above 200) cycics. low-pass, everything below this irequency. 180 constant-resistance type. $\left.4^{3 / 4{ }^{*} h i g h, ~} 31\right)^{\prime \prime}$ wide, $31 /{ }^{\prime \prime}$ deeps 300

H-F E EYEL CONTROLS

Flush satin brass cup escutchcons, appropriately marked, matching bar knobs $25^{\prime \prime}$ leads matching
H-F Balanced Control. For adusting balance of $\mathrm{H}-\mathrm{F}$ Units
16T-901. Net Each
5415 Level Control. Input control to praker. 16 ohms. $\qquad$ m. .5. Nct...52.82 2-3422 Autotransformer. For matching any two of $16 / 8 / 4$ ohm

L-pad type, complete with polnter knob and eseutchnon. Level Control ST-276 6-3 ohms, $\mathfrak{j}$-watts. Net....-si.80 Level Control ST-760 3-4 Level Control sT-761 500-600 ohms, 15 watts. Net Ea. $\$ 3.72$ Level Control 5T-411 6-8


## G-610 TRIAXIA

The (i-6il) conststs of 3 inderuendently driven elements each covering a portion of the range and a (rossover and Control Network. Crossvers arc at ono aro Low luy curvilnear diaphraim heavy dity curvinucar haphragm pression driver unit. flared cone of pression unit acting as final section of horn. speclal small h-f twerter at front covers high end to linits of audibility, Combination smoothly covers the widest range availatio today! Power rating 35 watts, $1 \mathrm{~m}-$ jedance 16 ohms. Nounts in any eablnet for $15^{\prime \prime}$ speaker; 131,-151 eablnet recommended for outstanding results. Baftle obening Wt., 50 lbs. ST-90). $\$ 2527$ Net Jish.


TRANSFORMERS FOR G-610 These transformers are high flolelity chassls, with plug-in connectlons. to glve alternate input Impedances. Modef T-201-ST-846. 4 and 8 ohms. Net Each ........ $\$ 12.35$ Modet T-202-ST-847. 500-600 ohms. Net Each...........s12.35

## H-53O COAXIAL

In wise range extension. In the unusual degree of smoothness ant the fine batance of restonse, this new coaxial has tocen acclalmed as a new millestone in speaker cnglneering. Low frequencies are reproduced by a highly effetent $15^{\prime \prime}$ L-F unit designed especially for a smooth transition in the crossover region. Upper channel is a new rompression $\mathrm{H}-\mathrm{F}$ divided cellular Hypex horn to reproduce a wide frequency range reproduce ${ }^{\text {a }}$ wide 2000 cycles. Impedance. 16 ohms. Power rating, 30 watts speech and muste signal input. Coniplete with network and $\mathbf{H - F}$ control. Baftip opening, 131/2: $0.13 .15 \frac{1 / 2 "}{}$ denth. 10ts. Hupg. Wt. s $12950^{\circ}$

## H-520 COAXIAL

A $n_{4}$ w coaxial loudspeaker with the sinoothness, fine balance and wide range response you expect in a truly advanced-design 2 -way systerm. A compression driver unit loaded by a quencless above 2 an cyeles. An effecert $15^{\prime \prime}$ L-F unit handles the lower frequencies. impedance. 16 ohms. Power rating, 25 watts speech and musle signal input. Baftle open-
 sT-N!2. Nict leach.

## MODEL H-222 COAXIAL

Outstanding. eftielent, new widerange 12" coaxlal with compresslon driver tweeter and b-cell h-p hort brings a new meaning to high fldelity In a small speaker. Integrad frequency division. Power rating
watts. linpedance 16 ohms. liafie
 Openimg $81 /$. Iash-f batance control on $3 t^{*}$ cord. Shlpping Welght, 1255450 lbs si-s75. Net Each

## MODEL K-3IOA COAXIAL

A fine. low cost truc two-way 15 high fidelity speaker that will out perform many at higher prlces. In tegral irequency division system. Power rating 16 watts. Impeclance 16 ohms. Shipping Welght. 18760 ST-891.

## MODEL K-2 10 COAXIAL

12" ligh fidelity speaker at cxtremely low cost. Integral frequency divislon system. Power rating 12 Weight, 7 Jbs. ST 831 . Sのs 85 Net Each.

## Jensen Cabinets and Enclosures

BASS REFLEX CABINETS

type＂c＂enclosures combine acoustleally correct perform－ ance with attractive modern wood cabinctry al moderate cost．A fine cabinet with Bass－Reflex for low budget high fidelity audio systems Models tu＊ $\mathrm{ft} \mathrm{k}^{-\infty} .12^{\prime \prime}$ or $15^{*}$ speakers． in cholce of Blonde or Mahogany finishes Two concealed cut－outs in miodel C－151，one cat－out in Alodel C－121，for easy installation of dush II－F and Level Controls or RP－302 ＇Supertweeter

Type＂H＂Sector Cabinet for＊＂speakers． was especially destened for installations where nultipte speakers are required．With ront curved ta a $141 / 4^{\prime \prime}$ radlus．they fit any－ where－Ir co：ners．on walls，at irtersertion of ceiling and wail or on posis agv bi mounted in pairs or clusiers for wide－angle distributhon Wood composition built around a frame of solld wood Fine furalture crafts－ manship．Finished in brown lacauer Hrack． ts and screws furnished for mounting



These new Type＂B1，＂Cabinets are beautifully－styted loudspeaker nclosures Gffering improved effeleney in bass response and achievirie new high in flexible adaptathity to mounting of coaxial or triaxia peakers．mid－channel and high－frequency unlts．woofers．super tweeters，in any desired combination without sawing or cutting！All units are easily mounted from the rear of the rabinet and are concealed behind the Transacoustie plasite gri．le cloth Cnused preceut openings follow instructions make mounting a matter of moments．
The new casinets are cesigned to fie in a corner or they may be placed against a sldewali sow frequency rediation is augmentod by earefully coordinated acoustie pasisages opemns into the sldes of the cabinet Simple yet graceful styling with fincly sculptured lines qualify these cautiful cabinets for a mace in distinguisined modern or traditional interiors．Choice of selected Mahogany or Korina blonde plywoods with genuire matching solld wood trian．

| $\begin{aligned} & \text { Jensen } \\ & \text { No. } \end{aligned}$ | Stock No． | $\begin{aligned} & \text { Speaker } \\ & \text { Size } \end{aligned}$ | Finish | Dimensions Inches |  |  | Shipping Wt．Lbe． | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Height | Width | Depth |  |  |
| BL－250 | ST－856 | $15^{*}$ | Blonde Korina | 38\％ | 36 | $197 \%$ | 86 | \＄130．90 |
| ${ }_{\text {BLe }}^{\text {B }-251}$ | ST－857 ST－868 | 15 | Cordovan Mahogany | $3{ }^{3} 5$ | 26 | 1976 | 86 53 | 128.00 |
| C－251 | ST－869 | 15 | Cordovan Mahogany | 32 | 28 | 15 | 53 | 46.35 |
| BL－220 | ST－852 | 12＊＊ | Mlonde Korina | $301 / 3$ | 22 \％ | 1，1／6 | 48 | 92.50 |
| BL－220 | ST－853 | ${ }^{12}{ }^{\prime \prime}$ | Corduvan Mahogany | $301 / 2$ | 225\％\％ | 1114 | 48 | 89.50 |
| C－121 | ST－866 ST－867 | 12＂ | Blonde Mahogany | 29 29 | 25 | $13 \%$ | 42 | 39.40 39.40 |
| ${ }_{\text {H－81 }}$ | ST－141 | $8{ }^{\prime}$ | Mrown Lacquer | $223 /$ | 173／4 | 8 ${ }^{3}$ | 14 | 39.40 |
| C－81 | ST－864 | $8{ }^{\circ}$ | Blonde Mahogany | 2313 | 20 | 4 | 26 | 28.75 |
| C－81 | ST－865 | $8 *$ | Cordovan Mahorany | 231 | 20 | ： | 26 | 28.75 |



EXTENDED RANGE SINGLE－UNIT SPEAKERS DIRECT－RADIATOR TYPE
These units ranging from phoch to
These units ranging from 5－inch to of vertormame by pioper extension of the frequericy range and control of all tactors whiteh lend＇oresence：to reproduction
rie selertion of a direct－radiator loud－ suraker from thas series，in size or cost ajurgpriate to the application，insures the tasi quality obtainable in a＂one－
way＊speaker Alternate models in the same size grour differ mainly in effi． clency and bwwer rating

JENSEN Extended Range loudspuakers are Ideal as replacement－imurovernent units for less worthy spetakerx in radio． television and recoid playting equipment The logical eholee for better riproduc－ tion on a low burget


| $\begin{gathered} \text { Nomi- } \\ \text { mal } \\ \text { Size } \end{gathered}$ | Model No． | Stock No． | $\begin{aligned} & \text { *Gep } \\ & \text { Energy } \\ & \text { Level } \end{aligned}$ | Dimensions，Inches |  |  | Voice Conl |  |  | $\begin{aligned} & \text { tTrans- } \\ & \text { former } \\ & \text { Size } \end{aligned}$ | Net Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | O．D． | Depth | Baffle Open | $\begin{gathered} \text { Diam., } \\ \text { In. } \end{gathered}$ | Imped． Ohms | Power Watts |  |  |
| 13 | P15－NX | ST－817 | 6 \％ | 153自 | 8 | 1314 | 112 | 6－8 | 18.0 | $1^{*} \times 1$－ | \＄46．05 |
| $12^{\circ}$ | $\begin{aligned} & \hline \text { P12-NX } \\ & \text { P12-RX } \\ & \text { P12-SX } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { ST-829 } \\ & \text { ST-885 } \\ & \text { ST-821 } \\ & \hline \end{aligned}$ | $\begin{aligned} & 6.8 \\ & 2.2 \\ & 1.5 \\ & \hline \end{aligned}$ | $\begin{aligned} & 121 / 4 \\ & 1216 \\ & 1216 \end{aligned}$ | $\begin{aligned} & \hline 7 \\ & 6{ }^{3} 16 \\ & 6^{1} 16 \\ & \hline \end{aligned}$ | $\begin{aligned} & 101 / 2 \\ & 1012 \\ & 101 / 2 \end{aligned}$ | $1_{1}^{1 / 2}$ | $\begin{aligned} & 6-8 \\ & 6-8 \\ & 6-8 \\ & \hline \end{aligned}$ | $\begin{array}{r} 16.0 \\ 11.0 \\ 9.0 \\ \hline \end{array}$ |  | $\begin{aligned} & 35.25 \\ & 12.40 \\ & 11.35 \\ & \hline \end{aligned}$ |
| 1 | P10－5x | ST－823 | 1.5 | 103 白 | $51 / 4$ | $881 / 4$ | 1 | 6.8 | 8.0 |  | 10.54 |
| $8^{\prime \prime}$ | $\begin{aligned} & \text { P8-RX } \\ & \text { P8-5X } \end{aligned}$ | $\begin{aligned} & \text { ST-887 } \\ & \text { ST-825 } \\ & \hline \end{aligned}$ | $\begin{aligned} & 2.2 \\ & 1.5 \end{aligned}$ | $\begin{aligned} & 836 \\ & 813 \\ & \hline \end{aligned}$ | $3^{13}$ | $\begin{aligned} & 63 / 4 \\ & 6^{31 / 4} \end{aligned}$ | $\begin{aligned} & 1 \\ & 1 \\ & \hline \end{aligned}$ | $\begin{aligned} & 6-8 \\ & 6-8 \end{aligned}$ | $\begin{array}{r} 8.0 \\ 7.0 \\ \hline \end{array}$ |  | $\begin{aligned} & 8.50 \\ & 7.48 \\ & \hline \end{aligned}$ |
| 5 | P6－TX | ST－826 | 1.1 | 6＂10 |  | ．31／4 | 8.4 | 3－4 | 5.0 |  | 5.05 |
|  | P5－TX | ST－827 | 1.1 | 5 | $2^{11}$ 自 | 4 | $2 / 4$ | 3－4 | 4.0 | $1 / 2{ }^{*} \times 3 / 2{ }^{*}$ | 4.90 |

[^13]
## Jensen Ditufare Hi-Fi Reproducers



# NEW TV Torwite 

## Model DU-500 TV Duette

Add Authentic High Fldelity to your TV. Combining the finest furniture craftsmanship with advanced acoustic design. the DU-500 TV Duette sets a new high standard of beauty and periormance for compact hi-f loudspeakers Richly deflned music and ifve volce quallty glves you a new experience in sound. Selected genulne hardwood veneer, matching solid hardwood trim with flne lines and trim proportions. cholce of Blonde Oak or Ribbon Striped Mahogany. Genuine gold plated insignia, grille bars and knob. Sneaker complement consists of a spectal $6^{\prime \prime} 9^{\prime \prime}$ oval "Wooter plus a uil compression authentic hi-fl speaker system that will serve with distinction for all of your hl-fl needs. Handy "Show-Off Switch" reverts the get to the use of its original sjeaker and also whll transfer the Duette from TV to your changer-ampliffer tape recorder or FM radio. thus allowing the TV Duette to serve all of your hi-f speakcr needs. Size: $24^{\prime \prime}$ Wide, $22^{\prime \prime}$ deep; top $17 \%^{*}$ above floor, Impodance: 4 ohms. Power Rating: 20 waits.
Jensen Model DU-500 "TV-Duette"
Wt. 35 tbs. Net Each. $\$ 8550$
Rlbbon Striped Mahogany, wood legs. Shpg. W't. $31 \mathrm{lbs} . . . . . .$.

## Model DU-400 TV Duette

An exprity engineered, finely balanced hl-fl speaker system using two differcot specially destgned speaker unlts in "woofcr" and "tweeter" coinbination for tull ralige reproduction. Brings a new dimension to TV sound . . gives you $171 / 4^{\prime \prime}$ high. Impedance: 4 ohms. Power Rating: 15 watts. Has $6^{\prime \prime} x^{\prime \prime} 9^{\prime \prime}$ oval "wooter" and $3^{"}$ "twenter". Cholce of attractive finishes on genuine plywood: mat chtrg wood legs with brass ferrules. Jensen Model ou-400"TV Duette" Choice of Korina B'onde or $\$ \mathbf{\$} \mathbf{5 0}$

## 7 Dutafer Jreasure Chest

Now the Duette becomes an fegant addition to traditional or modern home deror will thesc new "Treasure chest" models. Handsomely styled chest design is avallable fob both sclected Mahogany and Blonde Oak veriers with grmuine niatching hardwoodirim. Fits modern wrought tron legs (not furnished-must be ordered separately),

Ducte Treasure Chest gives the full nerformance of the true two-way system with lis special 8 -inch wooter and compression driver tweeter in an unusually compart scientincally designed acoustle enclosure. Ideal for small snace hi-fl system, excellent as an iniprovement addition for true hiff rom existing radio. 1 , phonograph or tape recorder. (ab able of adequate bass reproduction even at low listening levels. Clean, snooih response with the tumistakable presence of the true two-way reproducer. Size: $11^{\prime \prime}$ high. $2: 31 / 4$ Widle, $10^{\prime \prime}$ dcep. Impedance: 4 and 8 ohms. Power Rating: 20 watts. Each... $\$ 7650$
Jensen Model DU-300 Duette "Treasure Chest" Reproducer. Nit Each... (Order ST-S61 Mahogany, \&T-860 Blonde Oak.)
ST-862, Set of wrought iron legs. Shipping Wi. 26 ths. Net Each......... . . $\mathbf{S} 4.25$


## 2-WAY HIGH FIDELITY REPRODUCER

## Measures only $231 / 4^{\prime \prime} \times 11^{\prime \prime} \times 10^{\prime \prime}$

First to give you real high fildity in a smat package. . With the advantages of the two-way
 duction when space for equipment is limited. (an be used on a table, in bookshelves or on the floor, either on its side or standing on end. Ideal for improving the performance of portable phonographs, radio and $\quad$ sets. ats well as for a basic hifitssitem in a smad spare poxerlent as ant
 "tweeter", with buiti-in trequency division system, In a small compart enclosure designed for adeguate bass notential (some bass boost is desirable under most listenfing conditions but more than criough is available in modern ampliflers.) ("apable of adequate, saisibing bass reproduction evern at low listening levels. Clean, smooth reproduction with the remarkable power handing caparity and the unmistakable "presence" of the two-way hi-fi reproducer. Corner posilfonglves excellent performance with additional bass due to acoustic loading effect of corner. Impedance: 4 and 8
 deep. Shipping Weight: 2.4 lhs . Rich, attractive burgundy pigskin-grained rabrikold finished cabinet With contrasting front, panel and cast metal trim burnished copper.
Jensen Model DU-201 "Duette Reproducer. Shipping wit. 25 lbs, Net Each...... $\$ 250$

## 7Dutite PORTABLE . . . LETS YOU TAKE HI-FI WITH YOU:

Here is the first truly portable two-way loudspeaker system. With "big speaker" performance. . . the buette "portable". Ideal for use with taje recorders. portable record playcrs, electronic mustcal instrumemts for band sound reinforement . by protessional recording ngineers, lecturers, musichans and hi-ti listeners. Two rugged recoptacles on batek of case plus handy storage for two $7^{\prime \prime}$ or threre $5^{*}$ boxes of tape held by retaining strap, "(arry tested" rattle-proof handle on end of case. Sturdy construction. yet weighs only 21 Ibs.

Gives the full performance of the true two-way system with its spectal $8^{\prime \prime}$ "woofer" and multi-cell horn-loaded comprission iriver tweeter. Buitin irequency division system. Sinall, compact enclosure designed for adequate bass potential. (an be used efther on its side or standing on end. Impedance: 4 and 8 ohms. Power Rating: 20 watts maximum speeeh and music input. Size: $11^{\prime \prime}$ high, $24 /^{\prime \prime}$ wide, $10^{\prime \prime}$ deep. Finished in black leatherette case with contrasting gray panel.
Jensen Model DU-202 Ductte Portable. Shipping Wt. 27 Ibs. Nct Each...... $/$


## Jensen Hi-Fi Sound Reproducers

## THE GREATER TRi-PLEX 3-WAY SPEAKER SYSTEM




#### Abstract

Jensen's new greater TRi-PLEX ts offered to you with the conviction that in quality of reproduction, it will outperform any comparable speaker system. Bass response has been enhanced with the new Bass-Ultrafiex enelosure. The design objeetive has been the attalnment of the full high-fidelity frequency range with extreme smoothness, preelsely adjusted intra-range balance, and complete climination of all false coloration effeets. The result is a reproducer which in its outstanding listening qualitles will deltght the discriminating listener who seeks completely faithful music reproduction without harshness or exaggeration. Technically, the TP- 200 represents a high point in the development of the true 3 -way system. Three completely independent reproducers divide the frequeney range as indicated in the specifications, the combined total result being blended into a superb unity which cannot be approached with short-eut designs whieh simulate, but do not afford comfortable, livable listening quality. For example, both mld-fregueney and high-frequeney ehannels employ horn-loaded compression-driver units with plastle diaphragm moving systems in preelsion sound ehambers for utmost smoothnessthere are no metalle elements to introduce harsh or irritating effects. Individual controls are provided at the side of the eabinet for exact adjustment of response balance, presence and brightness to fit your surroundings and preelse taste. New cabinet styling is a natural blend of slmplielty and elegance which will merge gracefully with traditional or modern decor. Woods are offered in a chofce of tine selected Mahogany or satin Blonde Korina veneers with genuine solid matching ardrood trim, all finely crafted in the best furniture-matigg inditions Each TRi-PLEX is individually tested and is aecompanied by a certificate and guarantec of performance meeting the high engineering standards established for the design.


## SPECIFICATIONS

## Frequency Range Rating: +8 LIM.

input Impedance: 16 ohms .
Power Rating: 35 watts maximum speech and music signal input.
Componerts
High Channel: RP-302 Ulita High Frequency Unit ( 4,000 eyeles to limits of

Low Channel: P15-LI, Low Frequeney Unit (below 600 eycles). A-402 Crossover Contrels: H-F Hetane (

Shippling Wt.: 124 ihs.
ST-909. Mahogany. Net Price
ST-908. Korina Blonde. Net Price
.5316.80



## the new Cancerto 2-WAY SPEAKER SYSTEM

Tiere is high fidelity rejroduetion In a compact enclosure whleh fits even the erowded coverago of the most expensive true coaxial speakers. There is ceonomy too with fine inusie reproduction not approached exeept at far greater cost
The CT-100 is a true 2-way system with separate "woofer" and "tweeter". The low frequeney unit is the new pl2-NL 12 -inch speaker which was espectally designed for this rejroducer. In combination with the Bass-litraflex cabinet, the system gives amplof lifgh Frequency folt which provides exeeptional smoothness and rance approaching the practleal upher limits of audiblity. A full 2-channel crossover nctwork is employed. H-F lbalanee Control is located at the side of the cabinet.
The new cahinet design reflects fine proportions and elean seulptured appearanec apiroprlate to fine traditional or modern interior decor. Avalable in your cholec of selected Mohagany or lionde Korina veneers. Reproducer is fully assembled and carefully tested at the factory. Shipping Wielght 62 Lbs.

Model CT-100. Concerto 2-Way Reproducer
${ }^{5} 164^{50}$
ST-915. Mahogany. Net Each
.S168.00

## densen Hi-Fi Sound Reproducers



# Imperial 



## The Ultimate in High Fidelity

In the search for pure high fidelity, completely authentic, with smooth coverage of the complete frequency range from lowest bass to upper limits of audibility, Jensen designed the RS-100 Laboratory Reference Standard Reproducer (see below) for use as a standard of comparison in high fidelity. For those who pursue the ultimate, the very same reproducer is offered here as the Imperial PR-100 in eabinetry that bespeaks a place of honor in the distinguished home. There's a totally new, smooth sound, utterly real-undoubtedly the finest sound you've ever heard. Voices come to life and there's a new almost geometrical separation of instruments. A three-way system (we'd have used six channels if necessary, but three were far and away the best), with l-f unit loaded by a new-design reactance-annuling trilateralmouth horn for hass; selected compression-driver horn-loaded midehannel with intrarange equalizer for a final touch to precise balance and coloration elimination; and superlatively smooth, space-blended supertweeter top. Expensive to be sure . . . but priceless in performance. Place it on a sidewall or in a corner as you choose. Individually serially numbered, laboratory tested with signed certificate and guarantee of performance, accompanied by handsome descriptive presentation brochure. Impedance 16 ohms , power rating 35 watts. $5314^{\prime \prime} 11 . ; 3258^{\prime \prime}$ W.; $243 / 8^{\prime \prime}$ D. Shipping Weight 222 lbs.
PR-100 "IMPERIAL" REPRODUCER
ST-919-Selected Mahogany. Nct Price . . . . . . . . . . . . . . . . . . $\mathbf{5 5 2 5 . 0 0}$
ST-918-Satin Liorina. Net l'rice. . . . . . . . . . . . . . . . . . . . . . . . 535.00

## Laboratory Standard RS-100

## Designed Especially for Ultra-Critical Applications

Iutended especially for ultra-critical applieations. Designed by the Junsen engineering staff as a reference standard for comparison of high fidelity reproduction, the RSS-100 is a new and inportant tool for sound engineers and psrcho-acoustic laboratory specialists. It also will find extremcly wide application in broadcast and TV station monitoring, recording studios and other installations requiring exacting sound reproduction. Music lovers and audiophiles, too, will find ready usage for the RS-100 in experimental or permanent home tuner-amplifierrecord player and tape-resorder set-ups. It embodies the same electrical and acoustical characteristics as the PR-100.
The cabinet is made of plywood-modern-artistically styled and finished in two-tone, blue gray. Each RS-100 is individually, laboratory tested and aceompanied by a signed certificate and guarantee of performance, and a descriptive brochure. $523 / 8^{\prime \prime} \mathrm{H}$. x $327 / 8^{\prime \prime} \mathrm{W}$. x $24^{11 / 16^{\prime \prime}}$ D. Shipping Weight: 222 lbs.
ST-920-Net Price.
$\$ 468.00$


## DUDTD IE SPEAKERS and MICROPHONES

MANUFACTURED FOR DUOTONE BY WORLD FAMOUS PHILIPS OF HOLLAND

## HI-FI MASTER RANGE LOUDSPEAKERS

MOIOFAL 9762-M - is a true $I \mathrm{I}_{\mathrm{i}} \mathrm{r}$ i unit that replaces complex twom spraker sistems using a "wowfur" for the hass and a "tweeter" for the high froquenties. 'Ihtuse old bostly dual systams cathserl phase distortion and parasitice oscollations. Model 9762 is al $12 \%$ speatker with a remord wfleibrites of $1.4 \%$ at 400 ( A due to the use of an extral powerful Pieromal matimet. Soumd diffuser *nsuras mbiform spatial distribution of high motes. With this lomispeakar the acoustionl output ind the rebroduction



## TECHNICAL SPECIFICATIONS

Firequelley responnse
 Vobre totil imperdance I'ower hathding rathatity Fexsonamere freduerle? Folux density Total makrictio flux cone diamerter


## MICROPHONES


 1:1. 6040
Broadeast quality mike, esperially designed for unobtrusiveness. This rugged, light microphone is truly ommidirectional, siet has a tremendous range of response- 40 to $20,000 \mathrm{c} / \mathrm{s}$. Fixuellent for tape rerording. out door work-every sound installation that must meet the highest standard of sommel quality. Slender mudel is ideal for television, reflecting no light and taking up minimum spate. 1:\%. Gu40 resists weather and rough hathdiligg. Imprdance selewtor second phag for



MODEL
EL 6040 ., mon ohms. shorting switch is eonsertille

Swivel will alsolutely rot Jomsint or jall.

> List Price $\$ 125.00$
> 5tand (extra) $\$ 10.00$


MODEL EL 6030


MODEL EL 6020

 TYYP: PLL 60\%
A unidirectional, hights sensitive hyour-cardioid mox-ing-coil mike that pernits in'rease gain of amplifier without risk of acoustical feodhack; such weak reproduction of ambient moise that normal speaking distance can be doubled. You need take no special precautions as to positioning this mike! EL, 6030 is show- prow and can withstand temperatures to $170^{\circ} \mathrm{F}^{\circ}$. FLL 6030 can lec supplied with a Type EI. 6201/20 table stand.

List Price \$149.50

MODH: 9658-a $10^{\prime \prime}$ speaker with a 40 to $15.000 \mathrm{c} / \mathrm{s}$ freduency range. Far superior to ainy other speaker of this size. (opper ring fitted into deep air gap keeps Voice Coil impedance independent of the frequeney. No frequency compensation needed in amplifier. Sound diffuser ensures uniform spatial distribution of high notes. Power in Watts. bificiency at $407 \mathrm{c} / \mathrm{s} 6 \%$. Voice Coil Impedance at $1000 \mathrm{c} / \mathrm{s}$ : 6-8 ohms.

List Price $\$ 49.95$

MODEL $9750-\mathrm{M}$-is an $81 / 2^{\prime \prime}$ speaker with frequency range of $35-20,000 \mathrm{c} / \mathrm{s}$. Fixtremely low frequency and very regular characteristics. Sound diffuser ensures uniform spatial distribution of high notes. Twice the normal air gald depth



List Price $\$ 36.95$

MoDHEL 97anM—A 6 w . speaker. extremely low priere, 81/2" in diameter. $50-20,0000 \mathrm{c} / \mathrm{s}$ frequency range that is spocially construeted with magnetie system pressed into a high preeision frame to a woid misalignment uf the air gan, even in ase of !leary shucks. Voic'e Coil impedance at 10.0 on c/s: 4 to 6 ohms.

## List Price $\$ 16.50$



BROADCASTING,
MECORNING, DA SYSTEAI
MICROPHONH,
TYPE FL 6020
Another DEOOTONE mike (made by Philips) with nearly unlimited life span that is shock-proof and equally sensitive in all directions for the lower frequencies. biquipped With plastic diaphragm insensitive to humidity. sa air, temperatures to $140^{\circ} \mathrm{F}$, and to most industrial chemicals; a moving roil of aluminum wire: a plug for adjusting the impedance to 10,000 . 500 or 50 ohms; an indestructible casing of die rast almoninum with hammeroid lacquer.

List Price $\mathbf{\$ 1 2 5 . 0 0}$

|  | CIRYTAI, MICROPHON゚E EL 6000 |
| :---: | :---: |
|  | Clear, natural reproduction. Molded, ivory mike of high im-pact-strength plastic. I'an be hold in the hand, set on a table with or without the base, suspended or screwed on a floor stand. Response $50-8.000 \mathrm{c} / \mathrm{s}$; sensitovity- 50 dm . Ammealed aluminun. diaphragm. Dharom base available if desired. |
| MODEL EL 6000 | List Price $\$ 14.95$ <br> Base (extra) 3.00 |



NEW KAL AUDETTE Shelf-Size 2-WAY SPEAKER SYSITMM
The AUDETTE is designed to meet the space-saving needs and acoustical yequirements of the average home. Small enough to fit into a bookcase, on a sheif or table. Light enough to carry from room to room. Low enough in price to permit their use in pairs for Bincural listening.
The AUDETTE System employs principles of the Helmholz resoraton and phase inversion techniques This results in clean bass which is remarkable in a cajinet of this size. The wide frequency range ( $45-18,000$ cycles) and natural balaze of musical sound permit hours of listening pleasure without fatigus.
SPECIFICATIONS: ¿F215 Wooter, LP65 Tweeter, HP-1 High Pass litter. Power Rating: 14 watts maximum. Dimensions: $11^{\prime \prime}$ H., $233 / 4^{\circ \prime}$ W., $10^{\prime \prime}$ D. Finish: Richly grained maroon leatherette covered case with contrasting buff and gold beading tim.

Net $\$ 49.50$


## LORENZ SOUND CORMER <br> Carner Wall 2-Way Speaker Eystem

Off the floor and out of the war! The Jorenz SOUND CORNER uses no floo: space and is $a:$ easy to install as hanging a picture. This ingenious, modernistic horn design of riangula: cross section, which uses the walles of $1=00 \mathrm{~m}$ as two of the three rigid boundaries, the speaker baffle being the third, delivers rich, extended $\mathrm{Hi}-\mathrm{Fi}$ reproduction with excellent "presence." The SOUND CORNER consists of the LP2 5 Wooter: LP65 Tweeter. HP-1 Hiah Pass Filter. Frequency response: $31-16,510 \mathrm{cps}$. 2 mounting eyelets. 8 ohms. 14 wafts. Size: $31^{\prime \prime} \times 271 / 2^{\prime \prime} \times 113 / 4^{\prime \prime}$ Blonde finish.

Net $\$ 59.50$

LP-2 15
LORENZ
'WOOFER'

## LOUDSPEAKER

A truly magniticent speaker and a worthy complement to the firest equipment. Performs smoothly over the su'l range. Natural, clean tonal quality assures complete listening plea. sure at any loudness level. Features a heavy rigid frame, thick felt flange (no cardboard) to seal and damp out undesirable resonances. Response: $40-13,500$ Cycles. Power: 12 watts. Impedance: 4 ohms. Size $812^{\prime \prime}$. Its faithful re production is as amazing as its exciting low price.

Net $\$ 22.50$

## LP-65 LORENZ TWEETER

Here is the tweeter to complement any Woofer. This high frequency speaker will carry the "high:" as you want it-Clean, Clear and Crisp up tc 16,000 Cycles. Power: 2 watts. Impedance: 5.5 ohms Size: 21, dia.

Net $\$ 8.50$

## HP-1 KINGDOM <br> HP-1 KINGDOM

 HIGH PASS FILTERUsed with the LORENZ LP-65 TWEETEF it will extend the rance of any speaker to the limit of human audibility. going smoothly from 4.000 CPS up to $16,000 \mathrm{CPS}$.

Net $\$ 4.95$



Z729 AUDIO INPUT TUBE

A miniature Voltage am plifing pentode express$\mathrm{I}_{Y}$ designed for the first stages of high gain audio amplifiers. The EMITRON 2729-High-Gain. Low-Noise, Low-Hum, Low-Microphonic input amplitier pentode. The 2729 fectures fut internal shielding for low noise and hum pickup. If you've been looking for a hum pickup. It you ve been looking for a completely dependable high-gain pre-ampriser and equalizer yube, yount

Net \$2.99
Overall - 2 imensions:
Overall - $21 / 4^{\prime \prime}$. Seated - $2^{\prime \prime}$
Bese: 9 Pin Miniature

Emrion KT66

- Worid's Finest
- Pertect Complevent to Perfect Compleree
Williamson Circuit
- Inferchangeable with 6 L 6

The KT66, used in output stage, makes pos. sible the ful: High-Fidelity potenticl af the trmous Will amson circuit. The EMITRON KT66 beam tetrode lends itself to many applicctions. Primarily known for suparb guality as a triode-connected output tube. it may also be employed tetrode-connected for maximum power output and sensitivity is also ideal as on oscillato or $r$ cmplilier in transmitter circuits up to 30 mas.

KTS6 MATCHED PAIRS $\mathbf{\$ 9 . 0 0}$ per poir
Individual Net Price $\mathbf{\$ 3 . 5 0}$


## Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

## The

Radio-Clectromic MASTER

## LINEAR STANDARD LOUDSPEAKERS

THE CA-15-15" LINEAR STANDARD COAXIAL LOUDSPEAKER













## 

Power Input-2. walk continumb.
Resonant Frequency-361 +9r)
Impedance- 1 a ohms.

Crossover Frequency-3illi c3 rlis.





THE W.15-15" LINEAR STANDARD LOW FREQUENCY DRIVER

 or tour-wisy systom:

Frequency Range-20 to $\mathbf{i , 0 0 0 1}$ cyelrs.

Resonant Frequency-31 cycles.
Impedance-1.5 ohms.
Voice Coil Diameter-2 incbes.
Flux Density-1ㄷ⒩ wanss.

Total Flux-208, $0 \times 10$ lines.
Magnet-2 $1 \mathrm{lb} ., 12 \mathrm{oz}$. Alniero V .
Suspension-Cluth (Vitlour).
Overall diameter (inclutine monntine hes)-18 inclues.

Overall diameter (oxcludiner momutins lums)-15 inclits.
Weight-20 llss.
Set I'rice \$78.00 (\% (\%
the T-64-LINEAR STANDARD ELLIPTICAL CONE TWEETER
 for sinule or multiple ust in stparato two three or four-way systrms.

Power input-11 Watls almive 2,000 cyclas.
Flux Density-12, (1/n) 4 anss.
Impedance-1: whims at lwた。
Voice Coil Diameter- $3 / 2$ inlli.
Voice Coil Wire—. Ilmminmm.
Size—ti inthes : 4 inclure.
Weight--1 14. .i



PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

# SONOTONE CORPORATION ELMSFORD, NEW YORK 



## ADJUSTABLE MOUNTING BRACKET

The adjustable mounting bracket can be used with any of the universal type enclosures. This makes possible an adjustable feature by which the speaker housing can be adjusted in any angle in a horizontal plane. There is a hole in the bracket which will pass a half inch conduit, permitting the speaker housing to be suspended from the ceiling.

| Catalog Number | Description | Actual Wt. lhs. | Dealer Cost |
| :---: | :---: | :---: | :---: |
| AB-2250 | Adjustable tracket for CS-2240 | 3/4 | \$1.14 |
| AB-2251 | Adjustable hracket for CS-2241 | 1 | 1.14 |
| AB-2252 | Adjustable bracket for CS-2242 | $11 / 4$ | 1.41 |
| A H-2253 | Adjustable bracket for CS-2243 | $23 / 4$ | 1.65 |
| CP-2255 | Outlet Hax Cover Plate. $41 / 4{ }^{\prime \prime} \times 21 / 4$ " | 1/2 | . 75 |

## OUTLET BOX COVER PLATE

This unit is a cover plate for electrical outlet box enabling the adjustable bracket to be mounted directly to the outlet box. When used in conjunction with the adjustable bracket, movement in all horizontal and vertical directions is possible.

## REAR SEAT SPEAKER ASSEMBLY



This unit is available in two types, as shown in the table below. The rear seat speaker grill assembly consists of the rear seat speaker grill, together with mounting screws, switch, bracket for holding switch and sufficient wire for installation. The switch permits selection of either speaker or use of both speakers simultaneously.
The rear seat speaker grill is a finely louvered unit made from heavy gauge steel, which assures you of having a grill that will "take a beating." The finish is a beautiful silver grey hammertone, which is a fine enough finish to lee attractive and yet dull enough to assure you that no glaring sun reflection will be picked up by a rear vision mirror and be a potential blinding flash to the driver.

| Catalog Number | Plate Size | Actual wt. lbs. | Dlr. <br> Cost |
| :---: | :---: | :---: | :---: |
| CS-2260 | $3 / 15^{\prime \prime} \times 9^{\prime \prime} \times 51 / 2^{\prime \prime}$ | $3 / 1$ | \$1.80 |
| CS-2261 | 1 Consistine of Cs-2260 nlus switch. lracket and wire) | $11 / 4$ | 3.00 |

## WALL TYPE SPEAKEIR CASES

This is a distinctive line of
 speaker cabinets, for wall or table use. Since these units are made of steel, all troubles with wood warping and splitting are eliminated. Keyway holes are provided for wall mounting and four embossed feet on the bottom are provided to prevent damaging table surfaces. Finished in brown wrinkle enamel only.

| Cat. No. | $\begin{gathered} \text { ITole } \\ \text { Size } \end{gathered}$ | $\begin{aligned} & \text { Speaker } \\ & \text { Size } \end{aligned}$ | Height | Width | Depth | Dealer Cost |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CN-1948 | $31 / 2$ | 4" | $71 / 2^{\prime \prime}$ | $61 / 2{ }^{\prime \prime}$ | 41/4' | \$2.85 |
| ( $\mathrm{CH}-1939$ | 4" | $6^{\prime \prime}$ | $71 / 2$ " | $61 / 2{ }^{\prime \prime}$ | $41 / 4 \prime$ | 3.00 |
| ( 8 -1940 | 43 x | $6^{\prime \prime}$ | $91 / 2{ }^{\prime \prime}$ | $8^{\prime \prime}$ | $55 / 81$ | 3.40 |
| Cs-1941 | $61 / 2{ }^{\prime \prime}$ | 8" | $111 / 2^{\prime \prime}$ | $91 / 2{ }^{\prime \prime}$ | 7 " | 3.90 |
| (S-1942 | $81 / 2$ | $10^{\prime \prime}$ | $131 / 2{ }^{\prime \prime}$ | $111 / 2^{\prime \prime}$ | $81 / 3$ | 4.50 |
| ('N-1943 | 10 1/2" | $12^{\prime \prime}$ | $151 /{ }^{\prime \prime}$ | $131 / 2{ }^{\prime \prime}$ | 9 \% ${ }^{\prime \prime}$ | 5.00 |

## MINIATURE SPEAKER CASE



A safe, convenient housing for midget $2^{\prime \prime}$ and $3^{\prime \prime}$ speakers. These units are finished in black wrinkle only.

| Catalog Number | Fits |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Hole Dia. | Syeaker | Actual Wt. lbs. | Dlr. |
| CS-1685 | 2-3/16" | $2^{\prime \prime}$ | $3 /$ | \$1.50 |
| CS-1686 | 2-13/16" | 3 " | $31 / 4$ | 1.50 |

Prices subject to change witholt notice.
Pricas on above slikhtly higher west of the Minsissippi liver.
Only a fow of many BUD Products are shown. W'rite for complete catalog.

## SILVER SONANCE LINE

The Silver Sonance Line is divided into three parts. The first is the Universal Speaker Enclosure. There are many advantages of the Universal type of speaker housing that makes it the most outstanding unit of its type. It can be used in hospitals, schools, factories, auditoriums, stores, airports, railroad stations, stadiums and any other place where a speaker is used.

A prominent feature of this housing is the adjustability that is achieved by mounting our speaker case with an accessory known as the Bud Adjustable Mounting Bracket. Full information on this bracket is given on page C-46. When the adjustable feature is not desired, the speaker housing may be attached directly to the wall. There are two holes in the sides of the speaker housing enabling installation in this manner. The holes in the cabinet are so spaced that the housing may be mounted either to an outlet box or screwed directly to the wall.

The new BUD UNIVERSAL speaker enclosures have a bi-lateral feature which permits sound to come from both the front and the back of the speaker housing. This is an ideal feature when speakers are used for paging purposes, or when speakers are used in corridors, hallways, or other places where the intention is to have the sound travel in two directions.

There is no danger of cracking, warping, splitting, or any of the other disadvantages found when a wood speaker baffle is used. Since our speaker enclosure is made of heavy gauge steel, none of these disadvantages are present. Changes in temperature and weather conditions have absolutely no effect on this speaker case. The finish is a beautiful silver grey hammertone. The hammertone finish assures ease of cleaning, as the housing may be cleaned by wiping with a damp cloth.

A special sound-deadening compound is used to eliminate the metallic resonant sound that is present in other metal speaker cases. All screws and nuts are furnished for mounting the speaker in the enclosure. There are no holes to drill and no time will be wasted in the installation.


| Hammered Finish Catalog No. | Irimer Coat Only <br> Catalog No. | Sueaker Size | Heimht | Width | Ienth | Actual <br> Weirht <br> pounds | Deater Cost |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CS-2240 | CS-2270 | $4^{\prime \prime}$ or 5" | 7\%" | 6\%/4 | 3-15 3. ${ }^{\prime \prime}$ | $2^{1}$ | \$3.60 |
| CS-2241 | CS-2271 | 5", 512" or $0^{\prime \prime}$ | $81 /$ | $71 / 2$ | $4^{\prime \prime}$ | 2: ${ }^{\text {a }}$ | 4.11 |
| CS-2242 | ('S-2272 | 6" or ${ }^{\text {c }}$ | 10-37 $64^{\prime \prime}$ | $9{ }^{1}: 2$ | $5-116$ | $4^{1}=$ | 7.50 |
| CS-2243 | CS-2273 | $10^{\prime \prime}$ or 12" | 15-1/32" | 131/2" | 7-13,64" | 9 | 9.60 |

Pricet subject to rhange without notice.
Prices on above slighty higher weat of the Minmimippi River,
Only a few of many BID Product, are whown. Write for complete catalog.

## WRIGHT Verified Speakers <br> ST. PAUL

WRIGHT HARMONIC BAFFLE


MODEL 10-P
Flush Mounting Grille


MODEL T-6 CABINET


The second separote and rigid inspection which eoch speoker receives after it has been manufoctured, mokes it possible to reploce ony defective speoker with o new one. This enobles the distributor to immediotely give his customer o new speoket from stock when o defective unit is returned.
SPEAKERS, GRILLES, BAFFLES, CABINETS

| Model <br> Number | Speoker <br> Size | Wotts <br> Output | Alnico 5 <br> Mognet Wt. | V.C. <br> Impd. | List <br> Price |
| :--- | :---: | :---: | :---: | :---: | ---: |
| NP-468 | $4^{\prime \prime}$ | 4 | .68 oz. | 3.5 ohms | $\$ 3.50$ |
| NP-510 | $5^{\prime \prime}$ | 4 | .68 | 3.5 | 4.00 |
| NP-515 | $5^{\prime \prime}$ | 6 | 1.47 | 3.5 | 4.50 |
| NP-610 | $6^{\prime \prime}$ | 4 | .68 | 3.5 | 4.60 |
| NP-615 | $6^{\prime \prime}$ | 6 | 1.47 | 3.5 | 5.00 |
| NP-829 | $8^{\prime \prime}$ | 7 | 1.47 | 3.5 | 6.50 |
| NP-832 | $8^{\prime \prime}$ | 9 | 3.16 | 3.5 | 8.30 |
| NP-8680 | $8^{\prime \prime}$ | 12 | 6.8 | 3.5 | 11.80 |
| HI-800 | $8^{\prime \prime}$ | High Fidelity | 6.8 | 3.5 | 14.50 |
| NP-1032 | $10^{\prime \prime}$ | 8 | 3.16 | 3.5 | 10.00 |
| NP-1068 | $10^{\prime \prime}$ | 12 | 6.8 | 3.5 | 13.30 |
| NP-1232 | $12^{\prime \prime}$ | 8 | 3.16 | 3.5 | 11.20 |
| NP-1268 | $12^{\prime \prime}$ | 12 | 6.8 | 3.5 | 14.25 |
| NP-1248 | $12^{\prime \prime}$ | 28 | 14. | 3.5 | 34.50 |
| NOP-629 | $6 \times 9$ | 6 | 1.47 | 3.5 | 6.50 |
| NOP-631 | $6 \times 9$ | 8 | 3.16 | 3.5 | 9.00 |
| NOP-526 | $5 \times 7$ | 5 | 1.47 | 3.5 | 5.50 |

All speokers 8 inches in size ond over con be furnished with 8 ohm voice coils. Model B-1965 Wright Harmonic Baffe-19 $1 / 4^{\prime \prime}$ in diometer ond $7 \frac{1}{2} \mathbf{2}^{\prime \prime}$ in depth: These dome-like ceiling boffles with their silvery finish ore pleosing to the eye. They ore excellent for orchestral reproduction, singing ond poging.

List Price $\$ \mathbf{1 2 . 0 0}$
For the best results use our NP. 832 speokers, or where exceptionol volume is desired the NP- 8680.

Model 10-P Flush Mounting Grille-A steel disc, $10^{\prime \prime}$ in diometer: They ore furnished with o beoutiful chrome plote (Madel l0-PC) or bonderized ond prime cooted for pointing (Model 10-PB). As they use either the whole ceiling or woll for o boffle these grilles will go o long woy towords moking o wonderful, finished sound instollotion. No grille cloth is required, which does owoy with o sogging, dust-covered cloth to impoir the sound.

List Price $\$ \mathbf{4 . 0 0}$
Made of strong oluminum the " $M$ " Cobinet gives good protection to the speoker and os it is proctically woterproof it con be instolled indoors or outside.
Louvers front ond bock moke it suitoble for two woy poging. The cobinet gives the $6^{\prime \prime}$ speoker sufficient boffle to render sotisfoctory musicol reproduction. The oluminum moy be punctured without difficulty to enoble the use of ony type of brocket. There is $03 / 8$ " grommet in cobinet bottom for leod-in wires.
Size—Outside diometer $63 / 4^{\prime \prime}$, depth $31 / 4^{\prime \prime}$.

| Model | Description <br> Finish | Number <br> to Ctn. | Shipping <br> Weight | List |
| :--- | :---: | :---: | :---: | :---: |
| "M" Cobinet only | Aluminum | 6 | 7 Lbs. | $\$ 9.20$ |

Model T-6 Cobinet—Outside diometer $63 / 4^{\prime \prime}$, depth $31 / 4^{\prime \prime}$. There is o grommet in the bottom for leod-in wires. By the installation of a good 6" PM speoker (NP-615) the T-6 unit gives splendid results both os 0 microphone and 0 speoker. The hondle is mode lorge to occommodote the lorge gloves worn by truckers in the winter. The little brocket on eoch side mokes it possible to hong the cobinet in o position where if con eosily be tolked into while unlooding or looding the truck or cor. After instolling these $\mathrm{T}-6$ cobinets firms hove reported o soving of from 20 to $30 \%$ in time ond lobor.

List Price \$15.00

For full detailed information write for catalog No. 255.

## GALBRAITH MARINE SPEAKERS

Galbraith Reproducers and Amplifers. while designed primarily for installation aboard ship, are especially suitable for use on docks. in shipyards. and other locations where exposed to extremes of varrying iemperatures and difilcult moisture conditions.

10" MEDIUM POWER MARINE TYPE REPRODUCER E-27,547, Alt.-1


Irperond ln the 1: S. Coast Guard (.IJ J1.1.0nit) ton installation on insprecter

 brap is a danhle. prontrant tye oi horn



 Iloslisu treated followerl hy gince Mrommat
 -Tal riamel. The hiah foswered "Mhatens I ibhs" drivir mit is lacated within on
 drd junction hax and is helht in position is tha domerstaperl casting formither the
 "helworl thes" wo rastans proviles the atal Hunscaly lo "sellule all moisture. This promits the suraker to he used in any lowation even ont the exposed weather hochs. The function hox is drillem aml


any entrance of moisture in the driver unit wice eoil chamber, Spring tybe terminals on driver unit and in junction lax permit easy eonmectione



LIST PRICE \$75.00

## 15" HIGH POWERED MARINE REPRODUCER E-27, 544 Alt.-1



Searchlight Type Control Mechanism No. E-27.545-B
 ©if insallation on inelucted merchant vessels when はEAd with afproved loudspeaker system.
 mathly lis" in diameder $x$ i1" in depth, consist



 $\because$ aline flamers. The dunction bux is drillod athl





 :allows rasy :aljustment fin directing suaker to



LIST PRICE $\$ 210.00$


Adjustable Mounting Bracket No. E-27.546




LIST PRICE $\$ 415.00$

LIST PRICE $\$ 375.00$

OTHER GALBRAITH PRODUCTS INCLUDE: Jmalis! and





[^14]
## PRICES

All prices listed in The MASTER are subject to change without notice they should not be considered final.

Get quick on-the-spot quotations from your distributor who subscribes to the up-to-the-minute UNITED PRICING SERVICE.


UNITED PRICING SERVICE 106-110 LAFAYETTE STREET NEW YORK 13, N. Y.

## DELIVERY

Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.


 Tha somul hows smonthy and eventy in all directions - oronstanty. Buther batthes are asalahle to the ceiline. wall or contiot, and are lwatitully styled to blend with any

$360^{\circ}$ SOUND DINPERNION
Our finest gualits ceiling unit for aither surface or recosis mounting. Completely lined with sonnd insulation. Fubume of drum appwix.

800A-8-For $8^{\prime \prime}$ spreaker, 14 hes. 800A-6-For f" sleaker, 14 lis. Required for recess mounting : 8191 -Metal plaster riner, 2 lbs. 8090-Finish rine, 3 lhs.

## CORNER TYPE



Our moderately priced corner mits are ideal when you desire the good quality reproduet ion obtained lay eortor installations. Buth the "and $12^{\prime \prime}$ units are woll eonstructed and completely lined with sommd insulation
$1108-17 \times 2 \pm \times 15^{\prime \prime}$ lar 1700 for $8^{\prime \prime}$ spentier, $1:$ ths. ... $\$ 20.00$ ea. 1108-S-2 $1 \times 17 \times 1 s^{\prime \prime}$ lemer son for $8^{\prime \prime}$ spuntier, 15 lhs. ... $\$ 20.00$ ea.
 830-12-20x2 $4 \times 15$ " lef for $12^{\prime \prime}$ speaker vol, approx. 2200
26.00 ea.

 2006-8-15x7x1:" for $8^{\prime \prime}$ speaker, 1lis.

## WALLTYPE

$\therefore$ slopinite front anclosur for t" or $s^{\prime \prime}$ speakers. (on structed of hariliward owir wood frame, eompletely ined with sound insulation material. The entire back is removable for servicing speaker. linlume approximately $1000 \mathrm{cu} . \mathrm{in}$.


## PLASTER RING

These 20 mal. steel rinurs are used for reeses mountint sumkers, The rind is placend in the ceriline of new or existing construction and anelored to the lath. It provides a tromi sizaz opmine to permit the spuaker to pass throngh. The holds on the lower sarface miteli those of the flush mountinus plate listed.


## FLUSH MOUNTING UNITS



The use of 20 gat steel for these ringe mermit us to climinate 4 holt hazals on the surficee of the thate. The speaker momating screws are athehowerl sulidly ost the barek. Only the serews whirh hold the plate to the plasier ring abluar on the surfac-
$510 R-12$................. $\$ 6.40$ ea.
 510-12 ...... $\$ 6.10$ ea. $14^{\prime \prime}$ liat. for 10 " suralion. 2 lis. 510R-8 $\$ 4.25$ ea. 1 ロ" dia. for 8 " sperakur, $11 / 21 \mathrm{lis}$, $510-8$. $\$ 3.95$ ea. $10 "$ lia. for s" speakor, $11 / 2 \mathrm{M} 11 \mathrm{~s}$.
$510-6$
10 " (ias for (f" speatier $\$ 3.95$ ea

This very solid haffle will make a grord Hi-Fi externsion unit as woll as bring it superior unit for foond lackeround musie installalions. To mount on a wall or ceiling use our \#1010 swivel-flange. lolume ap. proximately 3000 cu in.
$\$ 13.00 \mathrm{ea}$. 13.00 ea.
 170-12-00x10x24" for $19{ }^{\prime \prime}$ sparaker, 17 lis.


SEND FOR COMPLETE CATALOG, FREE OF CHARGE TO

BELLWOOD. ILL.

## LOWELL STL SERIES

## New Low Ceiling Type Baffles



| Model No. | Speaker Size | Will Mount to |
| :--- | :---: | :--- |
| STL-6 | $6^{\circ}$ | STP6. XSTPS, STPR6 |
| STL-7 | $7{ }^{\circ}$ | STP8, XSTP8, STPR8 |
| STL.8 | $8^{\circ}$ | STP8, XSTP8, STPR8 |
| STL.10 | $10^{\circ}$ | STP10, XSTP10, STPR10 |
| STL-12 | $12^{\prime \prime}$ | STP12. XSTP12, STPR12 |

These new, unusual additions to the Lowell line of speaker baffles are top quality heavy 18 gauge spun aluminum in a buffed satin finish. Designing assures controlled $360^{\circ}$ dispersion of undistorted sound. Echo and feedback are at the minimum. Louvres and conical diffuser "float" on very small soft rubber
grommets. Baffles are coated with clear lacquer which also serves as prime coat for on-the-job painting. Wide choice of colored lacquer finishes available on request.

Shipped complete with hardware and instructions for mounting to Lowell Protective Speaker Enclosures illustrated.

From architecture to acoustics, Lowell STL series meets every requirement - in ultra-modern design . . . for even, undistorted low-level sound distribution throughout $360^{\circ}$. Recommended baffle placement is usually $25^{\prime}$ from center to axis. Where straight line placement is impossible, triangulating the baffles in the ceiling is highly effective.

STP SERIES


XSTP SERIES


STPR SERIES


## LOWELL CONSOLES

## Single turret, Two turret, Three turret Models



Offer every custom-styled advantage. Equipment is well protected. All controls can be located for maximum operator comfort and convenience. Lowell console models are available for every budget due wo low mass-production prices!

FEATURES: 18 gauge steel with gray hammertone finish. Gray, heavy-duty linoleum top to provice comfortable, durable work surface.

MODELS AVAILABLE: There are models especially designed for use in airports, broadcast studio', schools, manufacturing plants and similar applications.

SMALL SIN(iLf: TURRET CONSOLE - with or without sliding drawers accommodating up to $16^{\prime \prime}$ transcription player. For airports or broadcast studio:.

4 FT. CONSOLE WITH SINGLE SHFLF AREA includes sliding phono drawer. Will handle one or two turrets. Ixcellent for schools of approx. 15 room:

6 FT. CONSOLE W'ITH DOLBLE SHELF AREA in both right and left. For up to three turrets. Serves schools of about for rooms.

Also - 1-Turret unit with single drawer and shelf with indent $\mathbf{i n}^{\prime \prime}$ alowe kneehote.

3-Turret unit with double drawers and two shelves with indent $f^{\prime \prime}$ above kneehole.


## LOWELL XCP SERIES

## Back Cover Protective Speaker Enclosure



| Model | A | 8 | C | Speaker Size Accommodation |
| :---: | :---: | :---: | :---: | :---: |
| XCPb | $4 \cdot$ | 101/8' ${ }^{\text {d }}$ | 7' ${ }^{\prime}$ | $6^{\prime \prime}$ |
| XCP8 | $41 / 4^{\prime \prime}$ | $113 / 4{ }^{\prime \prime}$ | $81 / 2^{\prime \prime}$ | 8' |
| XCP1012 | 7'0 | 15\% ${ }^{\text {c }}$ | 121/2 ${ }^{\prime \prime}$ | $10^{\circ} \% 12^{\prime \prime}$ |
| XCP15 | $10^{3 / 4} \cdot{ }^{\prime \prime}$ | 211/4' ${ }^{\prime \prime}$ | 145/9 ${ }^{\prime \prime}$ | 15" |

USES: Designed for quick labor-saving wall or ceiling installation of sound systems in EXISTING CONSTRUC. TION, ready for plastering.

DESCRIPTION: All-steel, spot-welded construction of heavy 22 ga. metal complete with plaster ring attached. $3 / 4^{\prime \prime}$ knockouts at $90^{\circ}$. Rust preventive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete mounting hardware and mounting instructions furnished to meet problems of rarious types of installations.

Note: Special overall depths (where space in walls and ceilings allow') and additional "toading" may be ordered at slighty higher price.

IMPORTANT: W"hen mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath:
Model XCP6—71/4" dia. Model XCP1012—125/8" dia. Model XCP8-85/8" dia. Model XCP15-143/4" dia.

FOR SUSPENDED CEILINGS:
Mount XCP Series back enclosures to Model SS24 or 48 Steel Support Channels for positive strength.

FEATURES: Protects speaker cone from fire, falling morat and dust. Prevents rodents from damaging speaker cone. Fasily serviced without damage to wall or ceiling. Installation time reduced

Speaker Baffles That Will Mount to XCP Series Protective Speaker Enclosures:

| Enclosure <br> Model No. | Speaker Bafle <br> Model No. |
| :--- | :---: |
| XCP6 | AL6-A, RS5-A, RS6-A, STL-6 |
| XCP8 | AL7-A, AL8-A, RS7-A, RS8-A, CE8-L, JG8, |
|  | M-8, PS8, STL-7, STL-8 |



## Lowall mannacturam compan

## LOWELL CP SERIES

## Back Cover Protective Speaker Enclosure



| Model | A | B | C | Speaker Size Accommodation |
| :---: | :---: | :---: | :---: | :---: |
| CP6 | 4, | 111/4' ${ }^{\prime \prime}$ | $7{ }^{\prime \prime}$ | $6^{\prime \prime}$ |
| CP8 | 41/4 ${ }^{\prime \prime}$ | 13'1 | $81 / 2^{\prime \prime}$ | $8^{\prime \prime}$ |
| CP1012 | $7{ }^{\prime \prime}$ | 171/6' | 121/2 ${ }^{\prime \prime}$ | 10' \& 12' |
| CP15 | 11" | 211/2" | $14^{5 / 8}{ }^{\prime \prime}$ | 15' |

USES: Designed for quick, labor-saving wall or ceiling installation of sound systems in NEW CONSTRUCTIONS, ready for plastering.

DESCRIPTION: All-steel, spot-welded construction of heary 22 ga. metal complete with plaster ring attached. $3 / 4^{\prime \prime}$ knock-outs at $90^{\circ}$. Rust prevendive coating on exterior. Very heavy undercoating on interior to prevent metallic resonance. Sufficient speaker back pressure relief assures high speaker efficiency. Excellent for high fidelity installations. Complete with mounting hardware and mounting instructions to meet problems of various types of installation.

Note: Special overall depths (where space in walls and ceilings allow) and additional "loadings" may be ordered at slightly higher price. Available with removable cylinder and stationary front plaster ring in adjustable face modelsDCP series.

IMPORTANT: When mounting back enclosures in wall or ceiling for slip fit, cut hole to following size in diameter as per model ordered and nail to lath.
Model CP M $^{-7 \prime \prime}$ dia. Model CP1012-121/2" dia. Model CP8- $81 / 2^{\prime \prime}$ dia.

Model CP15-14i/4" dia.
FOR SUSPENDED CEILINGS:
Mount CP Series back enclosures model SS 24 o- 48 Steel Support Channels for positive strengrh.

FEATURES: Protects speaker cone from fire, falling mortar and dust. Prevents rodents from damaging speaker cone. Easily serviced without damage to wall or ceiling. Reduces installation time.

Speaker Baffles That Will Mount to CP Series Protective Speaker Enclosures:

| Enclosure Model No. | Speaker 8afle Model No. |
| :---: | :---: |
| CP6 | AL6-A, RS5-A, RS6-A, STL-6 |
| CP8 | AL7-A, AL8-A, RS7-A, RS8-A, JG8, M-8, PS8, STL.7, STL.8 |
| SP1012 | AL10-A, AL12-A, RS10-A, RS12-A, JG12. RS812-M, AM812-M, STL-10, STL-12 |
| CP15 | ALI5, RSI5-A |

AL SERIES


RS SERIES


JG SERIES


M SERIES


PS8 BLOCK PAN


## Lōivel manactunanc curear

## SURFACE MOUNTING CEILING BAFFLES

## "WITH FLOATING CONICAL ACTION"



| Model No. | Speaker Size | A | B | C | Will Mount |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BL6-A | $6^{\prime \prime}$ | 71/4'' | 41/4 ${ }^{\prime \prime}$ | 121/4" | PL6 |
| BL7-A | 7'' | 81/8' ${ }^{1 / 4}$ | 51/4 ${ }^{11}$ | $14^{3 / 4}{ }^{\prime \prime}$ | PL7 |
| BL8.A | 8'" | $14^{3 / 4}{ }^{\prime \prime}$ | $51 / 4{ }^{\prime \prime}$ | $81 /{ }^{\prime \prime}$ | PL8 |
| BL10.A | 10'' | 91/4 ${ }^{\prime \prime}$ | 71/4 ${ }^{\prime \prime}$ | $183 /{ }^{\prime \prime}$ | PLI 0 |
| BLI2-A | 12'' | 91/4"' | 71/2" | $183 /{ }^{\prime \prime}$ | PL12 |

IMPORTANT NOTE: when added cubical area is required. CP or XCP Series may he inssalled in ceiling. Choose model to suit speaker size selected for installation.


PI. Scrics Stecl Discs for mounting BL Series tu concrete ceilings. Heary 18 gatage stect. All holes punched for standard electrical outiet boxes.

GENERAL INFORMATION: Designed for surface mounting comstructed of heavy gauge aluminum. Accuratels engineered for normal ceiling sound reinforcement. Perfect speaker cone loading holds feed-hack to minimum. Exclusive "Floating Conical Action" assures controlled $360^{\circ}$ sound coverage. High frequency diffuser supported to housing hy four $1 / 4$ " aluminum studs and threaded on one end mounted to housing. Press fit to diffuser through soft rubber grommets prevents metallic resonance. Recommended placement of baffics under normal ceiling heights is $25^{\circ}$ off center of axis in straight line placement. All models finished in brushed satin and coated with colorless lacquer. Acts as excelleat base coat or primer for on-the-joh paincing. All models available in colored lacquers at slighty higher price. Complete information on request.

## TYPE RS recessed wall type directional speaker baffles

TYPE RS RECESSED WALL TYPE DIRECTIONAL SPEAKER BAFFLES:
Excellem speaker erim for modert installations. Fipecially recommended for Dress Shops. Department Stores. Night Clabs. Provides concealment of spaker. Easily installed.

DESCRIPTION: 18 gauge spus aluminum. $1 / 2^{\prime \prime}$ mounting flange. Mounts to I.ow'tl Model CP or XCP enclosures or to wall with 4 togele bols. Furnished with plastic grille cloth. Grille cloth and speaker mount on trin ring with 4 round hand screws. Standard finish-sarin aluminum.


| Model No. | Speaker Size | Dimensions | Wall Hole Size |  |
| :---: | :---: | :---: | :---: | :---: |
| RS4-A | $4^{\prime \prime}$ | 71/2' ${ }^{\prime \prime}$ dia. $\times 7 / 16^{\prime \prime}$ depth | $5{ }^{\prime \prime}$ | dia. |
| RS5.A | 5' | 10'' dia. $\times 7 / 16^{\prime \prime}$ depth | $7{ }^{\prime \prime}$ | dia. |
| RS6.A | $6^{\prime \prime}$ | $10^{\prime \prime}$ dia. $\times 7 / 16^{\prime \prime}$ depth | $7{ }^{\prime \prime}$ | dio. |
| RS7.A | 7' | $12^{3 / 6}{ }^{\prime \prime}$ dia. $\times 7 / 16^{\prime \prime}$ depth | $81 / 2$ | dia. |
| RS812-M | $8{ }^{\prime \prime}$ | 17'" dio. $\times 1 / 2^{\prime \prime}$ depth | $81 / 2$ | dia. |
| RS8-A | 8" ${ }^{\prime \prime}$ | $12^{3 / 8^{\prime \prime}}$ dia. $\times 1 / 2^{\prime \prime}$ depth | $81 / 2$ | dia. |
| RS 10.4 | $10^{\prime \prime}$ | 161/2*' dia. $\times^{1 / 2^{\prime \prime}}$ depth | $12^{1 / 2}$ | dia. |
| RS12-A | $12^{\prime \prime}$ | $16^{1 / 2}{ }^{\prime \prime}$ dia. $\times 1 / 2^{\prime \prime}$ depth | $121 / 2$ | dia. |
| RS15-A | 15" | $23^{\prime \prime}$ dia. $\times 3^{\prime \prime}$ depth | $17^{\prime \prime}$ | dia. |

# Lowell manvactunam company 

[^15]
## LOWELL AL SERIES

## Flush Mounting Low Ceiling Baffles



| Speaker Boffe Model | Size Speaker Accommadated | Mount to Speaker Enclosure Models | A | Dim $8$ | nsions C | D | Bame Flange | No, of Flange Mtg. Holes | Dia. of Required Hole in Ceiling |  | igh bs.) Shpg. | No. per Shipping Carton |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AL6-A | $6^{\prime \prime}$ | $\underset{\text { PS }}{\text { CPG, XCP6, PRG }}$ | 21/2'" | $1 / 2 \times$ | 101/2* | $51 / 4^{\circ \prime}$ | $1 "$ | 4 | 7' | $1 / 2$ | $3 / 4$ | 12 |
| AL7-A | 7' | CPB, XCP8, PR8 PS | 21/2" | $1 / 2{ }^{\prime}$ | $123 / 4^{\prime \prime}$ | 51/4* | $1{ }^{\prime \prime}$ | 4 | $81 / 20$ | $3 / 4$ | 1 | 15 |
| AL8-A | $8^{\prime \prime}$ | CP8. XCP8, PR8 PS | 21/2" | $1 / 2^{\circ}$ | 123/4" | 63/9" | $1{ }^{\prime \prime}$ | 4 | 81,2" | $3 / 4$ | 1 | 15 |
| ALIO-A | $10^{\prime \prime}$ or $12^{\prime \prime}$ | $\begin{aligned} & \text { CP1012, XCP } 1012 \\ & \text { PR10 } \end{aligned}$ | $3^{\prime \prime}$ | 1/2"' | 17' ${ }^{\prime \prime}$ | 81/2"' | $1 "$ | 4 | $13^{\prime \prime}$ | 1 | $11 / 2$ | 6 |
| AL12-A |  | $\begin{aligned} & \text { PR12, CP1012, } \\ & \text { XCP1012 } \end{aligned}$ | $3{ }^{\prime \prime}$ | 1/2" | 17'0 | 103/* | 1" | 4 | $13^{\prime \prime}$ | 1 | 11/2 | 6 |
| ALI5-A | $15^{\prime \prime}$ | $\begin{aligned} & \text { PR15, XCP15 } \\ & \text { CP15 } \end{aligned}$ | 5" | $2^{\prime \prime}$ | 22'' | 13' | 13/4" | 8 | 151/2* | 3 | $31 / 2$ | 1 |
| AL812-M | 8** | $\begin{aligned} & \text { PR12, CP } 1012 \\ & \text { XCPIO12 } \end{aligned}$ | 21/2** | $1 / 2 *$ | 17" | 61/4" | 2** | 4 | $8^{1 / 2}{ }^{\prime \prime}$ | 3/4 | 1 | 6 |

Top quality. heavy gauge satin finished spun alaminum. Assures controlled $360^{\circ}$ diffusion of undistorted "Ear-lewel" sound with minimun of echo and icedback. Conical diffuser "floats" on soft rebber grommets forming a press fit to aluminum support seuds which thread to speaker housing ring. Clear lacquer coating also serves as prime coat for on-the-job painting. Wide chasice of colored lacquer finishes available on request. Shipped complete with hardware for mounting to Lowell Protective Speaker Linclosures illuserated.

## $360^{\circ}$ Coverage Low "Ear-Level'' Sound

 Even undistorted sound. Recommended batile placement $25^{\prime}$ from eventer of axis. Where straight line placement is impossible, triangulating bafle in ceiling is highly ciffective.XCP SERIES


PR SERIES

PS BLOCK PAN


MANUFACTURING COMPANY

## Dam PRODUCTS <br> Specialty Manufacturers DETROIT 35, MICHIGAN

Specifically designed for the custom installation of $12^{\prime \prime}$ speokers in wall or celling, this symetrically potterned grile will cnhonce the appearance of ony speaker instollafion in new or existing construction. Formed for strength and beauty, this unit is available in the following finishes to blend with the decor , individual installation
\# SG12C List CHROME . . . . . . . . $\$ 7.95$ \# SG12H HAMMERTONE $\qquad$ $\$ 7.50$
\# SG12P
PRIME COATED
$\$ 7.50$
Complete with waven saran grille clath and speaker mounting hord-

## DIMENSIONS:

Outside Diameter: $153 / 4^{\prime}$
Mounting holes on flange are
spaced on $143 / 4^{\prime \prime}$ diameter.

$8^{\prime \prime}$ RECESS \{ SG8WC CHROME ........ 4.45
MOUNT SG8WH HAMMERTONE . . . . 3.95


## UNIVERSAL REAR SPEAKER ACCESSORIES

DUAL SPEAKER SWITCH KIT


- For rear speaker application. Permifs the use of front, rear or both speokers. Complete with ${ }^{3-w a y}$ switch, instructions.
\#DSK . . . . . . List \$1.35
\#DSK . . . . . . List \$1.35

WIRED DUAL SPEAKER SWITCH ASSEMBLY


- A completely wired unit for the original installotion of auto rear speakers Permits the use of front, rear or both speakers. Includes wired 3 -woy switch, mounting plate, knob and simple instructions.


DUAL SPEAKER CONTROL KIT


- This unit is designed to vary the volume of either speaker or bath in rear speaker installations. Includes wirewound control, mouriting plate, knob and simple instructions.
\#DBC
List \$1.75


## ह FUZ-LOX 合

- A fost, efficient, and economicol method of shunting burnt out pigtoil fuses in television chossis. Mode of spring tempered bross ond nickel ploted to insure excellent contoct.



## CONTROL GUARDS



Designed for the protection of pre-set controls ogainst tompering or occidentol odjustment. Prevents dirt and moisture infiltrotion into controls. Moy be used on test equipment or industriol equipment os well os TV chossis. Fits oll stondord shoft bushings. .


## UNI-DIRECTIONAL RIBBON MICROPHONE



Model "333"
Concert-Line

Here is the Concert-Line " 333 ," a truly fine and rugged microphone created for discriminating users with the most exacting professional requirements. Here, indeed, is a major advance in microphone development and design! This small, ultra-cardioid " 333 " is highly recommended for motion-picture studios, TV studios, radio stations, professionol recording, and all other uses where quality requirements are of the highest. Here is performance never before achieved in such a small and slender microphone! Here is ruggedness and reliability! Here is motchless beauty and striking design to appeal to users who demond the finest! The " 333 " is ultra-cardioid, uni-directional--reduces the pickup of random noise energy by $73 \%$--prevents the pickup of maving props, scuffling feet and moving "dollies," so common when conventional broadcast microphones are used. Following are the features that make the " 333 " Concert-Line so outstanding in perfarmance, sa dependable in operation: (1) patented, world-famous "Uniphase" system; (2) a true ultro-cardioid pickup pattern; (3) horn-loaded
 "lifetime" swivel; (8) high output; (9) sturdy, one-piece metal case; (10) vibration-isolation unit mounted in live rubber; (11) Cannon XL connector. All these important features, plus the striking design af the Cancert-Line "333," make it ideal for criticol studio applications that call for the highest possible broadcast quality, small size and matchless beauty--plus the obility to withstand the rough work. a-day handling by the sound crew. The " 333 " has two-tone "Baked Bronze" non-reflecting finish. Head dimensions: Width, 1 1/8"; height, $39 / 16^{\prime \prime}$; depth, $13 / 4^{\prime \prime}$.

| IMPEDANCE TABLE | OUTPUT LEVEL |
| :---: | :---: |
| 50 ohms | 60.0̃ db below I Milliwatt per 10 microbar signal |
| 150 ohms | 59.0 db below I Milliwatt per 10 microbar signal |
| 250 ohms | 59.0 db below 1 voll per microbar |

## OMNI-DIRECTIONAL DYNAMIC MICROPHONE



Model "525" Concert-Line

The new Concert-Line " 525 " is an exceptionally fine probe microphone of broadcast quality. It features: (1) frequency response $40-15,000$ c.p.s., praduction uniformity guaranteed to plus or minus $21 / 2 \mathrm{db}$; (2) a moving-coil mounted in a highly efficient magnetic structure; "Alnico V" magnet; (3) multiimpedance switch; (4) high output; (5) long life "Duracaustic" diaphragm--specially designed to withstand moisture, heat, cald and physical shock. The " 525 " is furnished with a 20 ft ., two-canductar, rubber-covered, shielded cable with Cannon XL-3-11 connector attoched; swivel adapter; adjustable lavolier assembly (cord and clip), and a belt clip assembly. The " 525 " Concert-Line has a non-reflecting "Baked Bronze" finish--which makes it blend into the backgraund, giving the spatlight to the performer. Body diameter, $1^{\prime \prime}$; length, 8 17/32".

| IMPEDANCE TABLE | OUTPUT LEVEL |
| :---: | :--- |
| 50 ohms | 61.0 db below I Milliwatt <br> per 10 microbar signal |
| 150 ohms | 61.0 db below I volt per microbar <br> 61.0 db below I volt per microbar |
| 250 hms |  |

Model S33
Broadcast
Desk Stand

| MODEL | LIST PRICE |
| :---: | :---: |
| ${ }^{\prime \prime} 525^{\prime \prime}$ | $\$ 200.00$ |

List Price: $\$ 15.00$

## BI-DIRECTIONAL GRADIENT MICROPHONE



Model "300"
Concert-Line

This rugged, high fidelity, multi-impedance microphone is widely used for television, radio broadcasting, prafessianal recording and high-fidelity uses. The " 300 " reduces reverberation ond the pickup of random naise by $66 \%$. The " 300 " combines the best features of canventional velocity microphones with advanced acaustic design-including an anti-"PFF," anti-blast filter screen. Its bi-directional polar pattern is effective aver a broad frequency range. It provides sound pickup at the front and rear of the microphone, but greatly reduces pickup at the sides. One of the outstanding features of the " 300 " is the fact that the microphane can be placed at a $73 \%$ greater distance from the perfarmer than is possible with amnidirectional microphanes! The " 300 " has a non-reflecting "Baked Bronze" finish, so it blends inta the backgraund, gives the spotlight to the performer. The " 300 " has a readily accessible Voice-Music switch, vibration-isolation unit mounted in live rubber, and a multi-impedance switch, providing low medium and high impedance. Response plus or minus $21 / 2 \mathrm{db}, 40-15,000 \mathrm{c} . \mathrm{p} . \mathrm{s}$. Dims: Ht., $6^{\prime \prime}$; Wth.,
$17 / 16^{\prime \prime}$; Depth., $13 / 32$.

| IMPEDANCE TABLE | OUTPUT LEVEL |
| :---: | :---: |
| L-35-50 ohms | 59 db below 1 Milliwatt <br> per 10 mierobar signal |
| $150-250$ ohms <br> 0 db below 1 Milliwatt <br> per 10 microbar signal <br> 57 db below 1 volt per microbar |  |

## Model S33

Broadcast Desk Stand
List Price: $\$ 15.00$

| MODEL | LIST PRICE |
| :---: | :---: |
| ${ }^{\prime} 300^{\prime \prime}$ | $\$ 135.00$ |

# SHIUR GRADIENT' AND DYNAMIC MICROPHONES 



Madel "530" Slendyne


Model "315" Gradient


Model 5565
" 5 mall Broadcast" "Small

## OMNI-DIRECTIONAL DYNAMIC MICROPHONE

The Slendyne "530" is the most versatile of all public-address probe microphones because it can be held in the hand; used on a desk stand; placed on a floor stand; or hung around the neck to provide complete freedom of the performer's hands. The Slendyne features: (1) frequency response 60-15,000 c.p.s. (2) a moving coil mounted in a highly efficient magnetic structure, with "Alnico.V" magnet (3) dual-impedance switch for high or low impedance (4) high output (5) "Duracoustic" diaphragm-specially-designed to withstand moisture, heat, cold and physical shock. The "530" is furnished with an on-off switch plate assembly which requires no wiring; $s$ wivel adapter; lavalier and belt clip assembly, and a 20', 2-conductor, rubber-covered shielded cable with Cannon XL-3-11 connector attached. The Slendyne is a striking-looking microphone with a beautiful black and gold finish. It imparts glamour to any sound system with which it is used. Dimensions: body diameter, $l^{\prime \prime}$; length, 7 11/32"

| IMPEDANCE TABLE | OUTPUT LEVEL |
| :---: | :---: |
| 1-50-250 ohms | 59 db below 1 Milliwott per 10 misrobor signal |
| H-High | 58 db below 1 volt per |


| Model S338 (Black) | MODEL | LIST PRICE |
| :---: | :---: | :---: |
| Desk Stond | " 530 " | \$110.00 |

## BI-DIRECTIONAL GRADIENT' MICROPHONES

This rugged, high-fidelity, multi-impedance microphone is recommended for highest-quality general purpose uses! The Gradient provides a bi-directional pickup pattern-permitting greater performer freedom (performers can stand at a $73 \%$ greater distance from the microphone!) The " $315^{\prime \prime}$ pieks up voice and music from front and back-is "dead" at the sides. Reduces reverberation and the pickup af distracting random noises by $66^{\prime}$; ! Has a Multi-Impedance switch. Response is 50 to 12,000 c.p.s. Permits the sound system to operate at a level almost $6 d b$ higher than is possible with omni-directional microphones! Finished in rich, soft chrome. The " 315 " is "PFF"-proof-can be used in outdoor drafts and moderate breexes! Dims: Hi., 6"; Wth., 1 7/16"; Dpth., 1 3/32".

| IMPEDANCE TABLE | OUTPUT LEVEL |
| :---: | :---: |
| L-35-50 ohms | 59 db below 1 Milliwatt per 10 microbar signal |
| M-150.250 ohms | 60 db below 1 Milliwatt per 10 microbar signal |
| H-High | 57 db below 1 volt per microbar |


| MODEL | LIST PRICE |
| :---: | :---: |
| ${ }^{\prime \prime} 315^{\prime \prime}$ | $\$ 79.50$ |

## UNIDIRECTIONAL DYNAMIC MICROPHONES

The "Small Unidynes" are the largest selling microphones throughout the world. A sturdy construction provides immunity of the moving coil system to abnormal atmospheric conditions and severe mechanical shock. "Mode! " $555^{\prime \prime}$ is highly recommended for fine-quality public address; theater-stage sound systems; recording and remote broadcasting. Is widely used for fixed station use in the police, fire, and transportation services. Model "5565" is recommended for studio broadcasting, television use, and professional recording. Has Cannon XL connector and vibration-isolation unit. Both models reduce the pickup of random noise by $67 \%$; have smooth response from 40 to 15,000 c.p.s.; are supplied with a 20 - ft ., high quality cable and plug assembly. Both models have the world-famous, patented "Uniphase" system.

| IMPĖDANCE TABLE | OUTPUT LEVEL |
| :---: | :---: |
| 1-35-50 ohms | 59.4 db below I Milliwall per 10 microbar signal |
| M-150-250 ohms | 60.1 db below 1 Milliwatt per 10 microbar signal |



Multi-Impedance per 10 microbar signal 60.1 db below I Milliwatt 60.5 db below 1 voli per microbo

## MULTI-IMPEDANCE HIGH OUTPUT DYNAMIC

The "Sonodyne" is ideal for all general purposes, including public address, wire and tape recording, and similar applications. It is widely used by bands, instrumentalists, and professional recording artists because of its outstanding reproduction of both voice and music. Widespread usage by home users of tape recorders indicates that the "Sonodyne" is the ideal high-quality, moderately-priced replacement for the conventional microphone supplied with tape recorders. Has built-in receptacle and a 15-ft., two-conductor shielded cable with microphone plug attached. Satin chrome finish. Model " 51 "

List Price: \$47.50

| IMPEDANCE TABLE | OUTPUT LEVEL |
| :---: | :---: |
| $1-35-50$ ohms | 53.0 db below 1 Milliwaff <br> for 10 microbar signal |
| $M-150-250$ ohms | 52.5 db below 1 Milliwaft <br> for 10 microbar signal |
| $H-$ High | 52.0 db below 1 volt per microbar |

## CRYSTAL MICROPHONES

## THE NEW "SLIM-X" ALL-PURPOSE MICROPHONE

## FOR:

- Low Cost P.A. Systems
- Home Recording
- Hams
- General Purpose


The now "777" Slim-X Mierophones are rugged little microphones weighing only 6 ouncesl They are designed for good-quality voice and music reproduction. Their versatility and "hand-ability" make them ideal for use by lecturers, announcers, instructors, and Hams; for audience participation shows; carnivals; panel and quiz shows; and use with homerecorders. When mounted on either cradle or swivel, the '777"' can be removed in o flash (no tools
necessary)-simply by lifting it out of the holder. This makes it an ideal "walk-oround" hand-held microphone.
TECHNICAL INFORMATION: Smooth frequency response- 50 to 10,000 c.p.s.; special-sealed crystal element-for long operating life; high impedance; 7' single-conductor cable, disconnect type. Dimen-


In the Hand sions: (Microphone only) Length, $4 \frac{1}{2 \prime \prime}$; Diameter, $1^{\prime \prime}$. Finish: Rich satin chrome overall.

## "SLIM-X" ASSEMBLIES

MODEL 777A includes 777 Microphone; A-25 Swivel Adaptor; S-38 Desk Stand; Lavalier Cord. Model: 777A List Price: \$29.00
MODEL 777SA includes 777S Microphone; A-25 Swivel Adaptor; S. 38 Desk Stand; Lavalier Cord.
Model: 777SA

## ACCESSORIES FOR "777"

MODEL S38 STAND is a heavy die-cast base. Includes metal screw machine stud for connecting microphone adaptor to stand base.
Model: S38
List Price: $\mathbf{\$ 3 . 3 0}$
MODEL A25 SWIVEL ADAPTOR features a long-life, high-quality swivel connector. Is lined with a long-life nylon sleeve-for noise-free and scratch-free insertion and removal of microphone.

| Model | Output | List Price |
| :---: | :---: | :---: |
| 777 | 59 db <br> below 1 volt per microbar | 21.00* |
| 7774 |  | 29.00 |
| 7775 <br> With Switch |  | 23.00* |
| 777SA With Switch |  | 31.00 |

*(Price includes cradle
for mounting on stand.)

Model: A25
List Price: $\$ \mathbf{\$ . 5 0}$


Fig. A
"MONOPLEX" (Fig. A)
The only Super-Cardioid Crystal Microphone made-far superior to conventional Crystal Microphones! Excellent for highquality public address, communications, recording, and similar applicotions. The 737A operates under adverse conditions of bockground noise and reverberation-where o conventionol microphone would be proc. tically useless! Reduces pickup of candom sound by $73 \%$ ! Moisture-proofed "Metal Seal" crystol for long operating life. Case pivats at rear, can be painted toword desired sound or upwords for horizontal plone pickup. Has 15 ft . shielded coble. Rich satin chrome finish. High impedance.

| MODEL | $\overline{\text { OUTPUT }}$ | UST PRICE |
| :---: | :---: | :---: |
| $737 A$ | 54.0 db <br> below 1 volt <br> per mictobor | $\$ 42.50$ |

## THE "REX" (fig. B)

Its low price makes this hand-held microphone a natural for "Hams" and low-cost public address systems. A rugged unit dosigned for high speach intelligibility. Saves extra costa as it needs no desk standl Has


Fig. $\mathbf{C}$


Fig. $D$
a broad base, complete with stand adapter for mounting on floor stond. Sits firmly on a table top without tipping over. Die cast case. Frequency response 60 to $9,000 \mathrm{c} . \mathrm{p.s}$. 5 ' shielded cable. Beautiful Bergundy-red metollic finish. Only $22 / 3^{\prime \prime}$ wide, $31 / 4^{\prime \prime}$ high, $1188^{\prime \prime}$ thick. High impedonce.

| MODEL | OUTPUT LEVEL | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ |
| :---: | :---: | :---: |
| 710 A | 50 db below 1 volt per microbor | \$10.95 |
| $\begin{gathered} 7105 \\ \text { (with switch) } \end{gathered}$ | 50 db below 1 vali per microbor | \$12.95 |

## MODEL 707A (Fig. C)

Ideal for low-cost P.A. systems, omateur 'phone transmitters and similar applications. Good-quality performonce at low cost. Hos typical semi-directional pickup. Has 7 ff . shielded cable. High impedance. Pearl Gray case with rich satin chrome finish on front grille. Diameter $23 / 8{ }^{\prime \prime}$.
Model 707A designed to be used with Shure Model S34B or S36A Desk Stands (see page 6).


fig. $E$

LAPEL MICROPHONE (Fig. D)
Specially designed unit widely used by lecturers, instructors, speakers, etc. High speech intelligibility. Response from 40 to 6,000 c.p.s. $17 / 8^{\prime \prime}$ diameter. Has lapel clip. 20 -foot shielded single-conductor cable. High impedance.

| MODEL | OUTPUT <br> LEVEL | LIST <br> PRICE |
| :---: | :---: | :---: |
|  | 57db <br> bew 1 valt <br> per micrabor | $\$ 27.00$ |

## STRATOLINER (Fig. E)

An expensive-looking crystal microphone ot moderate cost. Wide-range response for good reproduction of either voice or music. Placed harizontally, the 708A is semi-directional; used vertically it becomes nondirectional. Swivel permits $90^{\circ}$ tilting of microphone. 7 ft . shielded cable and plug assembly. High impedance. Pearl Gray finish.

| MODEL | OUTPUT <br> LEVEL | LIST <br> PRICE |
| :---: | :---: | :---: |
| 708A | 51.0 db below <br> 1 vole per mierobor | $\$ 29.50$ |

## CONTROLLED RELUCTANCE MICROPHONES

## THE "HERCULES"



The Hercules is a hand-held unit, ideal for general purpose use in tropical countries and in all coastal areas where heat and humidity are a problem. The " 510 " provides the ruggedness, clear reproduction and high output for public address, communications and recording where high speech intelligibility is vital. It is recommended for Announcing; Mobile Public Address Systems; Communications; Home Recording, and High Quality Intercommunication. The Hercules can be used either Indoors or Outdoors, fits snugly in the hand, sits firmly on a desk. High impedance. Frequency responce 100 to 7000 c.p.s. Furnished with 5 ft . shielded cable. Green metallic finish. Diecast case. Furnished with stand adapter. Dimensions: 2 2/3" wide, 3 1/4" high, 1 1/2" thick.

| MODEL | OUTPUT LEVEL | IMPEDANCE | LIST PRICE |
| :---: | :---: | :---: | :---: |
| 510 C | 52.5 db below <br> 1 volt per microbar | HIGH | \$15.00 |
| $\begin{gathered} 5105 \\ \text { (with } \text { switch) } \end{gathered}$ | 52.5 db below <br> 1 volt per microbar | HIGH | \$17.00 |

## "I-INCH" MICROPHONES



The MC Series of small microphones are specially designed for use in vacuumtube devices, such as small, compact amplifiers, transmitters, dictating equip-ment-wherever size and weight are important factors. They also are highly recommended for use in small transistortype devises. The MC Series Microphones are furnished with an impedance of 1000 ohms. They are rugged units immune to mechanical shock and to varying conditions of heat and humidity. Both the $1^{\prime \prime}$ circular unit, Model MC11, and the rectangular unit, Model MC20, are metal-cased for hum protection. They are highly recommended to engineers, technicians and "build-it-yourself" enthusiasts, because their small size and shape make them ideal for various types of custom-made devices. Model MC11 (Circular) List Price $\$ 12.50$. Model MC20 (Rectangular) List Price $\$ 12.50$.

## THE "RANGER"

The new Shure "Ranger" is a new development of a similar magnetic unit originally housed in microphones used by the Armed Forces. The "Ranger" is especially recommended for those applications where long lines are used, and a rugged hand-held microphone is needed. It is ideal for outdoor public address (sports arenas, athletic fields), mobile communications, ham, audience participation shows, etc. The "Ranger" is designed for high speech intelligibility. Easy to use, fits snugly in the palm of the hand. Has heavy-duty single-throw, double-pole leaf-type switch for push-to-talk operation. Phosphor-bronze blades and silver contacts for maximum operating life. Model 505B is furnished with $5^{\prime}$ four-conductor shielded cable. Model 505C is furnished with $5^{\prime \prime}$ three-conductor shielded cable. Frequency response is 100 to 9,000 c.p.s.

| MODEL | Output level | IMPEDANCE | SHPG. WT. | CODE | LIST PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5058 | 47.0 db below 1 milliwatt per 10 microbar signal | $\begin{gathered} 150-250 \\ \text { ohms } \end{gathered}$ | $15 / 8 \mathrm{lbs}$. | RUDAY | \$29.50 |
| 505C | 50.5 db below <br> 1 volt per microbar | High | $15 / 8 \mathrm{lbs}$. | RUDAX | \$29.50 |

This new Controlled Reluetance unit is designed to handle the most severe field requirements of paging and dispatching systems. The unit is supplied with 7 feet of 2 -conductor shielded cable, and is wired to operate both microphone and relay circuits. The "Dispatcher" is ideal for police, taxi-cab, railroad, airport, bus, truck, and all emergency communications work where dependability is vital. Large grip-bar assures positive contact.

| MODEL | OUTPUT | IMPEDANCE | LIST PRICE |
| :---: | :---: | :---: | :---: |
| 5205L | 52.5 db below <br> volt per <br> microbar | High | $\$ 38.50$ |

## THE "GREEN BULLET"

The "Green Bullet" is designed to provide quality music and speech reproduction at moderate cost. It is practically immune to the effects of high temperatures and humidity. It features: high oufput, good response, high impedance without the need of a transformer. The "Green Bullet" has a beautiful modern metallic green finish with a plated grille. Frequency response is 100 to 7000 e.p.s. Furnished with 7 ft. sin-gle-conductor shielded cable. High Impedance. The "Green Bullet" is highly recommended for those public address systems where low cost is a must, good reproduction is essential, and ruggedness is a necessity. Model 520 series designed to be used with Shure Model S34B and S36A Desk Stands (see page 5.)

| MODEI | OUTPUT LEVEL | IMPEDANCE | LIST PRICE |
| :---: | :---: | :---: | :---: |
| 520 | 52.5 db below <br> 1 valt per microbar | HIGH | \$19.50 |
| 520B | 51 db below 1 milliwat per 10 microbars | 150-250 ohms | \$19.50 |

## THE "DISPATCHER"



MODEL 520SL


## COMMUNICATIONS MICROPHONES AND ACCESSORIES

## COILED CORD SETS

Sandard Copper Cailed Cord with trimmed and tinned leads. Used
"CB'" and ' 100 ', Series Microphanes.
Madel: C15C
Code: RUCOR

Tinsel Cailed Cord with Amphenal MC4M Connector far use with Gen. eral Electric equipment.

Model: C16C Code: RUCAG List Price: $\$ 8.75$
Tinsel Cailed Card with spade lugs for use in Matarala equipment. Model: CI7C Code: RUCAJ List Price: $\$ 7.25$

Standard Cailed Card with Amphenal MC4M Cannectar far use with Moporolo equipment.

Model: C18C
List Price: $\$ 7.25$
Tinsel Cailed Cord with Amphenal MC4M Cannector for use with Motorola equipment.

Madel: C19C
List Price: $\$ 8.75$

## CARBON MICROPHONE CARTRIDGE



Madel 110

Rugged micraphone cartridge replacement far "CB'", " 100 ", and "'120' Series Carbon Micraphanes. Furnished with necessary maunfing hardware and complete instaltation instructians. Direct replacement for the car. tridge used in the Madeis $101 \mathrm{~A}, 101 \mathrm{~B}, 101 \mathrm{C}, 102 \mathrm{~A}$, 102B, 102C, 120, CB10, CB10B, CB10C, SB10E, CB11, CB118, CB12, CB12A, CB12B, CB12C, CB12D, CB12E, CB14. C814A, CB15, CB15B, CB15C, CB15D, CB15F,
CB20, CB162, 91A27 carban micraphanes. Madel: R10

List Price: $\$ 8.00$

## MICROPHONE ASSEMBLY

A Contralled Reluctonce Micraphone and Desk Stand Assembly-ideal far fixed.station used in all lypes of Assembly-ideal far fixed station used in all lypes of
communicatians wark. Has a built-in switch for cantralting both the microphone circuit and on external reloy or contral circuit. Replacement for Mirs. Madel
Na, CR84. Model 510MD

List Price $\$ 38.50$


## MODEL "100" SERIES CARBON MICROPHONES

Used around the world for police, taxi, bus, truck, and commorcial applications - more than all other makes combined! Rugged unit with clear, crisp voice respanse and high output. Heavy duty switch for push-tatalk performance. Furnished with bracket far wall maunting, plus coiled-cord cable. Adopted as standard misraphone by G.E., Link, Matorola, R.C.A. and athers for 2 -way radio cammunications equipment. Output level: 5 db belaw 1 volt far 100 micrabar speech signal.


REPLACEMENT CHART

| MANUFACTURERS MODELS | REPLACEMENT MODEL |
| :---: | :---: |
| $\begin{aligned} & \text { CB10, CB10B, } \\ & \text { CB10C, CB10D, } \\ & \text { CB15, CB15D, } \end{aligned}$ | 1010 |
| CBIOE | $101 E$ |
| $\begin{aligned} & C B 12, C B 12 A \\ & C B 12 C, C B 12 D \end{aligned}$ | 102C |
| CBI2E | 102 E |
| CBI5F | 103 |


| Madel | Cable | Switch Arrangement | List Price |
| :---: | :---: | :---: | :---: |
| 101C | Standard Cailed Card $11^{\circ}$ retrocted; $5^{\prime}$ extended | Two Wire Relay Sw itch narmally apen. (Na micraphane switeh) | \$27.50 |
| 101E | Tinsel Cailed Card $11^{\text { }}$ retratted; $5^{\prime}$ extended with Amphenal MC4M Connectar |  | \$32.50 |
| 102C | Standard Cailed Card 11 * retracted; 5' extended | Relay narmally apen. Microphone switch narmally open. | \$27.50 |
| 102 E | Tinsel Cailed Cord 11 'retrocted; 5 ' extended with spade lugs |  | \$30.00 |
| 103 | Standard Coiled Cord $11^{\prime \prime}$ retrocted; 5' expended with Amphenal MC4M Connectar | Iwo Wire Relay Switch nar mally open. (Na micraphane switch) | \$29.00 |

## CARBON "PACK" MICROPHONE

Designed for use with mall partoble ond moble transmitsers. Only $2^{\prime \prime}$ in diamater and $11 / 2^{\prime \prime}$ thick. How 3-canductar coiled card, motal-spring strain reliti, and Fush-ta-Talk switch. Has same aperating characteristics cs "'100 Series" Carbon Micraphanes. Replacement for Mfri. Madel Nas. C820, CB21.
Madel 115
List Price: $\$ \mathbf{2 0 . 5 0}$


## SWITCHES AND

MICROPHONE REPLACEMENT CARTRIDGES


CONTROLLED RELUCTANCE Model R5

Contralled Reluctance. Ideal for the replocement of Crystol Cortridges in Shure coses of the Model 707A and 7084 Serles, where heat and humi. dity are a problem. Alsa replaces cortridges in other mers. madels of imilar denign, where space permits. Supplied with rubber mounting ring and installation instruetions in English ond Spanish.
Madel: R5 List Price: $\$ 10.00$


Madel 87
Madel R7 Crystal Micraphane. Available far service installation as a replacement for the cartridges in the Shure Crystal Micraphenes of the 707A and 708A Series, and ather mieraphanes of similar design. High output-48db below 1 valt per microbor. Cartridge supplied with rubber maunting rings and with rubber maunting rings and
installation instructions. Madel: R7 List
Madel: R7 List Price: $\$ 7.75$

## CABLE-TYPE TRANSFORMER



Madel A86A
Madel A86A is a high qualify, coble-fype transformer, ideal for motching law-impedance micraphane lines to high-impedance amplifier inputs \{matches 35.50 and $150-250$ ahm microphanes of high impedance). 2 2.foot coble.
List Price: $\$ 17.50$

## TAKE-APART STAND



Model S34B. Handy law-cass sfand far desk or hand use. One twist of handle lacks it securely In base for use as a table stond, or roleases handle for use in hand. Motal base, waod handle. Madel: \$348 List Price: $\$ 3.30$

## ACCESSORIES

## "GRIP-TO-TALK SEIDE-TO-LOCK" SWITCH

Heovy. Duty Switch withstands the masf severe field requirements of paging and dispotching syitems. requirements of paging and dispotching systems. Teal far Palice, Taxi-Cab, Roilraod, Airpart, Bus, Can be used with Shure connectar-type erystal, dynomic and when dynomic and carban micraphones af any impedance. Fits handily an Shure S36A Desk Stond. Medel: Assa
Medel: A8AA List Price: 11.75 Madel A88A


Madel A838, Ratary-type "On-Off' switch. Quickly astached to any cabiecannectar pype Shure micraphane. Model: A83B

List Price: $\$ 8.50$
Maciel A84B: A83B
Llat Price: $\$ 8.50$
Madel: A84B List Price
Mocel A85C. Mamentory Press-to-Tolk Reloy-Type Switch.
Madel: AB5C
List Price: $\$ 10.75$

## MODERN DESK STAND



Model S36A. Streem!lined Desk Maunt Ais all Shure cen-nector-type mleraphonet. Adapter provided for mounting ather type microphones. Ideal for ute with A88A switch. Madel: S36A

List Price: $\$ 6.00$

Model 536A

# SHURE MAGNEIC TAPE AND WIRE RECORDING HEADS 



Fig. A
RECORD-PLAYBACK-ERASE


Fig. B RECORD-PLAYBACK


Fig. C RECORD-PLA YBACK


Fig. D ERASE


Fig. E
RECORD-PLAYBACK-ERASE

MAGNETIC TAPE RECORDING HEADS
TYPICAL OPERATING DATA

| MODEL | 815 |  |  | 815 H (FIG. A) |  | 816 (FIG. B) |  | 817 (FIG. C) |  | TE2 (FG. D) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Recording <br> Speed | 3.75" per sec. |  | 7.5" | 3.75" per sec. |  | 3.75" per sec. |  | 3.75" per sec. |  | 3.75" per sec. |  |  |
| Bias \& Erase Freq. | 25KC | DC | 50KC | 25KC | DC | 25KC | DC | 25KC | DC | 25KC | 50KC | DC |
| Std.* <br> Recording <br> Level | . 05 ma | . 095 ma | . 05 ma | . 03 ma | . 056 ma | . 03 ma | . 07 ma | . 06 ma | . 175 ma | - | - | $\sim$ |
| Operating 8ias Current | 1.25 ma | .35 ma | 1.5 ma | . 72 ma | . 24 ma | . 80 ma | . 26 ma | 3.6 ma | . 42 ma | - | - | - |
| Erase** Current | 45 ma | 35 ma | 55 ma | 45 ma | 35 ma | - | - | - | - | 45 ma | 55 ma | 35 ma |
| Impedance Erase Coil | $\begin{aligned} & 750 \text { ohm } \\ & \text { of } \\ & 25 \mathrm{KC} \end{aligned}$ | 12 ahm | $\begin{gathered} 1300 \text { ahm } \\ 50 \mathrm{kt} \end{gathered}$ | $\begin{aligned} & 750 \text { ohm } \\ & \text { ot } \\ & 25 \mathrm{KC} \end{aligned}$ | 12 ohm | -- | -- | -- | - | $\begin{gathered} 80 \mathrm{ohm} \\ \text { ot } \\ 25 \mathrm{KC} \\ \hline \end{gathered}$ | $\begin{gathered} 1250 \text { ohm } \\ \text { of } \\ 50 \mathrm{kc} \end{gathered}$ | 12 ohm |
| Impedance Recording Cail | $\begin{aligned} & 1450 \mathrm{ohm} \\ & 1000 \mathrm{cps} \end{aligned}$ | 180 ohm | $\begin{aligned} & 1450 \mathrm{ahm} \\ & 1000^{\mathrm{at}} \mathrm{cps} \end{aligned}$ | $\begin{aligned} & 5800 \text { ahm } \\ & 1000^{\text {at }} \text { cos } \end{aligned}$ | 556 ohm | $\begin{aligned} & 5500 \text { ohm } \\ & 1000 \mathrm{cps} \\ & \hline \end{aligned}$ | 556 ohm | $\begin{gathered} 1860 \text { ohn } \\ 1000^{\circ} \mathrm{cos} \end{gathered}$ | 180 ohm | -- | -- | - |
| *Determined in accardance with RTMA Standard REC.-134 August 1949. <br> **Erase current chosen for 50 db Erasure of Saturated 400 C.P.S. Recording. <br> Recording Medium-Minnesota Mining \& Mfg. Co., Tape No. 111 5R8A1. Pressure Pad Force (Area - . 025 sq. in.) Two Ounces. |  |  |  |  |  |  |  |  |  |  |  |  |


| RECORDING HEAD DIMENSIONS |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Models 815, 815H (Fig. A) |  |  |  |  |  | Model 816 (Fig. B) |  |  |  |  |  |
| Width | $1.240^{\prime \prime}$ | Depth | $1.031^{\prime \prime}$ | Height | .695" | Width | 1.240" | Depth | $1.031^{\prime \prime}$ | Height | .695" |
| Model 817 (Fig. C) |  |  |  |  |  | Model TE2 (Fig. D) |  |  |  |  |  |
| Width | .552" | Depth | .830" | Height | .765" | Width | .516" | Depth | .830" | Height | .715" |

NUMERICAL LISTING OF SHURE TAPE HEADS USED IN ORIGINAL EQUIPMENT

| MODEL | ILIUSTR. | LIST PR. | DESCRIPTION | OPERATING DATA |
| :---: | :---: | :---: | :---: | :---: |
| 812 | Fig. E | 15.00 | Wire Recording Head. | Not shown |
| 815 | Fig. A | 13.50 | Upper track recording. Low impedance record-playback coil. | See 815 |
| 815 H | Fig. A | 13.50 | Upper track recording. High impedance record-playback coil. | See 815H |
| 816 | Fig. B | 10.50 | Upper track recording. High impedance record-playback coil. | See 816 |
| 817 | Fig. C | 7.50 | . $093^{\prime \prime}$ record track width. Low impedance record.playback coil. | See 817 |
| TR5B | Fig. A | 15.00 | Upper track recording with 14 -inch completely insulated leads. Cinch Plug attached. | See 815* |
| TR5N | Not Illustr. | 14.00 | Special Shield. Special Leads. Special Plug. | See 815* |
| TR6 | Fig. B | 10.50 | Lawer track recording. Low impedance record-playbock coil. | Not shown |
| TR6G | Fig. B | 10.50 | Lower track recording. High impedance. | See 816 |
| TR6H | Fig. B | 10.50 | Upper track recarding. Law impedance recard-playback coil. | Nat shown |
| TR16 | Fig. C | 7.50 | .093"' recard track width. High impedance recard-playback cail. | Not shown |
| TR14 | Not Illustr. | 7.50 | Narrow track ( $.014^{\prime \prime}$ ). Low impedance recard-playback cail. | Nat shown |
| TR26 | Fig. C | 9.50 | .093" recard track width ( $1 / 4 \mathrm{mil}$ gap). High impedance recard-playback cail. | Not shown |
| TE2 | Fig. D | 6.00 | Erase head. | See TE2 |
| TE10 | Not Illustr. | 6.00 | Erase head. | Nat shawn |

[^16]The M.ASTER - 30t L Edition
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[^17]TRADE DISCOUNT APPLIES TO LIST PRICES ONLY

## CRYSTAL AND CERAMIC PICKUP CARTRIDGES SHIURI



Fig. A "Direct Drive"


Fig. B
"Vertical Drive"


Fig. C
"Vertical Drive"


Fig. E
"Vertical Drive" With
Turnaver Mechanism


Fig. $F$ "Lever Type"

Fig. G "Cutter Cartridge"

Fig. H "Muted Stylus"

Fig. $J$
All-Purpose
High Output

FINE GROOVE CARTRIDGES FOR $331 / 3,45$ RPM RECORDS

| HODEL NO. | ILLUSTRA. TION | TYPE | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | OUTPUT <br> LEVEL | MIN. NEEDLE FORCE | $\begin{aligned} & \text { RESPONSE } \\ & \text { TO } \end{aligned}$ | NET WT. | SHURE NEEDLE NO |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| W21F* | Fig. $B$ | Crystal | \$7.75 | 1.5 V | 6 grams | 10,000 c.p.s. | 41/2 grams | A63MG |
| W3lar | Fig. A | Crystal | 6.50 | 2.15 | 7 grams | 7,500 c.p.s. | 51/2 groms | A53MG |
| WC3IAR | Fig. A | Ceramic | 6.50 | .87V | 7 grams | 7,500 c.p.s. | 51/2 grams | A $53 M G$ |
| W53MG | Fig. F | Crystal | 8.50 | 1.3 V | 6 grams | 8,500 c.p.s. | 12 grams | A64MG |

TURNOVER CARTRIDGES FOR 331⁄3, 45, AND 78 RPM RECORDS

| MODEL NO. | IILUSTRA. TION | TYPE | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | OUTPUT <br> LEVEL |  | $\begin{aligned} & \text { MIN. } \\ & \text { NEEDLE } \\ & \text { FORCE } \end{aligned}$ | $\begin{gathered} \text { RESPONSE } \\ \text { TO } \end{gathered}$ | $\begin{aligned} & \text { NET } \\ & \text { WT. } \end{aligned}$ | $\begin{aligned} & \text { SHUF } \\ & \text { NEED } \\ & \text { NE } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | MG | STD | 7 grams | 12,000 c.p.s. | 7 grams | MG | STD. |
| WC10 | Fig. D | Ceramic | \$9.50 | .78V | 1.0 V |  |  |  | Al0S |  |
| WC10D | Fig. D | Ceramic | 34.00 | .78V | 1.0 V | 7 grams | 12,000 c.p.s. | 7 grams | A10DS |  |
| W22A | Fig. C | Crystal | \$10.50 | 1.2 V | 1.4 V | 8 grams | 0,000 c.p.s. | $41 / 2$ grams | A65MG | A61A |
| W22AB | Fig. C | Crystal | 9.50 | 1.2 V | 1.4V | 8 grams | 10,000 c.p.s. | $41 / 2$ grams | A65MG | A62A |
| W22AB-T | Fig. E | Crystal | 10.00 | 1.2 V | 1.4 V | 8 grams | 10,000 c.p.s. | 121/2 grams | A65MG | A62A |
| WC24 | Fig. C | Ceramic | 8.75 | 0.6 V | 0.6V | 8 grams | 7,000 c.p.s. | $41 / 2$ grams | A53MG | A52A |
| WC24-T | fig. E | Ceramic | 9.25 | 0.6 V | 0.6 V | 8 grams | 7,000 c.p.s. | 121/2 grams | A53MG | A52A |

ALL PURPOSE SINGLE NEEDLE CARTRIDGES FOR $331 / 3,45,78$ RPM RECORDS

| MODEL NO. | ILIUSTRA. <br> TION | TYPE | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | OUTPUT <br> LEVEL |  | MIN. NEEDLE FORCE | $\begin{aligned} & \text { RESPONSE } \\ & \text { TO } \end{aligned}$ | $\begin{aligned} & \text { NET } \\ & \text { WT. } \end{aligned}$ | SHURE NEEDLE NO. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | MG | STD. |  |  |  |  |
| W26A | Fig. B | Crystal | \$8.50 | .87V | 1.0V | 8 grams | 8,000 c.p.s. | 41/2 grams | A67U |
| W26B | Fig. B | Crystal | 7.50 | . 87 V | 1.0 V | 8 grams | 8,000 c.p.s. | 41/2 grams | A66U |
| W36B | Fig. A | Crystal | 6.50 | 2.3 V | 2.5 V | 9 grams | 7,000 c.p.s. | 51/2 grams | A56U |
| WC38 | Fig. A | Ceramic | 6.50 | .9V | .92V | 9 grams | 10,000 c.p.s. | $51 / 2$ grams | A58U |
| W66B | Fig. H | Crystal | 7.00 | 2.0 V | 2.3 V | 8 grams | 4,500 c.p.s. | 12 grams | A68U |
| W70 | Fig. J | Crystal | 4.95 | 3.0 V | 3.8 V | $10-15$ grams | 5,000 c.p.s. | 16 grams | None |

## STANDARD CARTRIDGES FOR 78 RPM RECORDS

| MODEL NO. | ILIUSTRA. IION | TYPE | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | output <br> LEVEL | MIN. NEEDIE FORCE | $\begin{aligned} & \text { RESPONSE } \\ & \text { TO } \end{aligned}$ | NET WT. | SHURE NEEDLE NO. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| W23B | Fig. B | Crystal | \$7.75 | 1.1V | 6 grams | 8,000 c.p.s. | $41 / 2$ grams | A62A |
| WC33B | Fig. A | Ceramic | 6.50 | .92V | 9 grams | 7,000 c.p.s. | $51 / 2$ grams | A52A |
| W68† | Fig. H | Crystal | 7.50 | 1.6 V | 1 oz. | 4,500 c.p.s. | Dual Weight 25 grams ar 12 grams | A62A |
| W78 $\ddagger$ | Fig. F | Crystal | 5.55 | 4.0 V or 2.0 V | $1 \mathrm{oz}$. | 6,000 c.p.s. | Dual Weight <br> 25 grams or 12 groms | None |
| W56N** | Fig. G | Crystal | 8.50 | 4.3V | 1 ax. | 10,000 c.p.s. | 12 grams | A 6 BD |
| W58HS*** | Fig. F | Humi-Seal Crystal | 6.55 | 1.6 V | 1 oz. | 6,000 e.p.s. | 25 grams | None |
| W60HS*** | Fig. H | Humi-Seat Crystal | 8.50 | 1.8V | 1 oz. | 4,500 c.p.s. | 25 grams | A62A |

[^18]
## SHURE PHONO PICKUPS • NEEDLES • REPLACEMENT KIT

## PHONOGRAPH PICKUPS <br> STANDARD FOR 78 RPM RECORDS



Fig. A


| MODEL | MLUSTRA- <br> TION | LIST <br> PRICE | OUTPUT <br> LEVEL | NEEDLE <br> FORCE | RESPONSE <br> TO | SHURE <br> CARTRIDGE <br> USED | SHURE <br> NEEDLE <br> NUMBER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $9 \mathbf{9 H}$ | Fig. B | $\$ 5.50$ | 3.5 V | 1 oz. | 5000 c.p.s. | W42H | Nane |
| 990 V | Fig. A | 8.50 | 4.0 V or $2.0 \mathrm{~V}^{\bullet \bullet}$ | $11 / 1$ oz. | 6000 c.p.s. | W78t | None |

TURNOVER FOR 331⁄3, 45, 78 RPM RECORDS

| MODEL | IIUSTRA. TION | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | $\begin{aligned} & \text { OUTPUT } \\ & \text { LEVEL } \end{aligned}$ |  | neEdLE FORCE | $\begin{aligned} & \text { RESPONSE } \\ & \text { TO } \end{aligned}$ | $\begin{gathered} \text { SHURE } \\ \text { CARTRIDGE } \\ \text { USED } \end{gathered}$ | SHUR NEED NUM |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | MG | STD. | 7 grams | 10,000 c.p.s. | W22AB.T | MG | STD. |
| 9010 | Fig. A | \$16.25 | 1.2 V | 1.4 V |  |  |  | A6SMG | A62A |

SINGLE-NEEDLE ALL-PURPOSE FOR $331 / 3,45,78$ RPM RECORDS

| MODEL | IlluSTRA. IION | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | OUTPUT LEVEL |  | NEEDLE FORCE | $\begin{aligned} & \text { RESPONSE } \\ & \text { TO } \end{aligned}$ | SHURE CARTRIDGE USED | SHURE NEEDLE NUMBER |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | MG | STD. |  |  |  |  |
| 92 U | Fig. B | \$9.75 | 2.0 V | 2.3 V | 8 grams | 4500 c.p.s. | W668 | A6OU |

SHURE PICKUP FOR "WEBSTER-CHICAGO" THREE SPEED CHANGERS

| MODEL | IILUSTRA. TION | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | OUTPUT LEVEL |  | NEEDLE FORCE | $\begin{aligned} & \text { RESPONSE } \\ & \text { TO } \end{aligned}$ |  | SHU NEED NUM |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 920w |  | \$13.00 | MG | STD. | 6 grams | 10,000 c.p.s. | W22AB-T | MG | STO. |
|  | Fig. $C$ |  | 1.2 V | $1.4 V$ |  |  |  | A65MG | A62A |

- Dual Volrage Cartridge: 4.0 V withaul condenser; 2.0 V with condenser. tremave weight-slug.

PHONOGRAPH PICKUP NEEDLES

| MODEL | IIIUSTRA. <br> TION | DESCRIPTION | UST <br> PRICE |
| :--- | :---: | :---: | :---: |
| A 105 | Fig. 8 | Std. and MG Sopphire | $\$ 3.50$ |
| A 1005 | Fig. B | MG Diamond <br> Sid. Sapphire | 28.00 |
| A52A | Fig. C | Sid. Osmium | 1.50 |
| A53MG | Fig. C | MG Osmium | 1.50 |
| A58U.. | Fig. C | All Purpose <br> Osmium Unipoint | 1.50 |
| A58U... | Fig. C | All Purpose <br> Osmium Unipaint | 1.50 |
| A61A | Fig. A | Std. Sapphiret | 2.50 |


| MODEL | ILIUSTRA. <br> TION | OESCRIPTION | LIST <br> PRICE |
| :--- | :---: | :---: | :---: |
| A62A | Fig. A | Sid. Osmium | $\$ 1.50$ |
| A63MG | Fig. A | MG Osmium | 1.50 |
| A64MG. |  | MG Osmium | 2.00 |
| A65MG | Fig. A | MG Sapphiret | 2.50 |
| A66U | Fig. A | All Purpose <br> Osmium Unipaint | 1.50 |
| A67U | Fig. A | Ali Purpose <br> Sopphire Unipaint $\dagger$ | 2.50 |
| A680 | Fig.D | Osm. Playback Needie <br> -Sielite Cutfing Siylus | 2.50 |

*Standord Bent Shaft Needle Nat Illustrated. $\quad$ "Used in Cartridge Madels PC10 and WC36B $\quad$.."Used in Models PC12 and WC38

|  |  | Fig. $C$ 'DIRECT DRIVE' | Fig D. "CUTTER PLAYBACK" $\square$ |
| :---: | :---: | :---: | :---: |

Crystal and Ceramic Cartridge: manufactured under Shure Patents
and Patents Pending.
High-quality commercial-type synthesized sapphire specially designed far lang aperating life.

## THE RK-54 REPLACEMENT KIT PUTS PROFITS IN YOUR TILL!



Technical Data for Models W22AB, W26B, W78

| MODEL NO. | TYPE | OUTPUT <br> LEVEL |  | MIN. NEEDLE FORCE | $\begin{gathered} \text { RESPONSE } \\ \text { TO } \end{gathered}$ | NET WT. | SHURE NEEDLE NO. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| W22AB | Crystal | $\begin{aligned} & M G \\ & 1.2 \mathrm{~V} \end{aligned}$ | $\begin{aligned} & \text { STD. } \\ & 1.4 \mathrm{~V} \end{aligned}$ | 8 grams | $10,000$ c.p.s. | $41 / 2$ <br> grams | $\begin{gathered} \text { MG STD. } \\ \text { A65MG A62A } \end{gathered}$ |
| W268 | Crystal | $\begin{aligned} & M G \\ & .87 V \end{aligned}$ | STD. I.OV | 8 grams | $\begin{aligned} & 8,000 \\ & \text { c.p.s. } \end{aligned}$ | $41 / 2$ grams | A66U |
| W78* | Crystal | 4.0V or | 2.0 V | $\begin{gathered} \text { I } \\ \text { oz. } \end{gathered}$ | $\begin{aligned} & 6,000 \\ & \text { c.p.s. } \end{aligned}$ | DualWeight | none |

- Dual-Weight, Dual-Valt Cartridge. With weight-slug, nel weight is 25 grams. Without weight slug, net weight is ! 2 grams. In additian Madel W78 has capacitar, furnished as accessary. Withau copacifor, output is 4.0 valfs. With capacitar, autput is 2.0 valts.



## M-20 LIPSTIK

 MICROPHONE SYSTEMThe Altec Lipstik Microphone System was il sigmed to mect the clemands for a smaller lious ing for the word-famous 21 1'ppe (omblensult Microphome. In addition to this new, compact lipstik housinm the 21 C Microphone is used. This 216 : Microphone is an improved version of the 2113 and has an reven wider and smoother fequenes response. The eompact Lipstik housing allows it to be used as a lavel microphone, a hand microplone, or a stant microphome as equired. The size of the Priena Power supply makes a very amall, compact, and handy pack are. Frequency response 20-15,000 cycles.
Components of the M-ッ0 lijpstik Microphone System are
211) (Onmanser Mierophone
fitid sitanal Holda
(2-525A l'awer Nupuly


NET PRICE: $\$ 198.00$

 ment with monsuremonte marle hey fienoral Radin Cinma

M-11 MICROPHONE SYSTEM
Tho M-11 Mic(rophom, Esstrm will

 riblow tyme mement complot to an aroustical butwork (onclowed in an attactive plastic housines. Similar in appotance and performane (1) Jhe famms Mond wist Microphone and alont half the si\%. It ham trom hasic pickure pattorns alome will many variations of these Howe hasic fatums. The siond Mierohome, theatise of its cardioid directomal performan "riving an 1- th attematern oetween front ant
 home for use in radio, Tr, and recomation dudios as well as all thore of ditticult ameli arinm jols. Frenuene: rowner uniform from





NET PRICE: $\$ 135.00$

M-14 HIGH INTENSITY MICROPHONE SYSTEM


Desismed for the masumbunt of sumply














 Piice, M-14 High Intensity Microphone System complete (hat withoul $15, \mathrm{HR}$ fonns than


A Isnamic microphone of broalcast duant A exceptional ruqgedness and dewnulalilit Equinued with ry" ${ }^{\prime \prime} 27$ swivel heral. Ideal publiendares parinur and hroalcast use

Frequiney response: 35-12,000 (1)s.
Frequiney reslunse:
lower output level:
|mperimens: - 30 th
 NET PRICE
660A
660B


## VELOCITY MICROPHONE

 is compact volorits miswophonts providit and broadeast quality, high siernal-to-nol. ratio, and extromely law ham lickup. The





NET PRICE: $\$ 75.00$


M-16 MEDICAL MICROPHONE SYSTEM

This mirrophome sustrm is for use in cardin
 finds wide usu for the recorting of hart sumbr's for thtum: reference ly the diasmostiotan atr meproductiom brer a lomblapazker system


-11BR-1 in NicFophom
1-5.2. 1 Power Nuppl
16.5.1 Rase

Price, M-16 Microphone System complete, \$~50


## World's Foremost Manufacturer

## Largest Selection of Genuine

## Original Equipment Replacements

ASTATIC designs and manufactures the world's most complete selection of phonograph cartridges and pickups for both manufacturer and distributor. A pioneer in the industry, Astatic was first to recognize the tremendous potential of Rochelle Salt Crystals in voice and music reproduction, and is largely responsible for the development and introduction of these and similar products to the communications world. With its extensive research facilities and modern three-acre plant, Astatic continues to pioneer in the search for still better products at lower prices.

ASTATIC supplies to distributors everywhere a highly diversified line of attractively-packaged crystal, ceramic and magnetic products, together with catalogs, brochures and numerous other sales aids.

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WRITE FOR COMPLETE CATALOG<br>Microphones - Cartridges • Needles • Pickups

 Partial Listing - Write for Catalog

## IT'S NEW . . . and TERRIFIC! . . . the DYNAMIKE!

First Time Ever, A Slim, Modern, Quality Dynamic At These Low Prices!

Exclusive! Sets a new standard of value for the entire industryl For recording, public address, studio use, etc. Smart, slender, compact; satin black finish with contrasting chrome. Output level 58 db . Omni-directional pattern. Two models: Low impedance: ( 38 ohms) with $18-\mathrm{ft} .2$-cond. shielded cable; high impedance $(40,000$ ohms) with $18-\mathrm{ft}$. 1 -cond. shielded cable. Write for catalog sheet.

|  | w Impedance | List |
| :---: | :---: | :---: |
| M-352 |  | \$37.50 |
| M-352- | S- (w/Switch) | 40.25 |
| High Impedance |  |  |
| M-350 |  | 539.95 |
| M-350- | -S- (w/Switch) | 42.7 |

## "DYNABAR" Dynamic, "SYNABAR" Crystal <br>  <br> - Famous professional-dass microphones for broadcasting, recording, etc. Special sintered metal cancels out 15 db front to back, making them, for practical purposes, dead to sound from rear. Both models satin chrome, with 18-ft. 2-cond. shielded cable. "Dynabar" dynamic: Has multi-impedance tran former. Selector switch provides impedances of $50,200,500$ and HZ . Frequency range 40 so $10,000 \mathrm{cps}$. Oupput level -54 db . Dynamic unit floated in pubber. "Synabar" crystal: Has frequency range of 50 to $10,000 \mathrm{cps}$; output level -54 db . High impedance. Response selettor switch for crisp voice or general voice and music. <br> Model <br> List <br> DR-10- "Synabar" Crystcl ........ 537.25 <br> DR-10-S* <br> DR-11- "Dynabar" Dynamic <br> DR-11-S* <br> *With Off-On Switch

## "DN" DYNAMICS

- Widely used all-purpose semi-directional microphone available in 500 ohm, high impedance or multi-impedance models. Unitary moving coil system. Response characteristically flat from 50 to 7000 eps. Swivel tilting head permits semi- or non-directional posiions. Opalescent gray and bright chrome finish 10 ft shielded cable. DN-HZ output -55 db . Multi-impedance model DN-MZ has selector switch providing choice of $50,200,500$ or high impedances. DN-HZ and $M Z$ models only are available witt Off.On Switch shown, at $\$ 2.75$ extra. All models available with Grip Stand, $\$ 13.00$ extra.


## Model

List
DN-50. ( 50 Ohms) \$21.90 DN-HZ- (High Impedance) .... 29.50 DN-MZ- (Multi-Impedance) ... 39.75


## "JT" Series CRYSTAL and CERAMIC

Very popular for amateur, public address and home recording. Available in both wide and voice renge models. Opalescent gray with bright chrome grille. Complete with concentric cable, wood handle, interlocking metal base. Handle removable for floor stand use. Crystal model: Output - 52db., ample reserve for high-gain amplifiers. 10-ft. cable. Ceramic model: Outpu: -57 db . With 5-ft. cable.

## Crystal Models List

JT-30- Substantially flat ... \$16.95 JT-40- Rising Characteristics 16.95

Ceramic Models List
JT-30-C. Substantiully flat .. \$16.15 JT-40-C- Rising Characteristics 16.15

## Radio Ham's Famous D-104 CRYSTAL and CERAMIC

- Worldwide favorite for close-talking applications. Frequency response 30 to 7500 cps, rising 500 to 4000 cps . Chrome finish. 5-ft. shielded cable. Crystal model (D-104): Output $-45 \mathrm{db} .$, with definitely reduced feedback tendencies. Ceramic Model (D-104-C) Output -53 db .



## "T-3" Series CRYSTAL and CERAMIC

- Highly versatile, widely popular microphone, for studios, inter-communications, public address, high-quality recording, etc. Tilting swivel head makes pickup pattern semi. or nondirectional as desired. Frequ $\because$ ncy response substantially uniform 30 to $10,000 \mathrm{cps}$. Chrome finish. Botl, models hove interchangeable plug and socket connector. Crystal model: Outout -52 db. 15-ft cable. Element has "Metal seal" protection against moisture or dryness. Ceramic model: Output -62 db, 5-ft. cable.

Crystal Models


List
T-3-S- (w Switch)
$\$ 27.35$ G-T-3- (w Grip Stand) . . . . . . . . 40.4 Ceramic Models List
T-3-C-S- (w/Switch) . . . . . . . . . . . . 28.30


## "M-300" CRYSTAL and CERAMIC

- Superb new microphone, ideal for tope recorders. Fits palmof hand; has tope recorders. Fits palm of hand; has
recessed easel back for desk stand use. recessed easel back for desk stand use Gold-finished. Complete with 8-ft. shielded cable. Crystal Model: "Metalseal" protected element. Outzut -47 db. Frequency range 30 to $10,000 \mathrm{cps}$ with flat response. Ceramic model: Element unaffetced by heat, humidity, dryness. Output - 54 db . Frequency dryness.
range 30 to $8,000 \mathrm{cps}$ with slightly risrange 30 to 8,000
ing characteristics.
M-302- Crystal .... List $\$ 10.50$


M-301. Ceramic .. List $\$ 10.00$

## TELEVISION-BROADCAST DYNAMIC MICROPHONES

E-V engineering brings you new, versatile highoutput designs in keeping with current requirements for better television-broadcast fexibility and quality. Unique Variable "D" cardioid principle delivers greater front-to-back discrimination, ultra-wide range with rusged single dynamic element. Slim-Trim omnidirectional units set new style standards. Close tolerances and individual laboratory control guarantee uniformity. Ideal for recording, high-quality public address and audience participation,

## CARDIOID UNIDIRECTIONAL MICROPHONES

Model 666 Super Cardioid Microphone. Totally new concept in directional microphone design uses Variable D principle (variable acoustical distance between front and back openings). High discrimination shock. Model 666 affords another octave of uniform HF response over that found in conventional broadcast cardioids. Permits close talking with no bass accentuation. Increases working distance over pressure microphones by factor of 1.7:I due to reverberation reduction. Designed for operation on boom, stand or in hand. Uses only one moving element with exclusive, rusced Acoustalloy dia phragm. Response ranse, typical 40.15 .000 cps ; output -55 db impedance chansed on interna! terminal board. Wired for 50 ohms taps at 150 and 250 ohms. Aluminum cast case finished in TV sray. Built in Cannon UA-3 connector. Clamp-on stand mount included with " " " $" 27$ thread and ' 2 " pipe thread adapter. $20^{\prime}$ cable. Size ${ }^{2}$. long, 1 , ${ }^{\prime \prime}$ maximum diameter. Net wt. 11 oz.
List Price
. . $\mathbf{2 4 5 . 0 0}$


Model 665 Cardioid. Simular in desugn and functuon to the Model 666. but for less exacting applacations. Uniform response $50-14.000 \mathrm{cps}$. Impedance 50 to 2511 ohms. Recessed switch in stud permits quick selection of "ether impedance. 'resure"
cast zinc cabc. Nun-rflecting pray finish. Dia. 1\%/8", length $7 \mathrm{y}^{3}$ ". 18' cathle.


## OMNIDIRECTIONAL MICROPHONES



654


#### Abstract

Model 655C Slim. Trim TV Dynamic. Frequency response $40.20,000 \mathrm{cps}$. Output level -55 db . Has widest ranse response of any microphone comtest standard. Excellent in many laboratories as test standard. Excellent ievel affords high signal to-thermal noise ratic. Pop-proof grille stops blasts. can be used on stand, in hand or on boom. Easily Impedance 50 , 150 , and 250 ohms. Imphasm. easily changed at internal terminal board. Cannon UA. 3 connector. Clamp.on stand mount included with $5 / \mathrm{sm}^{\prime \prime}-27$ thread and ${ }^{2} 2^{\prime \prime}$ pipe thread adapter. Size, $101 /{ }^{\prime \prime}$ long without connector, $1^{\prime \prime}$ diameter. $18^{\prime}$ cable. Net wt. 11 oz .

List Price. $\qquad$ $\$ 200.00$




Model 654 Slim-Trim Broadeast Dynamic. Frequency response $50-16.000 \mathrm{cps}$. Output level 655 : microphone is an excellent utility unit for all commercial uses. Recessed selector provides all commercial uses. Recessed selector provides
50 or 250 ohms impedance. Pop-proof head. Acoustalloy diaphrasm. TV sray enameled finish. Built-in Cannon XL-3 connector in "-27 thread. $1^{\prime}$ cable. Size: $10^{\prime \prime}$ long with stud, $1^{\prime \prime}$ diameter. Net wt. $151 / 2 \mathrm{cz}$.
$\qquad$

Model 646 New Lavalier Dynamic. Remarkably small, versatile. For chest, desk or hand use. Neck cord and support clips supplied. Response uniform from 40 to $10,000 \mathrm{cps}$ in flat position. Recessed screw in srille permits adiustment of high-frequency response to suit application. Output level -57 db . Choice of either $50,150,250$ ohms impedance. Flat or rising response adiustment. Acoustalloy diaphrasm. Omnidirectional pattern. Built-in cable connector, Gray enamel finish. $30^{\prime}$ cable. Size $6 \frac{1}{\prime \prime}$ long. I $\mathrm{s}^{\prime \prime}$ diameter. Net wi. less cable 7 oz .

List Price.
.$\$ 140.00$
$\qquad$

Model 635 Broadeast Dynamic. Meets exacting requirements of $1 V$ and Broadcast service. Compact, rugged, versatile - used in studios and on remotes, on a stand or in the hand, indoors and out. Omnidirectional, the Model 635 affords uniform hish quality while meetins demand of most rigorous operating conditions. Uniform response from $60-13.000 \mathrm{cps}$. Output level -55 db . $50-250$ ohms impedance selector. Acoustalloy diaphragm. Head tilts throush $90^{\circ}$ arc. $5 / 8^{\prime \prime}-27$ thread. Built.in, Cannon XL. ${ }^{3}$ connector. Satin chrome finish. $18^{\prime}$ cable. Size $2^{\prime \prime} \times 61 / 4^{\prime \prime}$. Net wt. $11 / 2 \mathrm{lbs}$.
List Price.
$\$ 75.00$


NOTE: Reference Level: Low Impedance Dynamic Microphones $1 \mathrm{mw} / 10$ dynes $/ \mathrm{cm}^{2}$; Crystal, Car-
 microphones operate sotisfactorily with imped. ances of 50,150 or 250 ohms. Weights include cables unless otherwise noted.

10 finerctroice than

## ElectroWoics

# microphones 

## DYNAMIC MICROPHONES

## CARDIOID UNIDIRECTIONAL MICROPHONES



Model 731 Dynamic (Cardyne W). Same features of 726 except flat response 4()-10.000 cps. Output level -52 Jb . Dualtenpe external shock mount. Hi ph Low impedance selector. Builtin Cannon XL. 3 connector. On-off switch (optional). Net wt. $21 / 2 \mathrm{jbs}$.
List Price. . . . . . . . . . . . . . . . . . . . . $\$ 95.00$

Model 664 Cardioid Dynamic. Similar to Model 666 in function, but designed specificalty for P.A. Carding pattern at all frequencies: Permits close talking without "booming. Permits close talking with no bass accentual-
ton, Provides better discrimination against tron. Provides better discrimination against
unwanted sound. Less feedback than any cardiunwanted sound. Less eecdasck than ally cardiomisses wind effect. Acoustalloy diaphragm Shielded from dit and magnetic particles. Onooff switch. 15 (1 )ohm and high impedance. Impedance changed by moving one wire in Impedance changed by moving one cable connector. Pressure cast case Chrome finish. $18^{\prime}$ cable. Size $7 \mathrm{~B}_{\mathrm{B}}$ " long, less chrome finish. song $^{-1 / g^{\prime \prime}}$ diameter. Net weight. 1 stand couple. 10 oz .

List Price.
$\$ 79.50$


## OMNIDIRECTIONAL MICROPHONES




647


Model 636 "Slimair" Dynamic for P.A. Exceptionally fine for P.A. recording and general use. Resp $60-13,000 \mathrm{cps}$. Output -55 db . Acoustalloy diaphragm. Pop -proof head. Alnico $\checkmark$. Omnidirectional. Wide pick-up range. On-off switch optional. Satin chrome finish. Tillable head. Built-in MC connectorion 27 thread. 18 cable. Size by changing one wire in connector.
List Price. . . . . . . . . . . . . . . . . . . . . . . . . $\$ 70.00$
Model 636 G. With Gold finish.
List Price. . . . . . . . . . . . . . . . . . . . . . . . $\$ 80.00$

Model 630 High Fidelity, High-Output Dynamic. Brilliant, general purpose high-output dynamic, famous for quality at modest cost. Response 60 $11,000 \mathrm{cps}$. Output level -55 db . Compact, light weight, unaffected by heat and humidity. Acoustalloy diaphragm. Tiltable head. Builtin MC3cable connector. Satin chrome finish. On-off switch.
$18^{\prime}$ cable. Available in 50,250 ohms or Hi-Z. Size $2^{\prime \prime} \times 6^{1} 4^{\prime \prime}$. Net we. I lb .
List Price. . . . . . . . . . . . . . . . . . . . . . . . . $\$ 47.00$

Model 647 New P. A. Lavalier Dynamic. Small, rugged, versatile. For chest, desk or hand use, indoors and outdoors. Supplied with neck cord, support clips and $18^{\prime}$ cord. Omnidirectional polar pattern. Response $60-13.000 \mathrm{cps}$ at -57 db diaphragm. Built-in cable connector. Black anodized finish. Size $5^{\prime \prime}$ long. $1^{\prime \prime}$ diameter. Net wt. less cable 4 oz.
List Price . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 80.00$

Model 623 Slim Dynamic. E.V styled slim dynamic microphone in the medium price field Ideal for P.A. recording and general use. $C_{a n}$ be used on stand or in hand. Omnidirectional. Response 65.9 .000 cps . Output -56 db . Choice of Hi or Low- $Z$ by changing one wire in cable connector. Acoustalloy diaphragm. Pressure cast case hector. Acoustalioy diaphragm. Pressure cast case finished in satin chrome. Tiltable head. On-off Size $7^{\prime} 2^{\prime \prime} \times 15 i^{\prime \prime \prime} .18^{\prime}$ cable. Net wt. 15 oz .
List Price. .$\$ 49.50$

Model 605 Durable Dynamic. For depend able, general -purpose use. Response $65-7500 \mathrm{cps}$. Output level -55 db . Nondirectional. becoming directive at higher frequencies. Acoustalloy da phragm. Head at $22^{\circ}$ fixed tilt. Built-in MC-I connector. Satin chrome. Choice of 50, 250 ohms or $\mathrm{Hi}-\mathrm{Z}$. Low impedance not balanced to ground. Net wt. 12 oz.
Model 605. With $18^{\prime}$ cable List. . . ..... $\$ 29.50$

Model 615 "Century" Dynamic. Incomparable for paging, recording, amateur, or any low -cost applications. Can be used in any position -in hand applications. Can or Acoustalloy diaphragm. Withstands extreme termAcoustalloy diaphragm. Werature effects of salt air, perature. humidity, che Response 100-6000 and sever 55 db Choice of 50 ohms or Hi -Z cps. Output -55 db . Choice of 50 ohms or Hie Pressure cast case finished in durable satin chrome. Pressure cast case finished in durable satin chrome. Rugged, light weight. Size $3^{\prime \prime} \times 2^{3}$ if $\times 1^{\prime \prime}$. Furnished with " 27 thread stand adapter. AC - DC
insulated.
$\qquad$


Model 611 "Mercury" Dynamic. A tradtionally styled fine performing dynamic microphone for general sound pickup. Response Acoustalloy diaphragm Tillable head On-off Acoustalloy diaphragm. Citable head. On-off switch. Builtin MC, Satin chrome finish. Avalable in 50,150 and 250 ohms or Hi-Z. Low impedance balanced to ground. Size $23 / 8^{\prime \prime} \times 31 / 8^{\prime \prime} \times 614^{\prime \prime}$ incl. stud. Net wt. $11 / 4 \mathrm{lbs}$.
Model 611. With $18^{\prime}$ cable List. . . . . . . . $\$ 37.50$

NOTE: Reference Level: Law Impedance Dynamic Microphones 1 mw /10 dynes $\mathrm{cm}^{2}$, Crystal, Car bon Microphones: 1 volt dyne $/ \mathrm{cm}^{2}$. "Low- $z^{\prime \prime}$ microphones operate satisfactorily with impermicrophones of 50,150 or 250 ohms. Weights include cables unless otherwise noted.

## CRYSTAL AND CERAMIC MICROPHONES




#### Abstract

Model 950 Cardax Crystal. First high level cardiord crystal microphone with Dual Frequency Response Flat respense ror wide range pick-up (output -57 db ) or rising characteristic for extra crispness of speech (output -50 db ). $\mathrm{H}_{1}, \mathrm{Z}$ : fully enclosed Metal Scal crystal. Built-in MC-I connector. On-off switch. Size $2^{1} 2^{\prime \prime \prime} \times 2^{7} \xi^{\prime \prime} \times 6 \frac{1,4^{\prime \prime}}{}$, including stud. Net wt. I lb. 2 oz. List Price. .$\$ 42.50$


Model 911 "Mercury" Crystal. Same mart design and fine peiformance as Model 611. Response $50-8$ MC 1 . Outpur -50 . Mo. Mal Seal Crystal. MC-I connector. Hi-Z. Net wt. $11 / \frac{1}{4}$ lbs Model 911. With 18' cable. LIst. . ......\$27.50

Model 926 Slim Crystal. E-V styled slim crystal microphone. Level and respense ideal for seneral purpose use such as home recording, P.A. and amateur. Response $70-8000 \mathrm{cps}$. Output -60 db . Hi-Z. Pressure cast case finished in sat in chrome.
 List Price. . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 24.50$

Model 920 "Spherex" Crystal. Fine quality all-direction pick-up for conferences, round table discussions, home recording and public address. Response $60-7000 \mathrm{cps}$. Output level -50 db . Omni directional polar pattern. Strong wire-mesh head acoustically treated for wind and moisture protection. High capacity, moisture sealed crystal Hi Z. Sat in chrome. " $8^{\prime \prime}-27$ thread. Diameter $21 \mathbf{1}^{\prime \prime}$. 18' cable. Net wi. 8 oz.
List Price

Model 924 Lavalier Crystal. Unique crystal Lavalier for chest or hand use. Supplied with neck cord, support clips and $18^{\circ}$ cable. For home recording, pasing, P.A. and amateur. Pressure cast case in lustrous satin chrome finish. Wire-mesh tiead acoustically treated for wind and moisture protection. Output -60 db . Response $70-8000 \mathrm{cps}$. $\mathrm{H}_{\mathrm{i}}-\mathrm{Z}$. Size $3^{3}$ zi" $\times 17_{32^{\prime \prime}}$. $18^{\prime}$ cable with integral strain relief. Net wt. 8 oz .
List Price.
.$\$ 18.00$
Model 927 Slim Crystal. A nus apps tach
 cps. Output -50 Ith. High impalance only 5 cahle. Avalathe wath or without "oment stritch. Brushed thrmme and contrasting grave attractive stand. Net we. less cable. stand y ora

Model 912 Crystal. Low cost crystal micro. phone. Fits needs of limited P.A., home recording paging and general use. Handheld. Mosture sealed crystal. Response $60-7000 \mathrm{cps}$. High output -50 db. Hi-Z. Attractive gray Styren case. Size $3^{\prime \prime} x$ $21 /$ " $^{\prime \prime} \times 1^{3} \mathrm{~m}^{\prime \prime}$. 5' cable. Net wt. 4 oz . Lis1 Price. $\qquad$

Multi-Purpose Century. Incomparable for all low-cost applications. Hundreds of thousands in use for pasins, recordins, amateur. Can be used use for pasins, recordins, amateur. Can be used in any position-in hand, on table, on stand or overhead. Nondirectional. Pressure cast case finished in durable satin chrome. Rusged, lighe 27 thread stand adapter. AC-DC insulated.

Model 715 "Century" Ceramic. Moisture-proof ceramic cicment. Respense $80-7000 \mathrm{cps}$. Output -59 db . Hi-Z. 5' cable. Net wt. 6 oz . List Price.
\$11.25
Model 915 "Century" Crystal. Moisture sealcd crystal. Responsc 60.7000 cps . Output -50 db . Hi-Z. 5' cable. Net wt. 10 oz.
List Price.
Model 915 -S. Includes slide-to-talk sw. . $\$ 13.00$


NOTE: Reference Level: Low Impedance Dynamic Mierophones $1 \mathrm{mw}{ }^{\prime} 10 \mathrm{dynes}^{\mathrm{cm}} \mathrm{cm}^{2}$; Crystal, Carbon Microphones: 1 volt/dyne/cm ${ }^{2}$. "Low- $Z$ " microphones operate satisfactorily with impedances of 50,150 or 250 ohms. Weights include cables unless otherwise noted.

## MICROPHONE DESK AND FLOOR STANDS



Model 416 Dask Stand. For 646,647 micro,
phones. Black rubber. Size $31 / 8^{\prime \prime}$ base dia., I" phones. Black rubber. Size $31 / 8^{\prime \prime}$ base dia., I" List Price. . . . .......................... . . . . $\$ 5.00$

Model 415 Reclining Desk Stand. Mounts 615 . 715 , 915 . at $15^{\circ}$ tilt. Satin chrome. Sizc $2{ }^{\circ}{ }^{\prime \prime} \times$ List Price. Net wt. 4 oz. $\$ 1.70$

Model 418 Desk Stand. Use with microphones using small-type stud such as Models 611, 623. 630, 635,636,911 and 950. Cast iron. Gray finish.

Model 419 Desk Stand. Similar to Model 418 but for use with microphones using larse type stud such as Models 650, 654, 726, 731 and 664.

Model 420 Desk Stand. Use with E-V 666, 655, 646, or microphones with $1^{\prime \prime}$ diameter. Clamp attachment for mounting cylindrical micro Net we. 3 lbs.

Model 423-A Desk Stand. Sturdy, smartly styled, round dic-cast base, 51/" diam. Rests firmly. Rich satin chrome. Rubber base buttons. $5,8-27$ thread, Choice of $3^{\prime \prime}$ or $5^{\prime \prime}$ matching stem
riser. Net wt. 1 lb . riser. Net wt. 1 lb .
List Price.
..$\$ 4.50$

Model 427-A Desk Stand. Attractive, round die-cast base rests stably on desk or table. $5^{\prime \prime}$ siem riser. Satin chrome. Standard 5s" 27 thread. Base diam $4^{5} \mathrm{~g}^{\prime \prime}$. Net wt. 10 oz .
List Price.

Model 425 Deluxe Floor Stand. Push-button, one-hand height control from 37" to 66". Locks on release. Shaft rotates freely. Lockins-type adjustable legs permit stand to be placed flush against wall or table. Easy to set up or take apart. Folds compactly. Dic-cast base. 3-leg spread 17". Satin chrome. Net wt. $7 / 2 / 2$ lbs.
List Price. . . . . . . . . . . . . . . . . . . . . . . . . $\$ \mathbf{\$ 2 7 . 5 0}$
Model 430 Utility Floor Stand. Similar to above, but with button control on lower section. Heisht. $36^{\circ}$ to $65^{\prime \prime}$. Gray finish. Extension shaft in satin chrome.
List Price.
$\$ 17.00$


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## miorophones

## DIFFERENTIAL AND SPECIAL-PURPOSE MICROPHONES



Model b22SkK Dynamic Handset. Meets rigid requarement- it paging, intercum and communiattwh whecs. Lipht werghe shack Sesandard hakelite handset for rugled with responss from $200 \cdot+$ (hin ens. Switch closes
 Mon ep*. Output eve -is db. Mictophone impedance $2 i 0$ olsns. Acoustialky diaphragm. $3^{\prime}$ huceronduetor unshielded euiled cord. Black Ths. List Price.............................
Model 6255 KK Dynamic Differential* Handset Mierophone. Noise-cancelling mi eruphone desimbed for use where hackground nonse is at high level. Enahles user to speak in anormal wrice. Appcarance and characteristics sumilar to Model f22skK. Supphed with five conductor, unzhielded cable. IDST switch also will handle relay or orher remete control in addition ot turning on mike Prese button to
 Model 805 Contact Microphone. For guitar, banjo, nandolin, wiolin or any vibrating volume. enriche's tonal effects. High impe dance. Crystal sealed againot mosisture. Chrome finish. $15^{\prime}$ cahle. Net we. 5 oz. .... $\$ 19.75$ Only ELECTRO-VOICE can offer you noise calacelling, DIFFERENTIAL microphones. Hy the DIFFERENTAL Mrincipic, ambient or distant sound is fed men dat apertures in correct phase relationshin to provtde virtually Model 606 Differentia
talking, 606 Differential* Dynamic. Closearpurt contrul towers, pulice dispatehing, close talk ing P.A. and hagh novise industrial
 a000 ens. Ourpur neasured at $1 / 3^{\prime \prime \prime}-55$ db
Acoustalluy dianhrapm. Head at $22^{\circ}$ fised tilt *s"27 thred. Builto in MC-1 connector. Satan chrome. Size?" x 1 , "" $x^{21} 2^{\prime \prime}$ incl stud.
 $18^{\prime \prime}$ cable. List Price. .............. $\mathbf{\$ 4 5 . 0 0}$ Model 648 Intercom Microphone. Designed spectiatly for applacatons "here bowmotype mounting is dessed. (Nur threy ditferent purticular polication. Micophone response $t 0.10,100$ ens. Output leval -57 db . Chaice of $30,150.250$ ohm impedance. Omnidirec tional. Acsustalloy draphragm. Non-reflecting Hray. Net ut. 8 , AVAlLABLE SOON.

Model 205KK Differentiol Corbon. Noise can. celline single button. Maximum intelligibilisy uno der high ambient noise. Blast-proof, waterproof, shock resistant. Output at $1^{\prime \prime}-50 \mathrm{db}$. Black phenolic case. Press-to-talk switch. Mounting bracket. $5^{\prime}$ coiled cord. Size $21 / /^{\prime \prime} \times 211^{\prime \prime \prime} \times 4^{4^{\prime \prime}}$
Net wt. less cable 8 oz. List Price . . . . $\$ 42.50$
Model 205stckk. CAA Type Approved Certificate No. 1040 with coiled cord.
List Price . . . . . . . . . . . . . . . . . . . . . . . . $\$ 54,00$
Model 205STCKKP. Similar to above with WE.
309 plug. List Price . . . . . . . . . . . . . . . . . $\$ 58.75$
Model 208 Differential* Corbon. Single button, noise-cancelling carbon. Output -50db. Blastproof, shock resistant. Mounting bracket. Presstootalk switch. ${ }^{2}$ cable. Lize 21
Net wt. less cable 3 oz. List Price....... $\$ 16.50$
Madel 6000 Dynamic Mabile-Mike. Light weight, hand held, extra-rugged. Output -55 db . Acoustalloy diaphragm. Press-10-talk 5witch. Size, $21 / 4^{\prime \prime} \times 2^{\prime \prime} \times 4^{\prime \prime}$. Black phenolic ease with mounting bracket. $5^{\prime}$ cable. Choice of 50,250 ohms or Hi - Z . Net we. less cable 8 oz. List Price....... $\$ 38.50$
Model 600DL Dynamic. Similar to above but
 Madel 210Kk Carban. Similar to Model 600 D, but single-button carbon. Gives high intelligibility speech transmission. Substantially flaz response. Output -50 db . Press-to-talk switch. $5^{\prime}$ cuiled cord. Net wi. less cable 6 oz .
List Price. .
................
(Also available in exact replacement models for Motorola, RCA. G. E. and similar mobile equipment)
Model 602 Differentiol Dynamic. Similar ${ }^{10}$ 600 D but close-talking, noise cancelling differ. ential. Switch. $5^{\prime}$ cable. Choice of 50,250 ohms or talk switch. $5^{\prime}$ cable. Choice of 50 , 250 ohms or
Hi -Z. Net wt. less cable 8 oz. List Price. . $\$ 49.50$
Model 600TR Mierophone. Has compact. onerstage transistor amplifies buhte into case. Complete arcout including transistor, transformers, and ass ciated cyupment anfonmately the size of a silver dollar. Same size ciase as Mudel huob Spral curd, four-wire lead, press-ro-ralk switeh may also actunte felay ti) contral transmitter. Same sensitivity as carbon mike wthout change in ausilaty cquipment. Output -21 db . Amplificr pawer gata aproximatcly it (th. Sisc coame as Model 600D), $21 / 4^{\prime \prime} \times 2^{\prime \prime} \times t^{\prime \prime}$
 Model 602TR Mierophone. Similar in type and appearance w Model booTR. but devighd for chaerelking, noise cancelling work. Extra opening in thell. Differental* primeinle nakes it possible to use this nuke in lucations where high ambent nonse wonld render an ordinary micruphone unusable. Speech is clear. crisp. distinct. May be uscd to replace carbon microphone


NOTE: Reference Level: Low Impedance Dynamic Microphones $1 \mathrm{mw} / 10$ dynes ${ }^{\prime} \mathrm{cm}^{2}$; Crystal, Corbon Microphones: 1 volt/dyne/cm². "Low- 2 " microphones operote satisfactorily with impedonces of 50,150 or 250 ohms. Weights include cables tunless otherwise noted.



## MICROPHONE ACCESSORIES

Model 366 Suspension Shock Mount Extreme ly light boom suspension shock mount designed for use with 666 microphone. Combined weight of 366 and 666 is 17 oz., thus solving many problems of boom operation. No tools required for installing microphone. Pigtail cable connection with UA-3 connectors provides cable loop isolating boom shock noiscs. Made for any microphone with 1" diameter (EV 666, 655, 646).
List Price. . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 40.00$
Model 345 Shock Mount. Dual-type external shock mount prevents reproduction of externa shocks and stand vibrations. Permits tilting microphone head. "8 27 thread. Easily attached or removed. Satin chrome. Sizc $1 / 2 . \times . .$. . . $\$ 13.00$
10 oz. List Price. . . . . . . . . . . . . 13 Model 346 Shock Mount. Designed specifically for use with Model 666 microphone. Similar in every feature to Model 345 but constructed for Il-oz. microphone.
List Price.
Model 512 Wind Model 512 Wind Screen. Designed specifically for use with Model 666 microphone. Minimizes wind effect on boom operation or when used out doors. Made of strong black bemberg. Net wt. 2 oz.
List Price. . . . . . . . . . . . . . . . . . . . . . . . $\$ 10.00$

Model 300 Detachable Microphone Clamp. Light weight adaptor fits any cylindrical microphone with I" diameter. Provides positive means to mourt on stand. Easily installed without tools with finger operated clamp. Rubber insert prevents slippage on microphone. |" pipe thread or adaptor for ${ }_{3}{ }_{8}$ " 27 thread.
List Price. $\qquad$ ..$\$ 10.00$

Model 335 Blast Filter. Acoustically ercated. scientifically curved srille stops wind and breath blases in dynamic microphones. Does not affect frequency response. Easily firs over head of E-V Models 630 , 635 and 605 microphones. Satinn

Madel 502 Matching Transformer. Trans. former windings have low distributed capacity and are amply shiclded against inductive hum by a shicld inside a pressure cast case. Designed for mounting on amplificr chassis or in series with the microphone line. Designed for 50, 250 and 500 ohms-to Hi - 2 . Broadcast fidelity. Response 40 $20,000 \mathrm{cps} \pm 1 \mathrm{db}$, for speech or music. MC-4
input conncetor. Lis! Price. . . . . . . . . . $\$ 15.00$

# Stock ONLY <br> <br> 6 <br> <br> 6 BASIC BASIC PREFERRED TYPES 

## to make over $92 \%$ of all CARTRIDGE REPLACEMENTS

## CARTRIDGES FOR 78 R.P.M.

Model 12 Crystal. The most versatile 78 r.p.m.cartridge. 1.5 volt outpur is ideal
 for most phono combinations. Weighs 1,5 ounce "racks perfectly with less needle force. Ideal for ilied with Snap.ln Holder and mountins hardware plied with Snap-in Holder and mounting hardware. For standard $1 / 2$ hole centers. RCA $1 / 10$ mountins or Webster-Electric side mounting cartridses. Model 12, with 0.3 Osmium needle. Lis1.... $\$ 7.50$

Model 32 Crystol. Provides the longest record life, lowest needle talk and greatest stylus life. Ideal for record enthusiasts with valuresponse to $10,000 \mathrm{cps}$. Output 1.8 volts, usable in most radio-phono combinations. Standard 1/2" mounting. Uses $\mathrm{E}-\mathrm{V}$ whisker-type needle Model 32, with 0.3 Osmium needie. Lisf.... $\$ 6.50$

Model 42 Ceramic*. The model 42 cartridge utilizes a ceramic senerating element for complete moisture protection. Lons-lasting in extremely hot, humid climates. Output is 1 volt. Mounting bracket of Model 42 for mounting in tone arms with $1 / 2^{\prime \prime}$ hole centers.
Model 42, with O. 3 Osmium needle. List. . . . \$6.50

## CARTRIDGES FOR 45 and $331 / 3$ R.P.M.

Model 14 Crystal. The Model 14 cartridge gets all the music from the extended range fine groove records. Response follows professional standards... free from peaks and distortion that mar wide range response. Response. 30 to 10 kc . A truly high fidelity phono-car\&ridge Output, I volt. Uses E-V I-mil, whisker-type needle. Model 14, with O.1 Osmium needle. Lis1.... $\$ 7.50$ Model 14-S, with S-1 Sapphire needle. List... $\$ 8.50$

Modal 34 Crystol. The high compliance voltage product of this cartridse makes
 it a superb replacement for 45 and 331 s r.p.m. players. Reproduction is fuller yet needle tracks with whisker touch. Records sound better and last
longer. 1.25 volts output is slightly higher than averase fine sroove cartridge. Mounting bracket has $1 / 2^{\prime \prime}$ and 5 " ${ }^{\prime \prime}$ hole centers. Ideal replacement in players. Uses E-V whisker-type 1-mil needle. Model 34, with O.I Osmium needle. List. . . . $\$ 6.50$ Model 34-S, with S-I Sapphire ncedle. List . . . $\$ 7.50$

Model 44 Ceromic*. Model 44 utilizes a ceramic generating element for complete


PREFERRED* moisture protection. Makes an ideal or complete replacement in hot, humid climates. Output is .8 volt. Model 44 mounts in tone arms with either $1 / 3^{\prime \prime}$ or $5 / 8^{\prime \prime}$ hole centers.
Model 44, with 0.1 Osmium needle. List. . . . $\$ 6: 50$ Model 44-S, with S.I Sapphire needle. List. . . $\$ 7.50$
*Electro-Voice ceramic phono-cartridges are directly interchangeoble with silent-needle-type crystol cortridges those that do not use the thumb screwh. E.V ceramic cartridges hove equivalent output to the manufacturers" original crystal types they replace.

## ELECTRO-VOICE REPLACEMENT NEEDLES

| MODEL |  | TYPE AND A | APPIICATION LIST | PRICE |
| :---: | :---: | :---: | :---: | :---: |
| 0.3 | Single-Tip .003* | * Osmium far M | Models 12, 32, 42, 96, 96-7 | \$1.50 |
| 5-3 | Single-Tip . $003{ }^{*}$ | Sapphire for M | Models 12, 32, 42, 96, 96-T | 2.50 |
| O.2 | Single-Tip . 0023 | 3" Osmium for | Models 33, 43 | 1.50 |
| 5-2 | Single-Tip 0023 | 3" Sapphire for | Models 33, 43 | 2.50 |
| O. 1 | Single-Tip .001" | Osmium for A | Models 14, 34, 44, 96, 96-T | 1.50 |
| 5-1 | Single-Tip . $0011^{\prime \prime}$ | Sapphire for M | Models 14, 34, 44, 96, 96-T | 2.50 |
| 50.13 | Twin-Tip .001 ${ }^{\prime \prime}$ S | Sapphire-.003" | "Osmium for Models 16 \& 16 -TT | 3.00 |
| O-13 | Twin-Tip .001" 0 | Osmium-.003* | " Osmium for Models 16 \& 16-TT | 2.50 |

## CARTRIDGES FOR 78, 45, 33 1/3 R.P.M.

Model 33 Crystai. Utilizes a special needle which plays all three speeds with a single tip. Simplifies operation of multi-speed changers. Tracks well in all grooves. 2.3 mil tip educs rect 25 other fypes of all-Durpose needies. Output 1.25 volts on mierosroove. 1.8 volts on 78 r.p.m. records. Mounting bracket has tandard $1 / 2$ " hole centers. Uses E.V whisker-type 2.3 mil needle.

Model 33, with $0-2$ Osmium needle. Lis1. ... \$6.50 Model 33-S, with S-2 Sapphire needle. Lis 1. . . $\$ 7.50$
Model 43 Ceramic*. Mode! 43 utilizes a specially designed all-purpose needte which plays all three speeds with a single tip. Ceramic generating element assures complete moisure protection. Ideal replacement for multi-speed changers in hot, humid climates. Output is .8 to 1 volt. Mounting bracket holes spaced at $1 / 2^{\prime \prime}$. Model 43, with O-2 Osmium needle. List . . . . $\$ 6.50$ Model 43-S, with S. 3 Sapphire needle. Li\$t . . $\$ 7.50$

Model 16-TT Crysfal TWIN TILT. Plays all 3 speeds with a one-piece, twin-tip needle without weight change. Complete with Tilt mechanism. Merely tilt the selector handle to select the 1 -mil or 3 -mil needle tip... for slow or fast eplacement for Webcor tilt cartridges. With Osmium 3 -mil tip and Sapphire $1-\mathrm{mil}$ tip on single E.V silent, whisker-type stylus.
Model 16-TT, List Price. .
.$\$ 10.00$
Model 16. Cartridse only, without Tilt mechanism. but with Osmium 3 -mil tip and Sapphire I-mil tip. for exact replacement of units already installed. List Price............................ $\$ 9.00$

Model 46-T Ceromic* TURNOVER. Popular turnover type cartridge with sepa-
 rate needles for fast and slow speed records. The wo needles are isolated from one another allowins correct frequency response on each. "Free" needle does not cause distortion. Output, 8 volt on each needle. Positive-acting turnover mechanism prevents needle set-down crror. Mounting plate supplied for LQD type cartridges. Complete with 3 -mil Osmium needle and 1 -mil Sapphire needle.
Model 46-T. List Priee... without turnover $\$ 10.00$ Model 46. Same but without turnover harness for installation in existing mechanism. List.. $\$ 9.00$ Model 96-T Crystal Turnover. Utilizes a crystal generating element. Output is I volt on each needle. Incorporates all construction features of 46-T.
Model 96-T. List Price
..$\$ 10.00$
Model 96. Same but without turnover harness for installation in existing
mechanism. List Priee. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 9.00$
Model 47 Ceromic. New "push-pull" needie change allows compensated response for ORTHO-RIAA re cording curves using completely isolated 1-mil stylus 3 -mil needle easily, accurately positioned by unique "dual-slide" action. Moisture-proof; wide-range ceramic element. 0.6 -volt output. $1 / 2^{\prime \prime}$ centers and in" mounting. With 3 -mil Osmium. 1-mil Sapphir

## WITHOUT NEEDLE

Model 60 Crystal DUO.VOLT. This Bimorpht crystal cartridge permits easy

selection of high or medium cutput permits eas Connect leads to the two outer terminals for 4 volts output or to the center terminal and one outer terminal for 2 volts. On 78 r.p.m. records output is 6 or 3 volts. No soldering. No accessories required. Uses any standard 3 -mil, 1-mil, or allpurpose needle. $1 / 2^{\prime \prime}$ mounting hole centers. Aluminum case. Ideal for varied replacement needs. Model 60. Less needle. List Price . . . . . . . . \$4.95
Model 50 Crystal. Bimorph $\dagger$ high level cartridge, supplied without needle. Can be used with any standard l.mil. 3-mil or al! purpose tip replacement needle. Output level with straight shank is 2.5 volts. Excellent replacement in record players with low gain amplifiers and in single play phonographs. Aluminum case.
Model 50. Less needle. List Price . . . . . . . . $\$ 4.50$

## The TURNER Gompany

Cedar Rapids, lowa

## Broadcast Dynamic Microphones

## Model 500 and 50D-TV



A high output dynamic interior and advanced circuit derirn rive the Tarmer 501 ) ultra wide raure, makiner it a fruly hirh-filelity microplome without newl for closely assorjated ausiliars equip ment. Hish quality berformance results in realistic remorblation of voise athel music. Response: 50.15,000 e.p.s. LAvel: -5: db, at hiarl imperlance. The Morlel all micophontre utilizes a lintad couplev with ors"ay threal musutinn* . . . quick-disembnert frithme furmits (quick interelange from stamd on hand W8: Momber
501) and Madel (- -6 matchimg lesk stand with built-in shock monnt are finisherd in satin Alronie.
llustrated, with Model BI.-fi matching desk stand, is the Morlel EnL-TV . . with satin hach finish that minimizes lifit reflection. Betli morkels anmple with こo-ft. Calble set. Itwh ins bedantere bataremp line moeds are
 (anhon XI.-3 connector. Jaw irn


nuetor which permits seiectum of (ither 50 or 200 ohms im perdance when conmertion i* made with the uromer pair oi combuctors at terminal end of cable

Model 500--Satin crome finish. List Price. $\$ 125.00$

Model 500.TV-Satin black Finish. List Price........ $\$: 25.00$ Model 500 and Model 50D.TV withoul Desk Stand. List Price
$\$ 117.50$

## Model 5ID and

 51D-TY

The ervatest differeme shown b
 50 atul it domamic misenthomes is the lower cost of $1 / 14$ II monlols. Buth serites latse 1 lur sime fore lines. the sama limerd bivot monntine. the samus stambeto
 rumbedress. Mollol ioll (illus
 dresk slathd fwith himilt-in shorek mount, finishorl in monlunerey:
 matlehing stanl in sation black.




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condurars at torminal find of calle. Responso: 6il-18.064t r.f.s.s. Leverl:-57 dhat hish impmatace.

Model 510 and Model 510-TV List Price
. $\$ 92.50$

Model 51D and Model 5lD-TV without Desk Stand.
List Frice
\$8:.00


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 wersion form flour staml to lask stand or hamel use. Dumates dia blyation tives exarellont voied and musir reprowhetion. Raspmes:
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 bair of combuceors at term nall Mul of en-ft. 3 monlucdorshiehiml
 sublection of 50 of ? 200 دhm im-

matching sland with buit in sharek moumi priced separately.

Model 57, 57A-Stand not in cludec. List Price. ....... $\$ 57.00$ Model S-57, S-57A, wit's on-off switch, without stand.
List Price ................. $\$ 61.00$
Model BL-6 Matching Desk Stand.
List Price
$\$ 7.50$

Model 58


Superior New, Compact Miniature Dynamic Microphone

Tumer Monlol I- is a hish forformitue. lasalier-typ duamir miserphone. Finished in motral grov, the Model is hidus dis. racelly lahime macktio or hathd.

 bove (liy aml mock cond are
 aralahle at estral cost. Som-
directionall semitivity racete all hielt-filelity roquiraments for stantin mieraphumbs. Now, rugend wh semsitive Turner Dunaflex

 Tha Model 58 is wired to ju-mit sulection of high ar low irment. :Hace by connectine tho proper pair of conductors al terminal end
of 25.ft. B-rombluctor ahividad rable. (Monlel 5x. wred for selortion of 50 or 200 atlm impholamees muly.

Model 58 List Price $\$ 57.00$
Mode' 58A List Price $\$ 57.00$
Model G-4-Desk Stand.
List Price $\$ 5.75$



## Modiel U9S <br> Multi-Impedance Dynamic

 mbli-imuelane trastimen on
 hish imporlabey log meabs of a hary-dme s.lectan switch orn thas lath of tar micho
 all impulafices and freque meres mone sarion of remiraments under extrem. andition los is matiocten by hatat. meld, mamblity. Hats allostalole zadde. with

 2"-it. halamed lime low atacity cable. la

hich impenlance
Model U9S-List Price
$\$ 49.50$

## Model 999 Balanced Line Dynamic





 いw-4:abarity calah
Model 999-List Price
$\$ 45.00$

## Model 99



 Model 99-List Price
$\$ 41.50$

## Model 211



 -






 imberlathor.
Model 211-List Price... .............. \$42.50
Model S-211 with On-Off Slide Switch.
List Price
.$\$ 45.00$

## TWintir <br> MICROPHONES

for SOUND PERFORMANCE
The TURNER Company
Cedar Rapids, Iowa

## Model 22X Crystal 22 C Geramic



 directiomal or stratuthtup mon-lirectimat "hration. i-ft. romovable rable sen. sal in





Model 22X and Model 22C.
List Price
$\$ 24.75$
Model S-22X and Model S-22C with On-Off
Slide Switch. List Price $\$ 27.25$

## Model 22D Dynamic



 -
 Model 22D—List Price. $\$ 29.95$ Model S-22D with On-Off Slide Switch
List Price $\$ 32.45$

Model 33X - 33C



 lintol casw satilu elrome tisish;
fleread eondeler mumbting. (omplite with
 (HYNGM.-Moisture semled errstal
 , (1)...


Model 33X and Model 33C
List Price
$\$ 26.95$
Model S-33X and Model S-33C with On-Off Slide Switch. List Price $\$ 29.45$

## Model 33D Dynamic




 belance. fomplegr with estrif. removalle "able; hish impertance wired single endert (sibuge (onductor shimhend (alble) . . . loss impertans\% wirval for latianced lite (twor conduretor shichled cathle
Model 330-List Price............. $\$ 31.90$
Model S-33D with On-Off Slide Switch.
List Price ................... $\$ 34.40$

## Model 95X - 95C

Wift varidy of abjliditions is possible With Monlel !日: J.aw cost, comparthess and
 to make this mispolbume ifleal for applisat tions from rommercial homadrasting to taju
 sobisitisits. In shomerer. eracelal satin rhemm



 mictophhote at satme price. Kespmase
 Model 95X and Model 95C.
List Price ............. $\mathbf{2 4 . 2 5}$
Model S-95X and Model S-95C with On-Off
Slide Switch List Price \$27.75

## Model 95D Dynamic

 Hish impedance wired sinple ended (sinerl

 luetor slicelded $\because$ (f-ft. (able)
Model 95D-List Price ...................... $\$ 35.00$
Model S-95D with On-Off Slide Switch.
List Price
.$\$ 38.50$


## Model 34X Crysłal Microphone

Atractive hish fishedity somiatirentiashat rystal unit．（uick rimovable cable frature ＂s＂－27 thread couplor mountine．Resporas：
 with 20 －ft．remorable ealle set．Ilso avail－ altu with ceramif interior at samb prine．
 Suroify 34 （．

Model $34 X$ and Model 34C．
List Price
$\$ 32.00$
Model S－34X and Model S－34C with On－Off Slide Switch．List Price．．．．．．．．．．．．．．．．．．．$\$ 34.50$

## Model L40 Lapel Microphone

small．lishtwoight：rood－looking of inwent picruous．as sou wish．satin chromp tilishat ath ho worm＂h1 the laperl or ennceales in lueqd with hirhost fuality Bimoryh moistare kenlad orvial（risu，char speech reproduc－ tion－chest sounds damperd out．dlligator alip mas he used to securre 10 to clathiner
 il．int tacheal calil． Model L40－List Price
$\$ 25.00$
Morde］［．40－3H—With Third Hand－froses huth of apprator＂s hamls for otlaer work．
Model L40－3H—List Price．．．．．．．．$\$ 32.50$

## Famous Turner ＂Third Hand＂





## Turner Desk Słands

Model C－3－roinishal ampletely in buantimb
 ＂n＂－ぎ thromat．
List Price ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 4.50$
Model C－2—心iame ins（ +3 but with 1－if．
List Price ．．．．．．．．．．．．．．．．．．．．．$\$ 4.50$
Model B－3－sinme as（＂：3）lut finishmal in firnl． List Prictalust！

Model G－3－sitmur its（．3 luut fillishat in

List Price ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 3.35$

Model C－5
$\$ 450$

Model BL－5－sime as（＇s．hout finished in －ation blark．

Model C－6－5－in．diametor lase with huilt in shout monnt．Matebus jobly．Finished in lill chrume

Model BL－6－siame as（－1；lmit timished in satin black to match Madels inio－TV． List Price


Model G－6—，itme as（－fi hit finished in umber ：rrey to match Morle－l 5，11J． List Price ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 7.50$
Model C－4－For Moxlel \＆ut micruphomes，tow ：－throme Finished in salin fhrom
List Price ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．75

## The Turner Challengers

Attractively priced for any user．
MODEL BX CRYSTAL－J．ow uros ervetal

 －4r dh．Itractive streamlinend rase with brown metalustre finish；＂ャ＂－e5 thread

 orioer．sureits 80
Model BX and Model BC
$\$ 11.75$
MODEL BD DYNAMIC——ame apraramea





Model BD＿List Price
.$\$ 18.50$
MODEL CX CRYSTAL—N：Nme \｛rumeral dr－
 finisl｜and $\quad$－tt．single conditetor removath
 Model CX and Model CC
List Price
．$\$ 18.00$
MODEL CD DYNAMIC——am！siyle anl tirsish an（＇X．Hiah quality maronet． 7 －ft

 いまわ imperlancor．
Model CD－List Price
$\$ 22.85$

## Model 308 －The Chief

מhonte，Die cast allow case finishou？in taken！ on erey enamel．Furnisheel with alabial

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 wah feramie interior at same prico．la．．．
 Suecify Model mot－Alsor avallable with matr－ frofe interior，Level：－ry dh．Response： 1 （101．

Models 808 and 807 －List Price ．．．．$\$ 10.85$ Models S808 and S807（with On－Off Slide Switch）．Lit Price．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 112.85 Model 809－List Price ．．．．．．．．．．．．．．．．．．．．$\$ 14.95$ Model $\$ 809$（with On－Off Slide Switch）

## Turner

Universal
Phonograph Pickup
Replacement
Cartridges

 （ MRTKIDGFN－F＂O revlace rpm pickup eartridges．Turner qualits rops－ reproduction：Du madle himm or lizs．Ro

 lower couthet lorlol a withant oxemal
 than $\because 0$ vits output．Further informal iom thatahe on Model AU－List Price $\$ 4.95$ Mode W ithout external condenser． List Price
．$\$ 4.45$

## Magnefic Microphone Cartridges



Turneq Masmotio Mievphone（artridgen ar
 ishls．Type A is ampletely umblosid athal is ant operative miorophone Werithe Z． 1 az． is（illustracal alumbe is suphlion witholl Is（illustracad alame is suphtion eithallt ＂hatinstrex for use＊here space is limato

 Cartridges No．31A，31B－－List Price $\$ 10.00$

## OTHER REPLACEMENT CARTRIDGES

are avaitatur for erystal．dymatotic


THE TURNER COMPANY


TURNER HAND-HELD MICROPHONES
Model 9


## -

Ratrent, hamly microphonrs . . . Ilynamice -rstal, carhmi, ceramic. Ballaned tor hand

 switch atrangements.
Model 9D Dynamic-Recommended for more severe survier conditjons and climate and

 Model 9X Crystal-Mas finest respunse: dio A. 1 Hol (.p.s. l.evel: -ion dtr. Abailable with crramic interior, same price. Abreity ar
Model 9R-Reerommended for mohile and hatm ornarations. Respunse: 200-4, "ot c.J.s I.evel: aphrax. -3s ill.

## Model 20

 amb mobile P.A. systems. Hie c:asi mutal mase with hook rime for hansing. hronze metalust ra
 "w-rall. Switch moulels have ! !ush-totalk swilch with sthat liock foature
Model 20D Dynamic-Vers rusem for severe


 แr hish implatance.
Model 20X Crystal-Respumse: 70.7.0100 r.f.s. Lasell: -18 dh. Alsa analalike with "rramic intoriar at sam, price: R"xpmona":

Model 20R Carbon-Respurma: 200-4.000


## Model 70D-70R

Watertight, dustproof,
corrosion-proof
Model 700 Dynamic-Clear. (risp) woice respmase and hirh out put matfocted by rlust, (onrrosion, rainfall. mist, steam or toral immersion. Hook for hamerater or loracket for wall monntiner (sperafy choice). Re-
 slizhty risine characteristic for maximum speech intollifilility. I. Yine die rast allos.
Model 70R Carbon-Same as 70l) exeept with hiah phality carbon cartribye giving exenllont articulation and intellighility for sluoth. 1.t: Resistance: R0 ohms, nomimal. OHfght latiel: -38 ths.

| Stock No. | Type and Impedance | Switch | Cable | List Price |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 1812 \\ & (9 \times) \end{aligned}$ | Crystal High | Slide-lock SPSTNO (single pole single thrownormally open) | Removable 7 ft , single con. | \$25.85 |
| $\begin{gathered} 1813 \\ (P .9 X) \end{gathered}$ | Crystal High | $\begin{aligned} & \text { Push-to-talk } \\ & \text { SPST - NO } \end{aligned}$ | ductor shielded | 25.85 |
| $\begin{gathered} 1816-4 \\ (90) \end{gathered}$ | Dynamic High | $\begin{aligned} & \text { Slide-lack } \\ & \text { SPST — NO } \end{aligned}$ |  | 32.50 |
| $\begin{gathered} 1817-1 \\ (90) \end{gathered}$ | Dynamic 50 ahm |  | Removable 7 ft . two conductor shielded (balanced line) | 32.50 |
| $\begin{gathered} 1817-2 \\ (90) \end{gathered}$ | Dynamic 200 ohm |  |  | 32.50 |
| $\begin{aligned} & 1818.4 \\ & (P-9 D) \end{aligned}$ | Dynamic High | $\begin{aligned} & \text { Push-to-talk } \\ & \text { SPST - NO } \end{aligned}$ | Removable 7 ft . single conductor shielded | 32.50 |
| $\begin{aligned} & 1819-1 \\ & (P-90) \end{aligned}$ | Ūynamic 50 ohm |  | Removable 7 ft . two con- | 32.50 |
| $\begin{aligned} & 1819-2 \\ & (P-90) \end{aligned}$ | Dynamic 200 ohm |  | ductor shielded (balanced line) | 32.50 |
| $\begin{aligned} & 3106-4 \\ & \text { (SR-9D) } \end{aligned}$ | Dynamic High | Side button <br> Push-to-talk <br> SPST - NO <br> For relay control | Attached 7 ft . three conductor one shielded | 37.40 |
| $\begin{gathered} 3107.1 \\ \text { (SR.9D) } \end{gathered}$ | Dynamic 50 ohm |  | Attached 7 ft . four conductor two shielded (balanced line) | 37.40 |
| $\begin{gathered} 3107-2 \\ \text { (SR-9D) } \end{gathered}$ | Dynamic 200 ohm |  |  | 37.40 |
| $\begin{gathered} 2044-1 \\ (9 R) \end{gathered}$ | Carbon 80 ohm | $\begin{aligned} & \text { Slide-lock } \\ & \text { SPST - NO } \end{aligned}$ | Removable 7 ft . two conductor unshielded | 25.85 |
| $\begin{aligned} & 2045-1 \\ & (P-9 R) \end{aligned}$ | Carbon 80 ohm | $\begin{aligned} & \text { Push-to-talk } \\ & \text { SPST - NO } \end{aligned}$ |  | 25.85 |
| $\begin{gathered} \text { 2043-1 } \\ \text { (SR-9R) } \end{gathered}$ | Carbon 80 ohm | Side buttan <br> Push-to-talk <br> DPST - NO <br> For relay and mike control | Attached 7 t. four conductor unshielided | 30.75 |
| $\begin{aligned} & 2042-1 \\ & (S R-9 R) \end{aligned}$ | Carbon 80 hm |  | Attached four conductor unshielded 11" retracted Koiled Kord | 34.40 |

Model 9 Crystal Replacement Cartridge No. 7 L. List Price $\$ 8.00$

Model 9 Dynamic Replacement Cartridge No. 13A.
Model 9 Ceramic Replacement Cartridge No. 7LC. List Price $\$ 8.00$

| Stock No. | Type and Impedance | Switch | cable | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 1161 \\ (20 x) \end{gathered}$ | Crystal High | None |  | \$17.00 |
| $\begin{aligned} & 1162.1 \\ & (5-20 X) \end{aligned}$ | Crystal High | SPST - NO (Single pole single throw normally open) | Attached 7 ft . single conductor shielded | 20.00 |
| $\begin{aligned} & 1163.1 \\ & (S R-20 x) \end{aligned}$ | Crystal High | $\begin{aligned} & \text { SPST - NO } \\ & \text { For relay control } \end{aligned}$ | Attached 7 ft . three conductor ane shielded | 23.00 |
| $\begin{aligned} & 1764-4 \\ & (200) \\ & \hline \end{aligned}$ | Dynamic High | None |  | 21.50 |
| $\begin{aligned} & 1164-1 \\ & (200) \end{aligned}$ | Dynamic 50 ohm | None | Attached 7 ft , single conductor | 21.50 |
| $\begin{aligned} & 1165-4 \\ & (5-200) \end{aligned}$ | Dynamic High | SPST - NO | shielded | 24.50 |
| $\begin{gathered} 1165-1 \\ (5-200) \end{gathered}$ | Dynamic 50 ohm | SPST - NO |  | 24.50 |
| $\begin{gathered} 1166-4 \\ (S R-200) \end{gathered}$ | Dynamic High | SPST - NO | Attached 7 ft . three conductor | 27.50 |
| $\begin{gathered} 1766-1 \\ \text { (SR-20D) } \end{gathered}$ | Dynamic 50 ohm | For relay control | ane shielded | 27.50 |
| $\begin{aligned} & 1167.3 \\ & (20 R) \end{aligned}$ | Carbon <br> 80 ohm | None | Attached 4 ft . two conductor | 17.00 |
| $\begin{gathered} 1168-3 \\ (S-20 R) \end{gathered}$ | Carbon 80 ohm | SPST - N0 | unshielded | 20.00 |
| $\begin{gathered} 1169-3 \\ \text { (SR-20R) } \end{gathered}$ | Carbon <br> 80 ohm | DPST - NO For re. lay and mike control | Attached 4 ft . four conductar unshie\|ded | 23.00 |

Model 20 Crystal Replacement Cartridge No. 17.
List Price $\$ 6.50$
Model 20 Dynamic Replacement Cartridge No, 13A.
List Price $\$ 11.00$
Model 20 Ceramic Replacement Cartridge No. 17C List Price $\$ 6.50$
Madel 20 Carbon Replacement Cartridge No. 25. List Price $\$ 8.00$

| Stock No. | Type and Impedance | Switch | cable | List Price |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 3004-1 \\ (700) \end{gathered}$ | Dynamic High | ```Push-to-talk SPST - NO (single pole single throw normally open)``` | Attached 7 ft . single conductor shielded | \$42.50 |
| $\begin{aligned} & 3007-4 \\ & (700) \end{aligned}$ | Dynamic 50 ohm |  | Attached 7 ft . two conductor shielded (balanced line) | 42.50 |
| $\begin{aligned} & 3007-3 \\ & (700) \end{aligned}$ | Dynamic 200 ohm |  |  | 42.50 |
| $\begin{gathered} 3005-1 \\ \text { (SR-70D) } \end{gathered}$ | Dynamic High |  | Attached 7 ft . three conductor one shielded | 45.50 |
| $\begin{gathered} 3022-8 \\ \text { (SR-70D) } \end{gathered}$ | Dynamic 50 ohm |  | Attached 7 ft . four conductor two shielded (balanced line) | 45.50 |
| $\begin{gathered} 3022-7 \\ \text { (SR-70D) } \end{gathered}$ | Dynamic 200 ohm |  |  | 45.50 |
| $\begin{aligned} & \text { 2098-3 } \\ & \text { (70R) } \end{aligned}$ | Carbon 80 thm |  | Attached 7 ft . two conductor unshielded | 38.50 |
| $\begin{gathered} 2099-3 \\ \text { (SR-70R) } \end{gathered}$ | Carbon <br> 80 ohm | $\begin{aligned} & \text { Push-to-talk } \\ & \text { DPST - NO } \end{aligned}$ | Attached 7 ft . four conductor unshielded | 41.50 |

Model 70 Dynamic Replacement Cartridge No. 13 B.
Model 70 Carbon Replacement Cartridge No. 25.0
List Price $\$ 8.00$

## TURNER HAND-HELD MICROPHONES (continued) Model 90



| Stock No. | Type and Impedance | Switch | C a ble | List Price |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} 3096-1 \\ \text { (SR-90R) } \end{gathered}$ | Carbon 80 ohm | DPST - NO For re. lay and mike control | Attached four conductor unshielded 11" retracted Koiled Kord | \$26.50 |
| $\begin{gathered} 3108.4 \\ \text { (SR-90D) } \end{gathered}$ | Dynamic High | $\begin{aligned} & \text { SPST - NO } \\ & \text { For relay control } \end{aligned}$ | Attached 5 ft . three conductor one shielded | 29.50 |
| $\begin{gathered} 3109-2 \\ \text { (SR-900) } \end{gathered}$ | Dyıamic 200 ohm |  | Attached 5 ft . four conductor two shielded (balanced line) | 29.50 |

STANDARD MODEL SR-90R CARBON-Response: 200-4,000 c.p.s. Level: -38 db .
MODEL SR-90D DYNAMIC—Response: $200-9,000$ c.p.s. Level: -48 db . at high impedatace. See tallie for impedances and cable data.

Ideal for any mobile rif. Desimned to fit your hand comortably with gwitch in normal grip. Zinc alloy case is tinished in permaneent satin chrome for everlationt ghow alumarance. Furnisheal with look for lanering atal bracket for wall or dash mounting.

## Convenient lightweight lapel microphone <br> Turner Model L- 100



Low cost convenient erystal lapel microphone with exerlent spereh reproluction characteristics. check sounde damped out. Response: 50-10,000 c.f.s. Level: -52 dtb . lightweight. inconspicuous grey plastic case. Strong ruhber-padied elip adjusts to any desired position. $20-\mathrm{ft}$. sireple conluctor shielded cable attached. Also available with cremaic interion at same price. Specify

L-100C. Availalle withont elip as Mmlal 100.

Model L. 100 and Model L-100C. With clip and $20-\mathrm{ft}$. cable.
List Price
$\$ 12.50$
Model 100 and 100 C . Without clip and 7 -ft. cable.
List Price
$\$ 8.00$

Tiny, versatile useful miniature crystal microphone

## Turner Model 80 Series



Model 80-There is a lot of erystal mierophone concealend in the small. inconspirums case of the Turner Model 80. Its fine performathce belies its size and apparaneslender, compact and graceful--imporiant considerations in the selection of truls veeful microphones. The Turter 80 hat frequency response ratuge of $\times 0$ to 7,000 e.p.s. Lavel: approximately -54 db . Its complacthess,
nerformance, durability and beauty buggest the versatility of applications to which the satin chrome plated Model to may he put. On the stand or in the hand, it lives up to its role as a Turnow ensincerins triumph. Weisht: 5, oz. Bquipped with i-ft. attached single conductor shielded cable. See other models listed in the Turner a 0 series: same general syecifications.

Model 80--List Price
$\$ 15.95$
C. 4 Stand-l'ermits operation of the Model so microphone at anvore in an are of $135^{\circ}$. Specially derigned to ausment the maneuverability of the Turner so. this stand is built of havy dice cast zinn alloy, overlated with satin chrome plate of match the appearance as well as the ioxibility of the microphone.
Model C. 4 Matching Stand,
List Price
$\$ 5.75$

Model 81-Model 80 microplione head with P('IM Amphenol connector attached ideal for built-in applications.
Model 81-With Amphenol Connector.
List Price
. $\$ 13.95$

Model $82-3 \mathrm{H}$ —Tiny Model 80 microphom. hearl adapterd for use with Turner "Thirel Hand." Attached 20 -ft. single conductor shialded cathle permits freedom of movernemt.

Model 82.3 H -List Price
.$\$ 22.75$

Model 83-Malanced, lisht, tiny hand min mphone that tifs casily in the palm of the hamd, rides lightly in any pocket. 'I ins Moderl 80 head on a 4 -in. natchine satin chrome handle. with 7 -ft. single conducuor shimlded mable ittached.

Model 83-List Price
$\$ 15.95$

## FULL VISION

## RIBBON and DYNAMIC CARDIOID

FREQUENCY RESPONSE: $10 \cdot 15,000$ c.p.s., plus ar minus 2.5 db .

OUTPUT LEVEL: -86 db . for 50 ohms impedance ( $0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne}^{\mathrm{d}} / \mathrm{cm}^{2}$ ).
POLAR PATTERN: True cardioid. Easily and quickly changed to bi-directional ribbon anly, or omni-directional dynamic only.
IMPEDANCE: Easily and quickly shanged to 50,150 or 250 ohms.
CONNECTOR: Cannon XL-3-11 "latch-lock" connector.
CABLE: 25 f. two-conductor shielded rubber covered.
STAND COUPLING: 5"". 27 thread on combination swival and "slide.lock."
DIMENSIONS: Hy. 6 ins., dia. 2 ins., wi. 20 oxs.
LIST PRICE: Code; REBID
546010


## RIBBON BI-DIRECTIONAL

FREQUENCY RESPONSE: 50.8000 c.p.s., plus or minus 3.0 db .


OUTPUT LEVEL: -55 db for high impedance
( $0 \mathrm{db}=1$ volt/dyne/ $\mathrm{cm}^{2}$ ).
POLAR PATTERN: True velocity bi-directional.
IMPEDANCE: Eosily and quickly changed to low (30-50) med. (250) or high $(40,000)$ ohms.
CONNECTOR:Connan XL.3.11 "latch-lock" connector.
CABLE: 25 ff . single.connector shielded rubber covered.
STAND COUPIING: 5/9"-27 thread on comb. swivel and "slide-lock."
DIMENSIONS: Ht. 6 ins., dio. 2 ins., wt. 20 azs.
LIST PRICE: Code: DYRIB
1374c9


## RIBBON and DYNAMIC CARDIOID

FREQUENCY RESPONSE: 50-8,000 c.p.s., plus ar minus 5.0 db .


OUTPUT LEVEL: -53 db for high impedonce
( $0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{2}$ ).
POLAR PATTERN: True cordioid.
IMPEDANCE: Easily and quickly changed to low (30.50), med. ( 250 ) or high ( 40,000 ) ohms.
CONNECTOR: Cannon XL.3.11 "latch-lock" connector.
CABLE: 25 ff. single-connector shielded rubber covered.
STAND COUPLING: $\boldsymbol{f}^{\prime \prime}$ - 27 thread an combination swivel and "slide-lock."
DIMENSIONS: Ht. 6 ins., dia. 2 ins., wt. 20 ozs.
uSt PrICE: Code; bIRIB
$\$ 85.00$


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## D33



## DYNAMIC OMNI-DIRECTIONAL

FREQUENCY RESPONSE: $100-8000$ c.p.s., plus or minus 5.0 db .

OUTPUT LEVEL: $\mathbf{- 5 2} \mathrm{dt}$ for high impedonce
( $0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{-}$).
IMPEDANCE: Eosily and quickly changed to low (30.50) or high ( 40,000 ) ohms.
CONNECTOR: Connon XL-3-11"lotch•lock" connector.
CABLE: 25 ff . single conductor shielded rubber covered.
STAND COUPLING: $5 \mathrm{~s}^{\prime \prime} .27$ thread on combinotion swivel ond "slide.lock."
DIMENSIONS: Hf. $81 / 4$ ins., dia. 1 in., wt. 7 ozs.
LIST PRICE: Code; dooll.
175009

## 

## D 44



## DYNAMIC OMNI-DIRECTIONAL

FREQUENCY RESPONSE: $50.15,000$ c.p.s., plus or minus 2.5 db .

OUTPUT LEVEL: $-88 \mathrm{db}, 50$ ohms impedance
$10 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{2}$ ).
IMPEDANCE: 50 ohms.
CONNECTOR: American APF-1
COUPLING: Microphone terminated in mole port of connector. Female part of connector has ring-lock ferrule for convenient diconnect. Coupling \%". 27 internal thread for installation on fish pole or boom. DIMENSIONS: H. $6 \%$ ins., mic. unit $3 \%$ ins., wr. 7 oxs.

LIST PRICE: Code; dixie.....



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Amerícach migrophone co.. an ELGIN national watch company affiliate

## FULL VISION



## DYNAMIC UNI-DIRECTIONAL

FREQUENCY RESPONSE: $100.7,000$ c.p.s. OUTPUT LEVEL:-54 db for high impedance $\left(0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{2}\right.$ ).
IMPEDANCE: 38,000 ohms. ( 200 or 500 ohms ovoilable) CONNECTOR: Cannon Xl.3.11 "lotch-lock."
CABLE: 25 ft . single-conductor shielded rubber covered. STAND COUPLING: $5{ }^{n \prime \prime}-27$ threod.
DIMENSIONS: Ht. 7 ins., breodth $21 / 2$ ins., wt. $21 / 2 \mathrm{lbs}$
LISI PRICE: Code; HIWEL $\qquad$
54200
LOW 50 LIST PRICE: Code; LOWEI

DYNAMIC OMNI-DIRECTIONAL
fREQUENCY RESPONSE: Substontially not. OUTPUT LEVEL: -57 db for high impedonce
( $0 \mathrm{db}=1$ volt / dyne/cm ${ }^{3}$ ).
IMPEDANCE: 38,000 ohms. ( 200 to 500 ohms ovailable). CONNECTOR: MC. 1 M Amphenol.
CABLE: $121 / 2 \mathrm{ff}$. single-conductor shielded rubber covered with Amphenol femole fitting, loose end.
SIAND COUPLING: $36^{\prime \prime}-27$ threod
DIMENSIONS: H. $21 / 2$ ins., dia. $11 / 2$ in., wt. $81 / 2$ ors.
D7 low 50

LIST PRICE: Code; DISET.
$\$ 27.00$
LIST PRICE: Code; DISEV $\$ 24.00$

D7TP


## DYNAMIC OMNI-DIRECTIONAL PRESS TO TALK SWITCH

FREQUENCY RESPONSE: Substontially flat. OUTPUT LEVEL: $\mathbf{- 5 7} \mathrm{db}$. for high impedonce $10 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{*}$ ). IMPEDANCE: 38,000 ohms. ( 200 or 500 ohms ovailoble). CABLE: 6 ff . single.conductor shielded rubber covered loose end.
DIMENSIONS: Hf. 8 ins., dio. $11 / 2$ ins., wf. $101 / 2$ ors.
LIST PRICE: Code: DIMAT.
$\$ 31.00$
D7P
LOW 50 IIST PRICE: Code; DIMAR.
$\qquad$
$\$ 28.00$


DYNAMIC OMNI-DIRECTIONAL
FREQUENGY RESPONSE: Substontiolly for 100-6,000 c.p.s.

OUTPUT LEVEL: $-56 \mathrm{db}\left(0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{2}\right.$ ).
IMPEDANCE: 38,000 ohms. ( 200 or 500 ohms ovoiloble). CONNECTOR: Amphenol MC.IM.
CABLE: $12 \frac{1}{2} \mathrm{ff}$. single-conductor shielded rubber covered. STANO COUPLING $5{ }^{\prime \prime}$ "- 27 threod on swivel.
DIMENSIONS: $\mathrm{H}_{\mathrm{t}} .3^{11 / 4}$ ins., dio. 2 ins., wt. 13 ozs.
lIST PRICE: Code; DATAH.
$\$ 30.00$
08 LOW 50 LIST PRICE: Code: DATAL
.......................
12700 D7TS

## DYNAMIC OMNI-DIRECTIONAL SLIDE SWITCH

FREQUENCY RESPONSE: Substontiolly flot.
OUTPUT LEVEL: -57 db . for high impedonce ( $0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{2}$ ).
IMPEDANCE: 38,000 ohms. ( 200 or 500 ahms ovailoble).
CABLE: 6 ft . single-conductor shielded rubber covered. loose end.
DIMENSIONS: Hy. 8 ins., dio. $11 / 2$ ins., wf. 14 ozs.

LIST PRICE: Code; DIAMT
$\$ 30.00$
D7S LOW 50 LIST PRICE: Code; DIAHL. $\$ 27.00$

## DYNAMIC SEMI-DIRECTIONAL



FREQUENCY RESPONSE: $50-6,000$ c.p.s. OUTPUT LEVEL: $\mathbf{- 5 2} \mathrm{db}$ for high impedonce
( $0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{2}$ ).
IMPEDANCE: 38,000 ohms. ( 200 or 500 ohms ovoiloble) CONNECTOR: Connon Xl-3.11.
CABLE: 25 ff . single.conductor shielded rubber covered. STAND COUPLING: \%" 27 threod on swivel. DIMENSIONS: HP . $31 / 2$ ins., dio $21 / 2 \mathrm{ins} .$, wt. $1 / 2 \mathrm{lbs}$

## OYNAMIC OMNI-DIRECTIONAL



FREQUENGY RESPONSE: $100.6,000$ e.p.s.
OUTPUT LEVEL: -54 db for high impedonce
$\left(0 \mathrm{db}=1\right.$ volt $/ \mathrm{dyne} / \mathrm{cm}^{2}$ ).
IMPEDANCE: 38,000 ohms. ( 200 or 500 ohms ovailoble). CONNECTOR: Amphenol MC.1M.
CABLE: 25 f . single-conductor shielded rubber covered. STAND COUPLING: $\%{ }^{\prime \prime}-27$ thread on swivel. DIMENSIONS: H. $31 / 4$ ins., dio. $21 / 2$ ins., wf. $13 / 4 \mathrm{lbs}$

LIST PRICE: Code; DIXIT.
LOW 50 LIST PRICE: Code: DIXIX

## DYNAMIC OMNI-DIRECTIONAL

FREQUENCY RESPONSE: $60.7,500$ c.p.s. OUTPUT LEVEL: - 56 db for high impedonce $\left(0 \mathrm{db}=1\right.$ voli/dyne/cm ${ }^{2}$ ).
IMPEDANCE: 38,000 ohms. ( 200 or 500 ohms avoiloble). CONNECTOR: Amphenal MC.1M.
CABLE: $12 \frac{1}{2} \mathrm{ff}$ : single-conductor shielded rubber covered. STAND COUPLING: $5 \mathrm{~h}^{\prime \prime}-27$ threod on swivel.
DIMENSIONS: H. 4 ins., dio 2 ins., wt. $101 / 2$ ozs.

AmPicarl migrophone co., an ELGIN national watch company affiliate


## FULL VISION


dynamic lecturers microphone
FREQUENCY RESPONSE: $100 \cdot 4,000$ c.p.s.
OUTPUT LEVEL: -86 db for low impedance
( $0 \mathrm{db}=1 \mathrm{ralt} / \mathrm{dyne} / \mathrm{cm}^{*}$ ).
IMPEDANCE: 50 ahms.
CONNECTOR: Connon XL-3.11 "lotch-lack."
CABLE: 25 ff . Pwo-conductor shielded rubber covered. DIMENSIONS: WI. 12 oxs., complete.
LIST PRICE: Code: MICRO.
D4GT
hi. usi price: Code; getee
+3s wa
597.50


CRYSTAL SEMI and NON-DIRECTIONAL
FREQUENCY RESPONSE; $100 \cdot 6,000$ c.p.s. OUTPUT LEVEL: $-55 \mathrm{db}\left(0 \mathrm{db}=1 \mathrm{valt} / \mathrm{dyne} / \mathrm{cm}^{2}\right)$. IMPEDANCE: High.
CONNECTOR: Amphenal. MC.IM.
CABLE: 6 ff . single.conductor shielded rubber covered.
STAND COUPLING: $56^{\prime \prime}$. 27 thread on swivel.
DIMENSIONS: Hr. 3 ins., dio. $27 / 8$ ins., wt. 8 ozs
LIST PRICE: Code; CESIX.
$\$ 18.00$


CRYSTAL MICROPHONE
FREQUENCY RESPONSE: 50-6,000 c.p.s.
OUTPUT LEVEL: -55 db . ( $0 \mathrm{db}=1 \mathrm{volt} / \mathrm{dyne} / \mathrm{cm}^{*}$ ).
IMPEDANCE: High.
CONNECTOR: Amphenal MC. 1 M .
CABLE: $12 \frac{1}{2} \mathrm{ff}$. single.conductor shielded rubber covered. STAND COUPLING: $5^{\prime \prime} \cdot 27$ thread on swivel.
DIMENSIONS: length $31 / 2$ ins., dia. $21 / 2$ ins., wt. 15 ars.

LIST PRICE: Cade; CSEVN
C7
LOW 50 LIST PRICE: Code; CSEVL
\$24.50
$\$ 29.00$

CRYSTAL MICROPHONE

frequency response: 50-6,000 c.p.s.
OUTPUT LEVEL: -55 db . ( $0 \mathrm{db}=1 \mathrm{valr} / \mathrm{dyne} / \mathrm{cm}^{\text { }}$ ). IMPEDANCE: High.
CABLE: 7 ff . single-conductor shielded rubber covered. STAND COUPLING: Bose eosily removed by half turn of boyonet lack for use as hand microphone. Handle has ${ }^{3} \mathrm{t}^{\prime \prime} \cdot 27$ ext. thread, microphone unit $\mathbf{t h}^{\prime \prime} .27$ int, threod for mounting on floor stond.
DIMENSIONS: Ht. 10 ins., wt. 1 lb .
LIST PRICE: Code; ARCEE.
$\$ 10.90$
RCS
SWITCH IIST PRICE: Code; ARCEX
$\$ 13.50$


CRYSTAL LAPEL MICROPHONE
FREQUENCY RESPONSE: $50 \cdot 5,000$ c.p.s.
OUTPUT LEVEL: -55 db . ( $0 \mathrm{db}=1 \mathrm{volt} / \mathrm{d}_{\mathrm{nne}} / \mathrm{cm}^{2}$ ). IMPEDANCE: High.
CABLE: 25 ft . single-conductor shielded plostic covered. DIMENSIONS: Dia. $2^{114}$ ins., depth $^{3}$ º in., wi. 614 azs.

LIST PRICE: Code; LATAL.
$\$ 27.25$
"501" SERIES hand.held microphone

DYNAMIC

## CARBON



| C501A | . 27.50 |
| :---: | :---: |
| C501B | 31.50 |
| C501C | . 29.50 |
| Csold | . 33.00 |
| CS01E | . 33.00 |
| Csolf. | . 33.00 |
| C501G | 33.00 |

J


RECORD: 78 RPM .
NEEDIE FORCE: $11 / 4$ ounces.
OUTPUT VOLTAGE: 3 volts.
FREQUENCY RANGE: 50-8,000 c. p.s.
AMERICAN CARTRIDGE USED: CRIA (no needle).
LIST PRICE: Code; JADED. $\qquad$

## LIGHTWEIGHT PHONOGRAPH PICKUP

RECORD: long ploying and 78 RPM. NEEDLE FORCE: 6 groms. OUTPUT VOLTAGE: 1 volt. FREQUENCY RANGE: 50.6,000 s.p.s. AMERICAN CARTRIDGE USED: CRS, CR6 or CR7 which includes Osmium or Sopphire tip needle. Specify cortridge and needle required.
list Price: Code; JUbal..


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American menoporows co.
an ELGIN national watch company affiliate
The M.ASTER - 20th Eitition
Page 0.24

## Americana <br> CRYSTAL CARTRIDGES



78 RPM

NEEDLE FORCE: $11 / 4$ ounces.
OUTPUT VOLTAGE: 3 volts.
FREQUENCY RANGE: 50.8,000 c.p.s.
WEIGHT: 17 grams.
NEEDLE TYPE: Optional (Not supplied).
LIST PRICE: Code; CINCH. $\qquad$
CRIA cartridges feature the exclusive American designed "Tarque-Limit" needle chuck. Prevents chuck moving when tension or pressure is applied to the needle screw, insuring needle sacket remaining centrally located in the cartridge, and guaranteeing excellent needle point compliance. Best operation is obtained with offset needles using Sapphire or precious metal tip.

## CR HA



## 78 RPM

NEEDLE FORCE: $11 / 4$ ounces. OUTPUT VOLTAGE: $31 / 2$ vols. FREQUENCY RANGE: $50-8,000$ c.p.s. WEIGHT: 17 grams.
NEEDLE TYPE: Optional (Not supplies').
UST PRICE: Cade; CLASP. $\qquad$


The CR4A cartridge representing a desirable combination of high output together with wide frequency range, makes this o most desirable unit. Also features the exclusive American designed "Torque-Limit" needle chuck.


## 78 RPM

NEEDLE FORCE: 8 grams.
OUTPUT VOLTAGE; 1.1 volts.
FREQUENCY RANGE: 50.6,000 c.p.s.
WEIGHT: 5 grams.
NEEDLE TYPE: Three mil radius Osmium tip needle supplied.

LIST PRICE: Code; CUPAY. $\qquad$
CRUS 78 RPM.
Same as obove with Sapphire tip.
LIST PRICE: Cade; CUPAN $\qquad$
The CRS cartridge using o three mil radius Osmium tipped of Sapphire tipped stylus is on exceptionally light weight unit for replacement in 78 RPM record players where required.

SRA

## 78 RPM



NEEDLE FORCE: 1 ounce.
OUTPUT VOLTAGE: 1 volt.
FREQUENCY RANGE: 50-6,000 c.p.s.
WEIGHT: 17 grams.
NEEDLE TYPE: 3 mil radius Osmium tip needle supplied.
LIST PRICE: Cade; DELTA


The S2A cartridge has rolled-off high frequency response for pleasant listening to all types of recordings and transcriptions. The reduction of surface noises restores old albums of favorite records to new usefulness.

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American microphone co.

CR2A


## 78 RPM

NEEDLE FORCE: $11 / 8$ ounces.
OUTPUT VOLTAGE: $11 / 2$ volts.
FREQUENCY RANGE: $50.7,000$ c.p.s. WEIGHT: 17 grams.
NEEDLE TYPE: Optional (Nat supplied).
LIST PRICE: Coder CIVIC $\qquad$

CR2A cartridges feature the exclusive American designed "Torque-Limit" needle chuck. Prevents chuck moving when tension or pressure is applied ta the needle screw, insuring needle socket remaining centrally located in the cartridge, and guaranteeing excellent needle point compliance. Best operation is abtained with offset needles using Sapphire or precious metal tip.

CR 5


## LONG PLAYING $331 / 3$ and 45 RPM

NEEDLE FORCE: $\delta$ grams.
OUTPUT VOLTAGE: 1 volt. FREQUENCY RANGE: 50.6,000 c.p.s. WEIGHT: 5 grams.
NEEDIE TYPE: One mil radius Osmium tip needle supplied.
list PRICE: Code: CABAL
$\$ 6.00$
CRTS LONG PLAYING $33 \%$ and 45 RPM. Same as above with Sapphire tip. LIST PRICE: Cade; CADAN

The CR5 cartridge using one mil radius Osmium tipped stylus is highly recommended for replacement in most $331 / 3$ and 45 RPM record players.
 will play bath 78 RPM and microgroove records. Sapphire tip stylus available.

FNMA


## 78 RPM

NEEDLE FORCE: $11 / 4$ ounces.
OUTPUT VOLTAGE; 1 volt.
FREQUENCY RANGE: $50.5,000 \mathrm{c.p.s}$
WEIGHT: 17 grams.
NEEDLE TYPE: Optional (Not supplied).
LIST PRICE: Code; CRESS $\qquad$


The PNMA cartridge is designed for use in extreme temperature and humidity conditions. Crystal element is moisture-resistant, sealed in a metal jacket, and will withstand temperatures to 200 degrees fahrenheit. FOR BEST RESULTS: PNMA cartridges should be terminated into a load resistor of 5 megohms or higher. Low capacity cable from cartridge to amplifier input should be used, and should be as short as possible.

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MS-10C Leader


MS.12C Standard


MS-11C Standard
DeLuxe









 designed to offer maximum stability for


## Base Finish

 Gray Shrivel Gray Shrivel Full Chrome Gray Shrivel Chrome \&Gray Shrivel
Cadmium Plated
Chrome \& Gray
Hammerloid

Full Chrome $26^{\prime \prime}$ to $64^{\prime \prime}$ Demounrable 11.75
*Each stand is individually packed complete in a single carton. tThe MS-20 and MS-24 use large diameter, oversize, telescoping brass tube assemblies (7/8" telescoping tube - $11 / 8^{\prime \prime}$ base tube) resulting in a handsome and fine-appear:ny stand that supplements the professional appearance of large-size ingh quality microphones.
§Collapsible to a minimum overall length of 23 inches.

MODEL DS-10-_"The Streamliner"

Sensational new Atlas feature that prevents accidental or sudden slippage of telescoping section. This section is always "cushioned on air," and the controlled escapement allows only a slow, smooth, quiet collapse of stand.

## ADJUSTABLE BANQUET STAND

Features "Full-Grip Velvet-Action" adjustment. Tube and base handsome super-chrome finished. Adjustable Model TS-6

## 'VELVET ACTION' DESK STAND

DS-5 and DS-7 Desk Stands-Same fine finish and workmanship as floor models. Adjustable DS-7 has heavy duty $5 / 8^{\prime \prime}$ and $7 / 8^{\prime \prime}$ tubing. Felt base pads in cluded. Base diameter 6', gray shrivel finish; tube



Modern - Attrac-ive - Functional Stable!

Compliments arpearance of any mike. Conceals rike cable in slat beneath center seztion of chromium trim and directs i: gut at tear of base. Adequate space under base for installation of "on-cff" or "press-to-talk" switch.

# at 

the complete line for every public address need!
DUPLEX MIKE MOUNT

## With Desk Attachment



## 'SNAP ON' MICROPHONE ATTACHMENT



Permits any make to
be attached to or re be attached to or removed from any floor stand - instantly,
is ball-bearang spring sleeve attachment: one section is attached to make, other section is permanently fastened to stand.
Model SO. 1
List Price $\$ 2.75$

## FLEXIBLE GOOSE NECK



Eastly attached to any mike stand and locked in any position. Also effectively used with bracket clamps BC-l and SK-1. Boom length $32^{\prime \prime}$, chrome plated. Castings in gun metal shrivel. 5/9'" 27 threads. Ship. wt. ?? lbs.

List Price $\mathbf{\$ 7 . 5 0}$

For use with TB-1, Heavy base, $10^{\prime \prime}$ diam. All parts super-chrome plated. Adjustable tube assembly Easily placed on and moved along speaker's table Ship. Wt. 11 lbs.
Model TS-7
List Price $\$ 10.00$
List Price $\mathbf{\$ 3 . 5 0}$

## TS-7 BANQUET STAND (Only)

Answers many mike positioning problems Fastens securely to ledges, round pipes, stan chions*. Has $5,8^{\prime \prime}-27$ thread for any mike. Car also be used in combination with SW-1, GN-13. etc. Casting finish, qun metal shrivel; $3^{\prime \prime}$ lon
ube, chrome.
Excellent for attaching an extra mike to-a conventional floor stand.
Model SK-1


## BRACKET CLAMP

Very versatile. Usable with BB-1, GN-13, etc. Clamp can be removed and top flange screwed or bolted into position. Chrome tube $6^{\prime \prime}$ long. $5 / 8^{\prime \prime}-27$ thread.
Model BC-1
List Price $\$ \mathbf{\$ 3 . 5 0}$

## MICROPHONE ADAPTORS \& FITTINGS



## Capps

 FRANK L. CAPPS \& CO, inc. valley stream, n.y.


DM 1060


CR 100

## CONDENSER MICROPHONES

CAPPS stretched diaphragm CONDENSER MICROPHONES are acoustically faithful, distartion free, amnidirectional, blast proafed, and have a smaath frequency respanse fram 20 to 20,000 c.p.s. Their excellent transient respanse made them ideal for thase wha must have the ultimate in acoustical transmissian. They are gracefully styled in soft satin and grey finishes and are camplete with preamplifier, pawer supply and cable. CM 2001 "PROFESSIONAL." The lawest priced candenser microphane available. Cambines all of the features abave with law cost achieved through mass production. Available far high impedance input (Grid input). A baan to high fidelity enthusiasts and prafessional users.
CM 2001
Net Price $\$ \mathbf{1 2 5 . 0 0 *}$
CAPPS "STUDIO" Candenser Microphones ore completely equipped with Cannon Cannectars and are built ruggedly to withstand the hazards af cantinuous studio use. Available in several impedances as follaws:
CM 2030A-30 Ohms
Net Price \$225.00*
CM 2250A-250 Ohms
Net Price $\$ \mathbf{2 2 5 . 0 0}$ *
CM 2011A-Hi Imp. (Mic Input)
Net Price \$225.00*

## DYNAMIC MICROPHONES OMNIDIRECTIONAL DYNAMIC STUDIO MICROPHONE

Manufactured under the same high standards af engineering and fabrication as CAPPS CONDENSER MICROPHONES. This instrument is especially suiled for reproducing with a high degree of fidelity and brilliance large area sound sources-orchestras, choirs, organs, efc. Frequency respanse 50-15,000 c.p.s., 50 Ohms Impedance. Each microphane is supplied with an individually calibrated frequency respanse chart. DM-2050.

Net Price $\$ 120.00$ *

## DYNAMIC NONDIRECTIONAL MICROPHONE

A less expensive version af the DM 2050 micraphone suited for small orchestras, high fidelity enthusiasts, efc. Frequency respanse $50-10,000$ c.p.s.- 60 Ohms impedance. DM 1060

Net Price \$75.00*

CM 20, 1A CM 2030A CM 2250A


DM 2050


CR BB

A crystal microphone made with CAPPS high standards of quality. Smooth frequency response from $40,10,000$ c.p.s. Oufput level 54 db below IV/dyne/CM2. $5 / \mathrm{m}^{\prime \prime}-27$ thread for stand mounting.



## SWIVEL

Permits any microphone to be adiusted to any angle on any standard floor or desk stand. $5 / 8$ ' -27 Male thread one end $5 / 9^{\circ} \cdot 27$ Female thread other end. Satin chrome finish.
SFM
List Price $\$ \mathbf{4 . 0 0}$

## MIC ADAPTERS

F1F5
List Price $\$ 0.60$
F1M5 pipe Female to $5 / 8-27$ Female
$1 / 0^{\prime \prime}$ pipe Female to $5 / 8-27$ Male

## CUSTOM MADE RECORDING STYLI

Master Reco:ding Styli (MRS) and anti-Noise Modulation Styli (ANM) were developed to meet the exacting requirements of modern recording systems and techniques. They are made with extreme care to customers specifications. They are checked and rechecked several times during manufacture to guarantee ideal groove shape and detailed accuracy. Also resharpening service on these styli.

## HOT STYLUS ATTACHMENT

A hot styius attachment for professional disk recording. Fits all cutting heads. A necessity for LP recordirg. HS-100
.Net Price \$55.00*

[^19]
## VELOCITY AMPERITE

## New AMPERITE STUDIO "Ribbon" MICROPHONE

 A "Blastproof Velocity" Eliminates Feedback Troubles


The Finest in Microphones regardless of Price
Reproluction is of the very highest type. Fxcellent for broad(asting, recording and public address. Blimimates feedback troubles. Will not become "boomy" on chsis talking. An entire orchastra can be faithful! reproduced.
Pick-up angle $120^{\circ}$ front and back with practically no frequency disermination. In spite of the wide pick-up angle, feelback is reduced to a minimum.

Not affected by temperature, altitude or humidity. Will operate under any climatic conditions-indoors or outdoors. Not affected by wind.

Fequenrcy range $40-14,009 \mathrm{cps}$. Output -56 db . Complete with switch (optional), cable connector and 25' cable. Finish-Chrome. Stand. thread, Standard $5 / 8^{\prime \prime}-27$.
Mist
Model
R80L-200 ohms output...................... 880.00
R80H-High inpedance 80.00
50 ohms available. Shipping incight io libs.

## AMPERITE KONTAK MIKE <br> FOR MUSICAL INSTRUMENTS


(Model SKH)

(Model KKH)

Gives natural reinforcement without peaks. Easily at. tached without tools. Will operate with either low or high-gain amplifiers. Frequency response 40 to 9000 cps. Output, - 40 db .

Shipping Weight 2 lbs.

[^20]
## ELECTRICAL SPECIFICATIONS:

PROFESSIONAL MODEL "P." Has the smoothest response, lowest intermodulation distortion and highest compliance. Constant velocity response when loaded with 120 K ohms and requires no equalization. Designed to feed any magnetic level input amplifier. Stylus pressure 3 grams.
HIGH FIDELITY MODEL "OV." For converting small and medium sized amplifiers for better reproduction. Low IM distortion and high compliance. Will drive most amplifiers through high level input. Stylus pressure 5 grams.
HIGH OUTPUT MODEL "Tr" Designed for worn and older types of records. Produces a high order of brilliance with a minimum of needle scratch. Will drive most small amplifiers. Stylus pressure 6 grams.
ULTRA high output models "us" and "v." Similar to Model "T," but have highest output of all models. Stylus pressure 7 grams.

## MECHANICAL SPECIFICATIONS:

All RONETTE cortridges are sumplied with verious types of brackets for veplacement in most popular phono arms. Sperirl brackets supplied on quantity orders to mamufactureis specificutions.
TYPE TO-284: Turnover Type with built-in turnover mechanism. Will mount in most standard record player arms. 2 non-interacting sapphire styli*.
TYPE RA-284: Single Needle Type designed for original and replacement equipment in most single speed microgroove players and RCA units. Available with $1^{*}$-or 2 -mil sapphire stylus.
TYPE DT-60; Turnover Type without built-in turnover mechanism. Designed for tone arms such as Shure W22, Astatic ACD-J or Webster A-1. 2 non-interacting sapphire styli ${ }^{\text {a }}$.

| MODEL | LIST | MODEL | LIST |
| :---: | :---: | :---: | :---: |
| TO-284P | \$12.50 | DT-60-OV, 60-T, 60-US | 8.40 |
| TO-284-OV, 284-T, 284-US | 9.00 | RA-284-P | 11.00 |
| DT-60-P | 12.00 | RA-284-OV, 284-T, 284 -US | 7.25 |
| *Diamonds Available at Extra Cost |  |  |  |



MODEL TO-284


MODEL DT-60


MODEL RA-284


For use with 12" and 16" Manually Operated Precision Turntables.
Achieves the ultimate in performance with the Ronette 284-P Fonofluid cartridge, with 2 non-interacting sapphire* styli. Newly developed stylus pressure adjusting mechanism allows fine pressure adjustment from one to eight granis. Double ball-bearing swivel imparts high stability and is virtually torsion free; essential qualities for perfect tracking at high needle velocities and very low stylus pressures. Mounting swivel and pickup head are molded of durable Polopas Plastic and the arm is of chromium plated tubing. Standard arm length for use with $12^{\prime \prime}$ turntables, is $7 \% / 8$ inches from bearing center to stylus tip. It can be supplied in other arm lengths to manufacturers specifications.

```
MODEL FFP-12-For 12" Turntables
MODEL FFOV-12-For 12"'Turntables
MODEL FFP-16-For 16" Turniables
    $22.75 List
    19.25 List
    27.50 List
    *Diamond Styli Available at Additional Cost.
```



TURNOVER MODEL


SINGLE STYLUS MODEL


High-Quality, Moderately Priced Pickup Arms designed for resonancefree performance with smooth pivot action for accurate tracking.

Made of extremely lightweight cast aluminum and accurately springcounterbalanced for the stylus pressure required by the cartridge. Equipped with the famous Ronette High Output Cartridges. Attractively styled in a modern, streamlined design, with hammerlin finish.

## MODEL ART-

With 1.0 mil sapphire- 2.5 mil sapphire styli......... $\$ 15.00$ List MODEL ARS-1 With 1.0 mil sapphire stylus ........ 9.00 List MODEL ARS-2—With Ployall sapphire stylus ........... 9.00 List


With vacuum-sealed, precision ground, optically inspected crystals and annealed corrosion-resistant aluminum diaphragms.


## WORLD-FAMOUS "B-110" REPORTER MICROPHONE

For Amateur Radio, Public Address and Communications Service

Most popular and widely used microphone among amateurs the world-over. Semi-directional, shielded against strong RF fields. Use of 220 K ohms output resistance, instead of the usual 5 magohms recommended, reduces bass response and gives that "DX" quality wanted by amateur radio operators. Case is of high quality Polopas, finished in polished ivory. Fits any regular 5/3"-27 threaded microphone stand.

TECHNICALSPECIFICATIONS:
Frequency Response: 30 to 13,000 cps
Effective Oufput Level:
$1.1 \mathrm{mv} / \mu$ 8ar at 1000 cps and 5 megohms
Output Impedonce: Equal to $2200 \mu \mu$ f
Dimensians: Diamefer $21 / 2^{\prime \prime}$; Height $33 / \mathrm{m}^{\prime \prime}$; Depth $31 / 4^{\prime \prime}$
Madel B-110: With $5 / \mathbf{s}^{\prime \prime}-27$ threaded cannector..... $\$ 13.25$ List


## TABLE MODEL MICROPHONE TYPE "44"

Especially appealing to tape recording enthusiasts, as it matches today's modern recorders. Housed in a plastic case which is virtually unbreakable, with beautiful modern lines and finished in polished ivory. Has a metal loaded base, suitable as a hand microphone. Semi-directional in characteristic.

## TECHNICALSPECIFICATIONS

Frequency Response: 30 to $13,000 \mathrm{cps}$ at 5 megohms
Effective Oułput Level: $1.3 \mathrm{mv} / \mu \mathrm{Bar}$ at 1000 cps and 5 megahms
Output Impedance: Equal to $2200 \mu \mu \mathrm{f}$
Overall Dim.: Height $378^{\prime \prime}$; Width 2.15/16"; Depth 1.7/16" Madel "44": Complete with 6-ft. shielded cable...... \$10.50 List


## STREAMLINED HIGH FIDELITY MICROPHONE MODEL G2IO

Can be custom-tailored to fit yocr exact electrical requirements. Chromium-plated, die-cast alloy housing swivels 100 for semi- or omni-directional use. Available with or without an ON-OFF switch. Choice of filter cells with different response curves available . . . types are listed below. Fits any standard desk, banquet or floor-stand . . . comes complete with shielded $5 / 8$ " -27 threaded connector.

TECHNICALSPECIFICATIONS:
Effective output level at 1000 cps : with Filtercel: $2.6 \mathrm{mV} / \mu \mathrm{Bar}$ at 5 megohms.
Frequency Response: 30.7500 cps . . . with DX-12: $1.3 \mathrm{mV} / \mu$ Bar of 5 megohms
Frequency Response: $30-1300$ cps . . . with ZA: $2.4 \mathrm{mV} / \mu \mathrm{Bar}$ of 5 megohms
Frequency Response: $30-5000 \mathrm{cps}$
Output Impedance: equal to $2200 \mu \mu$ f
Overall Dim.: Diameter $13 / \mathrm{s}^{\prime \prime}$; Height $41 / 8^{\prime \prime}$; Depth 3.9/64"

| MODEL | INSERT | OUTPUT AT 1000 CPS | REQUENCY ESPONSE (CPS) | LIST |
| :---: | :---: | :---: | :---: | :---: |
| G210-5 | FC 5/7500/5 | $2.2 \mathrm{mv} / \mu \mathrm{Bar}$ | 30.7500 | \$27.90 |
| G210-7 | FC 5/7500/7 | $2.6 \mathrm{mv} / \mu \mathrm{Bar}$ | 30-7500 | 26.00 |
| G2 10-9 | FC 5/7500/9 | 2.6 mv/ $\mu$ Bar | 30.7500 | 26.00 |
| G2 10-DX | OX-12 | $1.3 \mathrm{mv} / \mu \mathrm{Bar}$ | 30-13,000 | 26.00 |
| G210-ZA | ZA | $2.4 \mathrm{mv} / \mu \mathrm{Bar}$ | 30-5000 | 26.0 |

All Models available with on-off switch af $\$ 4.00$ additional cost; Order G-210.S

## Gronette CRYSTAL TWEETER

Adds Brilliant, Shimmering, Upper and Middle Frequency Range to your present audio system at
 amazingly low cost !
An entirely new concept in HIGH FIDELITY - the crystal "tweeter." The diaphragm of corrosive resistant rigid aluminum is light and small, making it most effective in the upper register where larger and heavier speakers fall down. Designed to respond to the rapidly changing elusive high notes with surprising efficiency. It is easily installed in minutes with a simple RC filter.
Can handle 5 watts at 1,000 cycles with ease. Designed to operate between $1 / 2$ to two watts from 2,000 to 16,000 cycles
Oely $1-11 / 16^{\prime \prime}$ diameter, but $1 / 2^{\prime \prime}$ thick. This small unit is easily mounted anywhere

All Ronette Plezo-electric Products are Guaranteed for Tropical Climate.
All Prices 5ubject To Change Without Notice.

## MICROPHONES

## BRUSH MODEL BA-106 MICROPHONE

The Brush Model BA-106 is a high quality microphone incorporating the hermetically sealed "Acousticel"* with Sintered bronze damping. "Metalseal"* crystal is used for protection against conditions of high humidity. This microphone offers unexcelled response in microphones of this type and price range.
Vibration, shock or low frequency wina' noise do nof affect the performance of this microphone.
Output level 50 db . below $1 \mathrm{vclt} / \mathrm{dyne} \mathrm{cm}$.
Flat from 40 to $6,000 \mathrm{cps}$. Unexcelled for home
recording, public address. systems, ham shacks,
monitoring and institutional and industrial applications.

Net Wt. 11/4 lbs.
Shipping Wt. $3^{1 / 1 / 4} \mathrm{lbs}$.
List Price . . . . . \$22.75


## BRUSH MODEL BA. 109 MICROPHONE

The Brush Model BA-109 microphone using the improved Acousticel* was created for public address, home recording and amateur applications. The "Metalseal" crystal insures long life and reliability. Styled in rich maroon plastic and brushed chrome in compliance writh the recent trend in industrial design.
$\underset{\sim}{\sim}$ Response from 40 to $10,000 \mathrm{cps}$.
Output Level 54 db . below 1 volt/dyne $\mathrm{cm}^{2}$.
$\checkmark$ Non-directional.
.002 mfd. ( 1.8 meg. ohms at to approximately
The microchone is designed ohms at 1,000 cycles.)
The microphone is designed for use with standard $5 / 8^{\prime \prime}$
${ }^{27}$ Tradead Microphone stand. ${ }^{\text {ther }}$ Shipping 1 lb . List Price $\$ 25.00$

BRUSH MODEL "VM-1" VIBROMIKE *
The VM-1 or "Vibromike" is a miniature CONTACTTYPE microphone with high senstivity and 6,000 indy ) Wide-range frequency response ( 30 to h,000 cps.) Output voltage from .05 to .1 volt or higher. Size of microphone $7 / 8^{\prime \prime} \times 3 / 4^{\prime \prime} \times 5 / 8^{\prime \prime}$
Desigried for a broad field of reproduction ap. plications through direct contact. Adaptable to musical instruments, industrial uses-detecting mechanical vibrations. Hermetically sealed in black rubber covered caze.
Microphone complete with mounting ciamp and $25^{\prime}$ of cable.
Model VM-1

- (\#325) . . . . . . $\$ 19.50$ list



## BRUSH MODEL "BL-2"' LAPEL MICROPHONE

The improved Model BL-2 lapel microphone features virtually flat response from 30 to 10,000 cycles. Output level 57 db . below 1 volt/dyne/ $\mathrm{cm}^{2}$. Small and rugged ( $11 / 2^{\prime \prime} \times 21 / 4^{\prime \prime}$ ) the BL-2 can be used in hand or as instrument pickup as well as in lapel.
Microphone complete with $25^{\prime}$ of cabie.
Model BL-2 . . . (BA-111) . . . . . . $\$ 25.00$ fist Net Wt. 8 oz. Shipping Wt. 2 lbs.

## BRUSH BINAURAL HEADPHONES

All Brush headprones cee cvailable with special cords for Binaura! applications. These feature the same high quality per.ormance provided by all Brush headphones.

1. BĀ-206B ...................................... S31.25
2. \#205-A-1-B ................................. 28.00
3. \#200-A-B .................................. 18.25


## ? HUSHATONE*

## Model BA-303

A miniature, molded plastic extension speaker for under pillow use. Disc shaped ( 4 i"" dia. by $1{ }_{3}{ }^{\prime \prime}$ " shaped thick). Makes no uncomfortable lump beneath the pillow. Tone quality comparable to cone type speaker because of specially engineered response. Speaker gives ample output with low power consumption (.001 watt). Hermetically sealed, can be dipped into disinfecting solution (temperature not above $120^{\circ} \mathrm{F}$ ). Light weight BIMORPH* crystal drive element insures uniform response and high sensitivity. No parts to wear, loosen, or become detached. Furnished in maroon with satin chrome trim. HUSHATONE* with $10^{\circ}$ cord.
Net. Wt. 8 oz., Ship. Wt. 2 los. BA-303 . . . . $\$ 13.00$ list

Brush crystal phones possess the following outstanding features:

1. BIMORPH * crystal drive element of such high imper ence that line or circuit characteristics are not affected when monitored by Brush ohones.
2. Wider range response with more uniform output.
3. Compensation for ear coupling.
4. Light-weight, rugged. shock-proof construction.


## HEADPHONES

## Brush Model <br> BA-206

Designed for use where High Fidelity and smooth frequency response are of paramount importance. They are especially applicable to broadcast montoring to laboratory use in the study of sound masurements, audiometry and similar exacting headphone app!ıcations. Features exceptionally fat frequency resyonse. Impedance of 50,000 ohms at 1000 cps; no transformer re quired. Ideal for multiple installation. Sensitivity is approx. 6.3 dynes, $\mathrm{cm}^{2} /$ volt at 1000 cps . Low
 provides an wachant buss re.iponse. The Metalseal Crystal drive, ament is of such high impedance that in as cuit charis thristers are not affected wher monitored by these phones. Available in double, single and lorgnotte models:

| BA-206 | Double | S30.00 lis |
| :---: | :---: | :---: |
| Net Wt. 8 oz . |  | Shipping M1. ${ }^{\text {a }} \mathrm{lhs}$. |
| BA-207 | Single | \$16.50 list |
| Net Wt. 4 oz . |  | Shipping Wit. l lb. |
| BA-208 | Lorgnette | \$22.95 list |
| Nei Wi. 6 oz . |  | Shipping Wt. I lb. |



## BRUSH MODEL "A"

 LORGNETTE PHONEThe "A" lorgnette phone is designed for use in group hearing aid sound systems installed in churches, concert halls, theatres and auditoriums. Teles:ope extension from $12^{\prime \prime}$ to 17 Attractively finished in satin black. Light werght, easy to handle, and comfortable at the ear
Sinale phone complete with 5 ' cord and inranette handle.
Model A . . (BA.202) . . $\$ 14.50$ list Not it 5 oz. $\quad$ Shipping W. Wh lb.


For use where HIGH FIDELITY and extended irojuency response are of paramoun: ed irpiuency response are of paramoun. innportance. ( 60 to $10,000 \mathrm{cps}$. Corrected for rising response below 200 cps.) Especially suited to monitoring, sound measurement. audiometry, and similar exacting head. phone applications. Sensitivity approx. 1.5 dyne/ $\mathrm{cm}^{2} /$ volt at $1,000 \mathrm{cps}$. impedance over 80,000 ohms at any frequency within audio range. Headset complete with $5^{\prime}$ cord and headband.
Model A-1 . . . . (\#205) . . . . $\$ 26.75$ list Net Wt. 6 oz. Shipping Wt. 2 lbs.


Particularly adapted to individual or group hearing aid and radio applica. thons. Light weight, good ear seal, and comfortable to weas. Spring steel headband with soft rubber cushion to elimi. nate slipping.
Single phone complete with 5' cord and headband.
Model "A" . . . . (\#202) . . . . $\$ 11.25$ list
Net Wt. 3 oz.
Shipping Wt. l lb.


BRUSH MODEL
"A"
General Purpose

For complete technical data, write Brush Electronics Company, 3400 Perkins Ave., Cleveland 14, Ohio.

BRUSH ELECTRONICS
INDUSTRIAL AND RESEARCH INSTRUMENTS PIEZOELECTRIC MATERIALS - ACOUSTIC DEVICES MAGNETIC RECORDING EQUIPMENT AND COMPONENTS

Designed for GENERAL PURPOSE applicains in luding lavoratory, studio and skilled amateur home use. The BIMORPH crystal drive element insures wide ranges response 100 to $8,000 \mathrm{cps}$. and high sensitivity. High impedance; ideal for multiple installations.

Headset complete with $5^{\circ}$ cord and ad. justable headband.

Model "A" . . . ( $\quad$ "200) . . . . $\$ 17.50$ list Net Wt. 6 oz. Shipping Wt. 2 lbs.

## COMPANY

Division of Clevite Corporation

# TRIMM 

## HEADSETS AND ACCESSORIES



FEATHERWEIGHT
The world-fanmus TLIMM F゙E.ITHFR WEIC:IIP hoadset. Weinht: $4 \frac{1 / 2}{}$ o\%. com-
 cord. Ibakelite shell and cap. A custombailt flme throushont. Avalable in all stanlard ulunages.

24,000.OHM IMP. SPECIAL for amateurs
No. 106-Double, adjustable nickel-plated leadhand...... $\$ 11.00$ No. 107-Lonhle, fubricocovered wire leadtame. 11.00

STANDARD FEATHERWEIGHT HEADSETS ark iwililable in 4,152 , $2 \mathrm{M}, 4 \mathrm{M}$ and 5M olams d.e. resistame (Improlane" aproximately b times greater).

No. 100-Doulile, adjustable nickel-plated heallnanel.
$\$ 11.00$
No. 104-Double, f̈atrie.covarel wire houblathl
11.00


## DEPENDABLE

When a hiah prable hoadset is desired, lut price must he considered, choose
 sholls. Jxtra heary chrome stcel forgel mamets, foft. coml, vingl plastic cow(chent wite heth) haml.

No. 65-Wouble, 2M ohms.
.$\$ 4.80$
No, 67-Nincle, 1 M uhms.




## PROFESSIONAL

The choice of commless usere . . . The oritrinal TRLDM hearlsot. Wiateh case bipolar desiern, "at amd shell molled of haek hako. lite (umless suceitied otherwise). ('lurome steen forsed magmet, concealed terminals. S-it. tinsel-liraided cord. stanilard resistance for double hearlsets: $4,78,500,2 \mathrm{M}, 3 \mathrm{M}$


No. 70-boulile ( 4 M ohms furnished if not specified)
$\$ 5.80$ No. 72-wingle ( 2 M ohms maximum olimage)
3.30

## ACME

A sulutior lightweirht, low-cost hadset. (inp athl shell of moldeal bakelite. Wיight: fioz. Cord: $41 / 2-\mathrm{ft}$.


No. 24-Duuhle, a M ohms, vintlecovered hearhanal No. 24 -bouble, 4 M ohms, vinyl-rovered headband. No. 25 -Double, 2 M ohms, metal hearlhand.
No. 25 -Douhle, 23 moms, metal hearmand.
No. 25 - Sindere, $1 \$$ ohms, metal hathoram.
No. 27 -Kingle', 2 Y , hbms, metal headhana!.

## R EX

I.owest enst ThiMM bi-polar twe heatset Prolishem alumimm shell, molded bakelite Cap. Double healsets, $41 / 2 \mathrm{ft}$. hrailed corrl. Winelle headsets. $41 / 2$ ft. all-mphory cond.
 arwored wite healliand.

No. 30-bonile. 2M ohms
No. 32—inule, 1 M olams
$\$ 4.10$


## COMMERCIAL

One of the most
 rurgedly built yet lichtweight headset. Practically non-hreakalole, whell and eap molded of high strenuth plas. tic. Diameter $21 /{ }^{\prime \prime}$ ", derth $\%$. cmol inft. tinsel, moisturebronf construction, typ. No. हnl phus at lacherel. Leathereosered hearlhand. This hartset is reoommended for monitoring surviop berense of its hifh ifnalite performane.

No. 156-l houlle, 600 ohms Imp. $\$ 17.60$ No. 157-boulle, 17 M olims Imp..... 17.60 No. 158- Moulle, 600 olins Imp., no plur
15.95

No. 159--l)ouble, 17 M olms Imp., no $\mathrm{plug}^{\mathrm{lln}}$
15.95

Ohmages given are d.c. resistance unless specifically indicated as impedance which
is about 4-7 times the d.c. resistance.
Prices subject to change without notice.

## ARMY-NAVY




No. 29-Double 2 ano ohms de
(2(1) ohms Imp).).
No. 28-Inouble, 112 olims d.c.
(ti)0 ohms Jmp.)
$\$ 17.60$
17.60

## EAR CUSHIONS

Sponge rubher ear cush. ions provide maximum pase in wearing headsets. Fit IT R I M M Featherweight, ('ommerrial. Acme, Rex, and "E" types.
$\$ 1.50$

For complete listing see TRIMM General Catalog

## TRIMM "B" HEADSET

Suggested fur hospital installations. bakelite shell and cap. Forged lsar masnet. Fabric. covered heathand. 5 -ft. tinsel cord.


No. 42-Double, 2M ahms
$\$ 8.80$
No. 43-1 onble, f00 ohms $\mathrm{Im} \mathrm{m}_{1} \ldots . . .8 .80$
No. 44 -sinirle, 1 M olims....
5.10

No. 45-Kingle, 300 ohms Imp................. 5.10

See Page D. 35 for TRIMM hearing aid equipment and other TRIMM headsets and accessories.

See Page L-47 for listings of TRIMM Plugs. Jacks, Patch Cords, and Jack Panels.

# TRIMM 

## HEADSETS AND ACCESSORIES

GROUP HEARING AID COMPONENTS


## FEATHERWEIGHT EARPHONES

'The most widely used single carphemes for group hearine aid systems in church's, theatres, mortharies. etc., are of the FEATILERWeIGHT type. Available with either lorgnette handles, or sinurle headbands. Stamlard ohmages: 76, 1,0110. 2.not ohms d.e. Low (lase than 100 -ohme), medirm (100-50(t-ollm). and hish (500 ohms and over) lines respectively.
No. 110-Headhand type
\$7.15 No. 120-Lorgnette type

## OUTLET BOXES AND CONTROLS

Boxes 460 and 461 are recommended for the majority of installations, combines volume control and jack. No, 4 60 has lirown hammertone fintish, No. 461 glossy ivory to improve visibility in theatres. standard ohmages: 1000 for low impedance lines, 10,000 for high.


## ' 51 2"' PLUG

Compact, non-protruding design. Bakelite body, nickel-plated tip and sleeve. Cord pin tips leeld by set screws.


No. 512
.$\$ 0.75$
See Page L. 47 of The MASTER for TRIMM Plugs and Jacks.

## HANDSETS

SERIES "37"--Extremely rusered clesinn intented principally for mohile and commercial rallio and telophose sowvice such as mercice and marime radho, "to. instalations. afterterl hamsmition in which hehd. Receiver
 using fluating waphaspo and contron compliane brintiph provides matorm ra. spuse ow all wimt ial sperels frequencies Both transmitter and cartrige are of the cartrid.
ment.
Hamdle :and monthpiece of high impact
 stancling extrome sorvice has withont lrakage. Monflupecte design reduces dffert of ambinent moise to surh an extent as thermit nse in "xtromel?
 avalable. The listine le tow is merely representative of the most common of a wide selection of moditications that are a vailable. Whicth


 municalion work. Handset is astally suppliad with as standard form transinitter.
No. 3725-SO-3CR5-PO - IFandset, 600 olm impalance reepiver, to ohm transmittor, no switch, threw ciminctor ruldher comd five fert lons, no phur on end of cord.......................... No. 3725-S2-5CRR5-PO- Hamiset, fond ohm impedanee receiver, 10 ohm transmilter, two circuits. seruential switeh, on ennductor retractible rubler cond five fert lones, no phur on end of cort

## "STOP-IT" Commercial Trimmer

Pomita aser 10 dirn off aldion signa! of TV or radio set without

 solves are to suppress lemdsuaker when jhone ringe, ate.

No. 639-"stup-1t" (ommerrial Trimmer". (Illustraterl at rimht helow, (onsists of housine containing switch to which is attarduld 20 ford cond ready to install in aceromance with instructions with rath mit
$\$ 3.40$


## HEADSET KITS for TV and RADIO

Kits described provide simple means of attaching headset to TV or rablio sets. Consists of one of several types of headsets and emall outlet hox with attached 15 forot corch. Bux has remote on-off switch for londsueaker anl volume control for healset. Two jacks provided for multiphe listening.

No. 631-Outlet Box muy

No. 633-Kit-Outhet Rox phas one lependalde huadket and
12.75
No. 635-Kit-Outlet Box plus one fingle Commereial ear-
phone and phus. Renommended for hard of hearing....... $\mathbf{1 5 . 1 0}$
See TRIMM Bulletin R-31 for additional listings and
information on Commercial Trimmer and Headsel Kits.

## "S" HEADSET

Insigned particularly for hroadcast station and other hish tidel. ity applications. Rewomse is substantially flat through all msenfial frequenties.
Shell and eal molded phastic. Alnieo $V$ marmet, floating diabhatrm with eontrolled compliance prowid. miform respmes. unafliocterl ley temparature. Inits brovialerl with No. aint ellishim. thadhand lather eoverom doulde band with monnting for nuit.
 providines rastrictad rotation 10 prevent cord sharl.

No. 35-I onthle hadset, fion ohm impedance two combluetor off-tho-shombler type flexille nenpreste enst terminated with No, wol plug.

No. 35-4-Doulde hearlset, for bintural use, 300 olms impelane wer mit. Sllit cireuit three eondector offthe-
shoulder type brailed cord terminated with No. ina9 phus. 28.75

## HEADPHONES by C. F. CANNON



## THE "CHIEF"

## Cannon-Ball Bakelite Headset

 tir. Atfractive in apperance, it is at sonsinive and nals. Diamber of diaplirgrm is $\}$ twin in eact ruceiver Cimome sta. Boubte coils. diameter Supplied with hraid-coveren houdband with pormunurnt aljo stment and mo remuwble parte. Cot ton covered cord, $41,2 \mathrm{ft}$. long.
CC-2-200) ohms I.C.



## BRANDES "SUPERIOR"

## Matched Tone Headset

A rumgen haralset, miltions of whish are in use all over the world. Large size fia performance outsia. torminals with pol. ished aluminum buses aul lakelite caps. buuthes euils two en ar hake raps. Fteel maruers steel headhand with erma mont adjusment 4 bearhand with permanunt adjusment. $4 \frac{1}{2} \mathrm{ft}$, cotton covered Pori.
BS-2-2000 ohms D.C.
List $\$ 3.75$

## BRANDES "ADMIRAL"

## Matched Tone Headsef

## 

 thet las ferminals on the insile.
BA-2-2000 whms 1.C............. List $\$ 4.00$
BA-3-3010 wims 1.C. ......... List 4.50 BA-5-ij000 olims 1.C. ............List 6.00

List $\$ 4.25$
List 4.75 List 6.00


CANNON-BALL
ALNICO MAGNETIC No. 25
A New Hearset of ľnusual Uuality, Effi. (bincy and Lurability, fowered by Alnico 1 maynete.

The healhand is covered loy attractive black extrudid vinglite and provides utmost wearing eomitort. Jimits turn of [hone to prevent r wistiner of corl. Cap and rase of molded plastic. larare size diaphrarm $21 / 8$ ". Equipped with sanitary moisture-resistant phastic cord with riveted croteil piece.

| AM-25-2 | List | \$6.50 |
| :---: | :---: | :---: |
| AM-25-3 | List | 7.00 |
| AM-25-5 | List | 8.50 |

## ALNICO MAGNETIC No. 15

A new, small size, extra sensitive headset, lisht in weioht. Diameter of diaphrarm $17 / 8^{\prime \prime}$. Molded cap and case. Steel adjustable headband. $41 / 2$ it. cord. AM-15-2 ............................................... List $\$ 4.00$ AM-15-3 List 4.50


## CANNON-BALL HEARING AID FOR RADIO OR TELEVISION

Proviles private listenintr withem distumbine otinnt Farralent for mersons hard of hatinge ath he at
 istening to bhomes alone, Eleaker alome. ofr hall together.

FOR RADIO
With sinele phone
With sinele phone.................................................................$~$
Wist
$\mathbf{8 . 0 0}$
FOR TELEVISION
Kit complute with 15 foot mord. phome volume montrol and two sets of phomos. List \$16.50


THE "MASTER"

## Cannon-Ball Headset

 stitutions as wejl as for apeneral furposes. and is esprecially rocammanded for institutions. Inside terminals Alominmm bakelite capis. Surine sten) aljustable head hamel with no removalhe giats. Diaplirasm $\because 18$ " liameter. Hobloto mils. "hirrme steel




## CANNON-BALL "EMPIRE'

## Lightweight Headset

. 1 how-priced light-wejrht heankert with larere matrot and donthle mila. Rumbolmes with clarity and rood volame. Jiameter of riba phasarm is $17 / 8^{\prime \prime}$. Polished alaminum raspe
 hand. $41 / 2 \mathrm{ft}$. cord. Insisle tominal conmand. $41 / 2$
EC-2-2000 ohms If: $\begin{array}{llll}\text { EC-2-2000 } & \text { ohms II. } \\ \text { EC-3- } \\ 3000 & \text { List } \\ \$ 3.25 \\ 3.50\end{array}$

## THE 'DIXIE'"

## Cannon-Ball Headset

The" "Dixie' is of the sume ereneral eonstrisetinn as the "Master" hadset except that the CD-2-- 0,10 ont one ontside. List $\$ 3.50$



CANNON-BALL "GRANL" Single Headphone

## Fithat in cbarive ant vobuma to most donble

 inadsens. efticient and alfoldive. Permits concuated torminals. Disulusem bry others. mimmer case and bakelite raps. Chrome steel
 SG-1-1000 ulims D. (: List \$2.00

Phones con be supplied with any resistance required or with variations to meet special requirements.
Sanitary plastic covered cords available for institutional use. Write for special quotation.


All-new, low priced Gray 108 CHi Hi Tone Arm
Like all Gray Tone Arms, the 108 C gives true reproduction of concert quality High Fidelity music. The Gray 108C is the product of advanced engineering technique, unusual application of new materials ond unique production facilities. It guarantees the ultimate in performance for new ond old recordings.

Illustrated above .. . the Groy Viscous-Domped arm in action. Gray's viscous-domped (fluid control) suspension principle regulates vertical and horizontal movement of lone arm. Minimizes groove iumping and skidding. Prevents damage to record if tone arm is suddenly dropped. Verlical motion of arm descending on record is automatically controlled so that even a child can handle the Gray All-NEW 108C Viscous-Damped Tone Arm.

Gray 602C Equalizer, for the MOST ACCURATE Response Curves


MOST ADVANCED DESIGN . . The Gray 602C Equalizer is the most advanced precision design for broadcast use of the famous Gray 602 series. INSTANT SWITCHING ... a convenient control permits instantansous inpul switching from conventional records to Micro-Groove. Used with G-E cartridge... the 602C equalizer is designed for use with the G-E professional type RPX-046 cartridge.


Gray 106 SP Transeriplion Arm Chosen by professionals for superb tone reproducfion . . . for every speed record.

Gray 103 s Transeription Arm Loading audio engineers recognize the true tone reproduction. Specifically designed for 78 RPM records.

and Development Co., Inc, Hilliard St., Manchester, Conn.

Gray, as a special service to its many TV customers, now has available a custom. made test pattern with individual call letters for TV stations.
 Division of the GRAY Mfg. Co. Originators of the Gray Telephone Pay Station, Gray Audograph ond the Gray PhonAudograph.

WORID'S IARGEST MANUFAGIURER OF INSTANTANEOUS SOUND RECORDING EQUIPMENT AND DISCS


Presto 64-A Transcription Turntable (Type 153 Reproducer extral

## PRESTO 64-A TRANSCRIPTION TURNTABLE


#### Abstract

The Presto 64-I trmserintion turntable offers the following features which are of najor importance to the nwner and operator: lonusual mochanical simplicity  for boner comtimusus operation . . . instantaneous nelection of desired speed and no renuiremants for mechanical adjustments.

This transeription turntable is directly coar driven and employs two separate motors, ane for $3: 3-1 / 3$. and the of hor for 78.26 rym. There is no friction device of any kind in tho merlanism and to mechanical shift is required to change speeds. To select 3 3-1/3  changer may he mado as rabidly as desirod while the turmable is in motion with mo damape to the mechanism. Only one notor at at tine is in oneralion, The transmission 


 rotation although the stationary motor is never disengaged from the mechanism.
## SPECIFICATIONS

Standard Equipment: The $64-A$ transcription tumathe includen the electro-mechan-
 Reproducer :and network not includul. Speed Accuracy: No deviation from $33.1 / \mathrm{B}$ and $7 \times .26 \mathrm{rpm}$.

Noise Level: Mechanical noise orisinating



Power Requirements: Approximately 75 walts from a 115 volt, 60 cycle line. Motors are of the 1800 rpm synchromons the and are available for other voltames and frequencies at adiditional cost.
Mounting: Turntable and gear drive mombent in havy word calrimet $24 x \quad 24$

1.ist Prict. $\$ 585.00$


## PRESTO 6-N RECORDER

T'be PRESTO ei-N Rorordar and Goll Imalifire is the jdeal recordine ernipment for fortable or stationary operation.
 fiations becanso it offers all the qualifitatims fur foom recordiners, includintr masior rocorls, at the most courontical price. It is ideal for the station requiring delaved broadcast of network promrams, and for refornere recordintes.
 spiratiniz feed screw, vertical damper, time sealo and pick-up. It. is avalabla for microsroove recordiner at adhifinnal enst.

The lresto $\quad$ bolil recorliny amplifier contains all the facilities nerensary for omeration on remote assimments, but with an overal burformance formil only in high-fidelity station equipment.

It consists of three preampliffers with inlividual gain controls, a mixer pircuit, a mastor wain control and power amplitier. Provision is matle for conneterner the leresto $1 \cdot 1 \cdot 1$ antomatic equaliser sion is mathe for comt
(radjus rompt nsator).

A fibmposition selmetor switel provilfas the following character-




## AND 90-B AMPLIFIER

5-antomatic equalization. The flat response can be modified by variable lass and truble controls. giviner emphasis np to a maximum of on (l) at 1110 and - .inot cucles per second or 20 flb de-emphasis at -. 2 on cueles jer second.
Noise is 55 db below recording level and distortion at maximum output is less than $1.5 \%$

The ner of input and outpust selector switches makes the $00-13$ amplifier mrusually flexible. It permits combining the signals of thren microplunes or of two microplones and either one of two pick"1hs. By nsing the "lime" position. resoriliners can be made from an incoming propram line. The output selector has three positions: playback (pulijic abdress), continuous recording and simnltaneons rerording. While recorling, the line jack provides a monitoring outlet or permits feeling a prowram line at the correct level.

The correct level is monitored by means of a Weston Type 30 vit indicator with illuminated scale and its closely controlled electrical and tymamic characteristics make it an infeal volume indicator for recording.

List Prict of 6 -N. in C'ise
$\$ 773.00$
623.50


Turntable Speeds: $331 / 3.45,78.26 \mathrm{rpm}$ Turntable Diameter: 12 inclics. Turnkable Weight: 10 incli Pannel Size: Weight: ${ }^{41 / 2}$
Panel Size: A x 11 . Power Source: 11 if volts, fil ricle

## PRESTO T-18 RECORD TURNTABLE

The PRESTO T-18 is a three-speed, $12^{\prime \prime}$ diamuter record player especially designed for hish tidelity use. It combines dependable speed accuracy with simplieity of operation and attractive appearance. Exceptionally well-lesigned, it contains only one noving part in the entire shift mechanism to engage each of the three interchangeable drive idlers.

The professinnal-type turntable is heavy cast aluminum with a retractable adaptor dise for $45-\mathrm{rym}$ records. Two types of motors are a ailable: a heavy-duty, four-polv motor or a hystcresis synehronous motor for those who want the ultimate in gueed accuracy and quiet, rumble-free operation. A single control lever, operating in a horizontal plane, selects $331 / 3,45$, or 78.26 r pm speeds or shuts off the mechanism. The panel, tinished in attractive telephone black, is small and unobtrusive and requires only a simple rectangular cufont for monnting.

| Model | Motor | Signal to <br> Nolse Ratio | List |
| :--- | :--- | :---: | :---: |
| T.18 | Four-polve shated inhluction | $-\$ 0 \mathrm{db}$ | $\$ 53.50$ |
| T-18H | Hysteresis symbronous | -50 db. | 108.00 |

## PRESTO T-68 TRANSCRIPTION TURNTABLE

The Tris Tratsoriztion Turntable was developed loy PRFSTO to meet the demand for :an inexpensive hith-quality transeription turntable operatine at the three stand-
 requrdine stulans. sidools and other instatlations where absulute accurare and com-




 The T-fi is asaill! ! with either a four-pole indaction motor or with a hesteresis synedronoms motor for the most rixid spued and noise requirements. The small pamel dons not interfere with lhe installation of the piekur arm and repuires only a rectamsular opening for mounting.

T.68H Hysteresis s.uchronous.................................. -50 (1). 134.00


## SPECIFICATIONS

Turntable Speeds: $3: 31 / 3,45,78.24 ; 1 p m$ Turntable Diameter: 1 | 5 |
| :--- | :--- | Turntable Weight: ; llos.

Panel Size: $\mathrm{s}^{\prime \prime} \times 11^{\prime \prime}$.
Speed Accuracy: $0.2 .51 / 6$ (instantanmons).
Power Source: 115 wilts, 60 cyele.

## PRESTOK-1O DISC RECORDER FOR MICROGROOVE AND REGULAR RECORDING



The PRESTO K-10 Recorder, formerly kuown as the $k-\infty$, the formost machine of its kime to be used
 (hone-playine) recordine as woll as for standard methol.

## NOTE THESE FEATURES:

- Cutting pitches of 112 limes per inch Outsile-in, 112 lines Inside-omt. 224 lines per inch ontside-in and 224 lines per inch Inside-ont.
- Standard unit is equipped for three spereds, $331 / 3,78$ and 45 rpm .
- The cutting herad is equiphed with an advance ball which regulatow the depth of the armove more accurately than a counter suring.
- The k-10 is efpipind with a turnover twe cartridge having safphim styli for both standard and microgrowve records. The cartridge is a ceramic toth which has high mutput and is mot easily affected be hish temperature and lumilits.
- Controls permit instant choice of vecordins, playback, or public address. Amplifier also contains radio and monitor jacks.

The PRESTO K-10 will. whin set for MICROGHOOVE, record 6 多 minates on brary inch of dise hed. This modas that a la-minute recordint with pood tidelity can the put on one side of a 12 " disc: And a hatr-hout
 on ohe sidn of a ${ }^{(01 / 2 "}$ " dise.
Net I'rice of K-10, less miorophome and stand



## SPECIFICATIONS

Tape Speeds: $1 / 2$ and 1 it inches per secont
Reel Size: $\mathrm{T}^{\prime \prime}$ dianetor.
Microphone Input: 50 in 2 EO ohms
Bridging Input: lligh irmpedance. landablamed
 Monitor Output: For hiij,h-imusulanee plabocs
Recording Characteristic: Vililus suecitications
Recording Characteristic:
Power Requirements: 115 volte, 160 cueles. $\rightleftharpoons 20$ w゙all

## PRESTO SR-27 TAPERECORDER

This PliESTO unit fills the need for a portable tape recorder of professional quality at a price an amateur can afford. It consists of the new $18-27$ tape transport mechanism and the PRESTO A.920 amplitier, each furnished in its own carrying case.

The rype R-27 embodies many design ieatures oi PRES'lO's best professional models. It utilizes $7^{\prime \prime}$ dianteter reels at tape speeds of $71 / 2$ and 15 inches per second and has a fast forward and rewind speed. Three separate magnetic heads provide record, erase, and playback. A three-motor drive is employed, and the supply and takeun brakes are selt-adjusting and self-aligning. Microphone and playback preampliers. a power supply. and two small speakers are inchuded in the $\mathrm{A}-920$ amplifier.

## R-1 1 TAPERECORDER

The R-11 Recorder is an unusually fine mechanism which can be mounted in a relay rack, in the CS-10 carrying case or in the CC-2 console. The main panel is a heavy aluminum casting to which all other components are attached, including the Presto CIOR-200 self-contained capstan drive assembly.
The three heads of the R-11 are mounted as a group and are contained in a completely closed housing. Tape is threaded by simply dropping it into the opening made by pulling forward the front cover. This also holds the tape oft the heads for running the tape at fast speeds.

## PERFORMANCE DATA

 Signal-to Noise Ratio: in all at 3 \%e distortion.
Fumter: $0.15 \%$ at $15 \mathrm{in} / \mathrm{src} . ; 0.2 \% \%$ at $51 / 2 \mathrm{in} / \mathrm{sec}$



CC-2 Console

Tet Price 52.00


## PB-17A TAPE REPRODUCER CONSOLE

The PB-17. Tape Reproducer Console has been developed to provide automatic. continuous reproduction of taped program material in industrial plants, amusement parks. and other areas where a constant source ot background music is required.

The console consists of the PRESTO PR-17A tape transport mechanism interconnected with the A-904 amplifier in a handsome plexiglass-topped console cabinet. It plays back from $14^{\prime \prime}$ diameter reels oi pre-recorded dual-track tape traveling at a speed of $: 3 / 3$ inches per second. After four hours of playing time on one track. the mechanism automatically reverses itself to provide an additional four hous on the second track. At the end of this time, the machine either recycles or shuts itself oft. The Pb-17A mechanism is also available with the A-904 amplifier in the new vertical console. or it may be furnished separately for rack mounting.

## SPECIFICATIONS

[^21]
## REK-O-KUTCOMPANY

Manufacturers of Fine Recording and Playback Equipment, and Specialized Saund Systems.

## 4/PRECISION turntables

## The NEW

SERIES

For more than 5 years we have devoted our best engineering efforts to developing the perfect turntable. While this is practically unattainable, we do believe that we have achieved the closest approach to that ideal. The rondine Series are certainly the finest Turntables ever made available for home music systems.
One of the most important advances embodied in these turntables is the flouting idler which achieves virtually complete isolation between motor and turntable. Other new features include: a built-in retractable hub for 45 rpm records, and a permanently affixed strobe dise for instantancous speed checking.
The Rondine Turntables retain most of the other proven features of Rek-O-Kut turntable construction: non-magnetic, cast aluminum turntables, precisely lathe-turned and dynamically balanced - with extra heavy rims for effective flywheel action . . . internally rimdriven, employing neoprene idlers
case hardened intermoving parts, ground to a micro finish single-ball thrust bearing suspension . . . effective shock-mounting and mechanical filtering to assure quict operation . . . drive pulleys of special lamitex ground directly onto notor shafts.


## Model LP-743

## 3 Speeds

A lons-time popalar fisorite with discrimhating husers serking 3 -speed, quality per. formance at a moderate price. Motor diment sions, appearance and other specifications are the same as for the liondine Jr. However the L.l'- 73 is furnished with a detaelahle 45 , the allapter, and is not provided with a built-in strulte. It differs also from the lemolin Jr., as follows:
NOISE LEVEL: 30 dh below averake recording level.
SPEEDS: $331 / 3,45$ and 78 rpm .

> NET PRICE \$59.50*


## RONDINE Deluxe Model B-1 2H <br> 3 Speeds

The aristmat of the boximite Serins. As decord reproducing device, it represtuts the clusest apprach to pertertion ever attained. It has less rumble, wow and thater than ans 12 -inch turntalle on the market torlay.

## SPECIFICATIONS:

NOISE LEVEL: Butter than 50 dth telow
PILOT LIGHT: Wewelled neon ligist acts als MOTOR Me recording level.
MOTOR: Self-lubrimatins, custom-luilt by. SPEEDS: $331 / 2 \cdot 4 \overline{3}$ and
SPEEDS: $331 / 2$. 45 and in rpm $^{2}$.
SPEED SELECTION: Ningle selector knob. switeluing tor sped pusition starts motor. Solting to "ofie position adjarent to sherel shuts ufl motur athl discolvages STROBE DISC: Permanmbly affixed permits instantaneous eheckinge of all
45 RPM HUB: Ruilt-in - wramtalle requires no "xternal alifite.
'on/aff' indicator.
CHASSIS DECK: ('ross-riblued cast aluminum. Designod for flush-mounting in rectangular cuteout.
DIMENSIONS: $153 / 4$ " $x \quad 14^{\prime \prime}$. Fits most whone ronsoles.
CLEARANCE REQUIRED: Amwe deck $11 / 2$ ". Below Deek - $11 / 2^{\prime \prime}$.
FINISH:
Gun-metal kray
SHIPPING WEIGHT:
\$119.95*

## RONDINE

## Model B-1 2

3 Speeds
I motable example of the merits of the nu-w hesimn that rables qualing to lue retained at moderite rost. The Rondine has all of the features of the Rombine leluxt. dil speritications are the salme with the mullowine axceptins:

NOISE LEVEL: Butter than 40 di, below avrater recomlins level.
MOTOR: Inluction - 4 -pule - lutilt to Rek-()-Kut sur(ojfications


## RONDINE Jr.

## Model L-34: $33^{1 / 3}$ \& 45 rpm

 Model L-37: $33^{1 / 3}$ \& 78 rpmFor some time, there has heen the exprosed dosire for a high quality tumtable with mily 2 opratinu sureeds. Berause of the lifferent requirements amons those whe croated this demasid, two models wor loweloped pairing 38313 and 45 rpm in the Model L-34, and $331 / 3$ and -8 rum
in the Model L.:37.
The simplitiontions resulting from the exclusion of one sureed enabled the manufacturer to (tfect at lowrer froductioft rost without compromise in quality. The Rombine Jr. . either morlel. . . is worthy to lear the Rek-()-Kut name.

## SPECIFICATIONS:

NOISE LEVEL: 40 dl below averaqe reMOTOP: Induct
MOTOR: Induction - A-pole - huilt to Rek-o.Kut spreifications.
SPEEDS: Morlel $1 / 34-331 / 3$ and 45 rpm; Model $4-37$ - $331 / 3$ and 78 rlm . SPEED SELECTION: Slisle shift with in-
STROBE DISC: l'ermanently affixel -
lurmits instantaneous checking of both speeds.

45 RPM HUB: Built-in - rotractable refuires no external adapter CHASSIS DECK: .........Heary mange sterl DIMENSIONS: $12^{\prime \prime} \times 15^{\prime \prime}$. Fits most phone DIMENSION
CLEARANCE REQUIRED: Alowe deck CLEARANCE REQUIRED: A $1 / 2 / 2$
FINISH: SHIPPING WEIGHT:

14 pounds.

NET PRICE
$\$ 49.95^{*}$

NOTE: All Rek-O-Kut Turntables are supplied for $110-120$ volt, ion-regle AC operation. Available in otlpr voltaters and frequencies at additional cost.
*All prices slightly higher West of Rockies.


## The MODEL B-16H

## 3 Speeds

Offers the broadcaster and recording studio the finest professional performance at the lowest cost. The turntable itself is precision lathe-turned, non-magnetic, cast aluminum - dynamically balanced - and with an extra-heary rim for effective flywheel action. Turntable diameter is standardized at $153 / 4$ inches to allow a $1 / 8$-inch overhang for cueing. It is internally rim-driven by means of neoprene compound idlers. All inter-moving parts are case-hardened and ground to a micro finish. Rotates on a single-hall pivot which takes the entire thrust of the turntable shaft.
Extremely low distortion has been achieved through effective acoustical damping - through special attention to motor bearings, motor suspension, idler design, concentricity of pulleys and all the other elements essential to smonthness, quiet and overall quality of performance. Rumble, wow and flutter and speed regulation are well within NARTB standards. Requiring no more than routine maintenance, all parts are readily and easily accessible.

## SPECIFICATIONS:

SPEEDS: $331 / 3,45$ and 78 rim.
SPEED SELECTION: Mastermatir. Es.lflowking, instantaneous shift. Fingrares either idler without stopping curntable or removing disc.
STARTING: From standing stari. io onarating sjeed
at 78 rpm. ..........................3/4 tiri
at $331 / 3$ and $45 \mathrm{rpm} . . . \ldots \ldots \ldots .1 / 4$ turis
MOTOR: Self-lubricating, custom-built hysteresis synchromous.
NOISE LEVEL: 50 db bolow average recordiner level.
45 RPM HUB: Inilt-in - retractable repuires no external adapter.
STROBE DISC: I'ermanontly affixed pormits instantaneons cheekinar of all
speeds.

CHASSIS DECK: Radlablriblond almminum casting. Desirned for flush monnting in rectamenlar rut-ond Pre-drilled and tapherl for reveral standard professional pickıp arms.
DIMENSIONS: $183 / 4 \times 20 "$ Fits existinc consoles and rabimets with slight modificat ion.
CLEARANCE REQUIRED: Nhowe Deck I $1 / 2 "$. Brlow deck - $01 / 2 "$.
FINISH:
Wrinkle gray.
SHIPPING WEIGHT:
so pounds.


The MODEL G-2 Deluxe 2 SPEEDS
The same superl, qualiey whoich has created unreserved acoeptamee of the $16-1 \mathrm{fill}$ among the most critical profo-sional users, more moder ately priced in ther 2 -sheed (i-2 Duluxe. All specifications are the same wilh the exception of the following:
SPEEDS: $331 / 3$ anl 78 rpm (see Accessory hller for 4.5 rpm.
CHASSIS DECK: Cast iron L besm,
DIMENSIONS:
$10^{\prime \prime} \times 20^{\prime \prime}$.
CLEARANCE REQUIRED = Alome leck -

SHIPPING WEIGHTE
26 pountr.
NET PRICE:
\$179.95*

ACCESSORY 4-1 rim Jollu

with 38 s/a rem laker

## CONSOLE CABINET Model C-7B <br> for B. F 6H Turntables



Designed to accommodate the $\mathrm{B}-16 \mathrm{H}$ Turntable without the use of either screws or bolts. Floats on felt. Has 2 storage compartments and pianohinged doors with flush ring-latches. Includes built-in electrical outlet and adjustable leveling domes. Metallic gray finish. Dimensions: $33^{\prime \prime}$ high x $22^{\prime \prime}$ wide $\times 201 / 2^{\prime \prime}$ deep.
net phice. \$109.95*

NOTE: All Rek-()-Kut Turntables are supplie! for $110-120$ volt, co-cycle AC operation. Available in other voltages and frequencies at additional cost
*All prices slightiy higrer West of Rockles.

## REK-O-KUTCOMPANY

## DISC RECORDINC EQUIPMENT



## PROFESSIONAL $131 / 4 "$ DISC RECORDER FOR STANDARD AND MICRO-GROOVE RECORDING

The "Challenger," America's finest professional $131 / 4$ " dise reorder, is built to meet the respective needs of the Professional Recordist, Musician, Educator and Recording Enthusiast who wants to make permanent, professional recordings. The "Challenger" embodies the most advanced design, engineering and production techniques in the disc recording industry. The many exclusive operating features incorporated in the "Challenger" simplify and improve the art of dise recording.

SPECIFICATIONS



RECORDING AREA: Recorils from $i^{\prime \prime}$ וи to $1: 31 / \mathbf{n}^{\prime \prime}$ masters


OVERHEAD RECORDING MECHANISM:
(a) "LIFTOMATIC SAFETY CAM* prevents double cutimeg and damage to the stras by atumatically raising the follor from

(b) FACILITATES INTERCHANGING LEADSCREWS for stimlaril in Hjaro-rmane rewordime
(c) SPIRAL GROOVES: lkum-in, rum-omi aul lockorl wromess arm Illale with a kimple, mamal nuration.



 and wround shatt, Jriver hy two douthle duty nerorene idlers ruminar CWdilst the Jiside rim
 fathons for entra pown amd wille tangre. Monnted into detachabla "ower of lase
CASE: Sturdy Mrwand abveral witl riclt prev leatherette buitt tu withetamil romph asare.

NET JRICH
\$459.95*

## ACCESSORIES

LEAD SCREWS: ser pate E.\&. Model M-1卫.
TR-103A
ldler athl Recomd Bushing for $45 \mathrm{Rl} \mathrm{M}^{\mathrm{M}}$, interchangeable with $33^{1 / 3}$ RPM idler
8.00*


## R-8A UNIVERSAL RECORDING AMPLIFIER

## (as used in Deluxe "Chollenger")

FREQUENCY RESPONSE: $\pm 1$ ilb trom 30 to 20,000 ('veles at normal se'ting of rutielizer rontrols.
POWER OUTPUT: fis.i watts at less flam 3 Whet hamonic disfortion into resistime loal
 s,000 reveles, ermitimmusly variahit.

BASS EQUALIZER: Bunst of 14 dh aml attenuation of 14 dil lnelow

INPUT CHANNELS—FOUR: : hish impudance micreplanes, photer
 foar at chassis flamwes phan chammel for crystal pickup operation.

 Frakner.
 hack and publice adolress. Miracobomes are muted in play-hack pusit inn. MONITORING: I swith is provided efeime thre fositions of monitor
 on fond lamal indicales corroct rearding bevel
HUM AND NOISE: fit th holow $1: 8,5$ watis with all controls lurnol lur raximum lam and hoise ontput.


 (1) $\boldsymbol{\text { IV: }}$

POWER CONSUMED: 100 walts

R-8A
For rack momat inar, inclading tulues
\$149.95*
C-85 ...Portalld. (ust (illustrated), additional
\$22.95*

*All prices slightly higher West of Rockies.

## REK-O-KUT COMPANY

## Manufacturers af Fine Recarding and Playback Equipment, and Specialixed Saund Systems.

## MODEL V DELUXE DUAL SPEED $16^{\prime \prime}$ RECORDING TURNTABLES

Fle ontstanding value in the recording field. Rumpodly constructod and precisely machined, the model "Y" deluxe turntable will maintain the constant, wow-free speed and smoothness demanded in broadcast work
Tlu model M-5s Overhead ('uting Mechanism monnts to the "y" dehaxe furntahe in a matter of moments

## SPECIFICATIONS:

MOTOR: Hysteresis isynchronous equiphed with lamitex pulley for maximum drive. siuspended in sheer shock mounts to prevent transmission of motor vibration to turntable or classis.
TURNTABLE: Normalized aluminum alloy castingr, lathe furned and balanced.
CHASSIS: Cast-iron riblied I. leam type with soeket for instantanenus installation of M-5S ecorting mechanism.
IDLERS: Double-duty type marle of Neopreme compound provides maximum traction Will not ;rlaze under operating conditions. OILING: Shafts and hearings are self-oiling. Reguire infrequent цuriodie luhrieation. PPEE CHANGE: Mastermatie self-locking instintaneous speed slift.

DIMENSIONS: From tw Back $20^{\prime \prime \prime}$; Width



"V-Deluxe" | Net Price |
| :---: |
| $\$ 215.00 *$ |

## ACCESSORIES

C. 7 - Console cabinet, metallic frey finish, with record irawel for storinir 100 transeriptions. 4 aljustable screw jacks. Inilt•in electrical outlets. Motorboard cutout
129.95*

V103A- 45 RPM Inler and record $331 / 3$ RPM interchanguable with $\quad 8.00^{*}$


## MODEL M-5S MASTER-PRO $16^{\prime \prime}$ OVERHEAD RECORDING MECHANISM

A premise tool for professional work. Working surfaces and moving parts are hardened, ground and polished to a miero finish. The Master-Pro s is universal machine that can be readily attached to all $1 \mathrm{~s}^{\prime \prime}$ recorifing turntables as well as tho Rek-O-kut model "V" reeording table.

## SPECIFICATIONS:

TILT AND LEVEL ADJUSTMENT: Enables the operator to level and square lis unit to dise in a matter of moments.
DUAL CLUTCH SPIRALING CONTROL: A fool-proof device which eliminates the danker of spoilime a record while the crank-handle is in motion.
MICROMETER DEPTH ADJUSTMENT: For positive depth control of the eutting head. LEADSCREW: Stainless steel with matched fronze feedmut
ANGLE OF CUT: Is controlled by a simple mierometer adjustment.
GEARS: IJrive rears eompletely enclosed to prevent fonling by loose chips.
rnit equipued with 120 -line O.I. Leadscrews.

| DIMENSIONS: Length $16^{\prime \prime}$; Wiolth $61 / 2{ }^{\prime \prime}$;Hevight ! ${ }^{\prime \prime \prime}$; Weight 11 llis. |  |
| :---: | :---: |
|  |  |
| Model | Net Price |
| M-5S | 2 |

## EXTRA LEADSCREWS

Sperify "Inside ()ut" or "Outside In" by letters 1.0. or O.I. after part number.

## MODEL TR-12H DUAL SPEED $1 \mathbf{2}^{\prime \prime}$ RECORDING TURNTABLE

The first $12^{\prime \prime}$ dual speed recording turntable to feature a SYNCHRONOTS MoTOR Desirn and construction of the model Th-12ll is similar to the Rek-1)-Kut $16^{\prime \prime}$ professional reeording tahles. The morlel M-12 overhead recording mechanism is mounted to the chassis in a few moments.

## SPECIFICATIONS:

TURNTABLE: Aluminum, lathe turned and banced.
CHASSIS: Cast alumimm. Drilled and tapped for instantaneous mounting of the $\mathbf{~ M - 1 2}$ recording meehanism.
MOTOR: II steresis Synchronons, fitted with a lamitex irive pulley. Suspernded in sheer shock mounts to prevent transmission of motor viliration.
SHAFTS: Hardened, ground and polished to a miero-tinish.
DRIVE: Internal rim. Drives throurh doubleduty Neoprene idlers which insure free. smooth and quict operation.

SPEED CHANGE: Instintaneous speed shift entrates either the 78 or $331 / 3$ Rpli idler. FINISH: Realutiful prey wrinkle.
DIMENSIONS: Front to Back $16^{1 / 2 ": ~ W i d t l}$ 16": hrifht $18 / 8$ ahne more
Model Net Price

## TR-12H

With synchromoms Mothe

## ACCESSORY

T-103A ...45 RPM Idler and record bushing interclangeathe with $331 / 3$ RPM Ider
8.00



| Part No |  | Lines Per Inch | Net Price |
| :---: | :---: | :---: | :---: |
| MS-105 |  | 105.. | \$37.50 |
| MS. 120 |  | 120 | 37.50 |
| MS-135 |  | 135 | 37.50 |
| MS-210 | (Micro-(roove) | ) 210 | 47.50 |
| MS-240 | (Miero-(troove) | ) 240 | 47.50 |
| MS-270 |  | 270 | 47.50 |

## MODEL M-12 OVERHEAD RECORDING MECHANISM

The M-1 2 Overhead Cutting Mechanism is a truly professional machine for reeording enthusiasts and profassionals. It incorporates miny of the features found only in $10^{\prime \prime}$ professional units. The $\mathrm{M}-12$ records $u$ to $131 / 4^{\prime \prime}$ master dises and can he mounted on any $12{ }^{\prime \prime}$ recordink turntable. SPECIFICATIONS:

SPIRAL GROOVE: A run-in, run-out and locked sroove made with a simple manual preration.
LEADSCREW: 108LPI stainless steel, lapmed to a matched feednut which is in constant mesh.
LIFT-O-MATIC: Automatically lifts cutter from dise as it approaches end of leadscrew. MAGNETIC CUTTER: 8 ohms, flat from 40 to 7,000 cveles.
DIMENSIONS: Lenth $11 \frac{1}{4 \prime \prime}$; Width $41 / 4^{\prime \prime}$ : IIcight $\mathrm{i}^{\prime \prime}$.
Model Net Price
M-12...For 12" turntables... $\$ 99.95$ *

## EXTRA LEADSCREWS

specify "Inside Ont" ar "Outside In" by letters 1.0. or O.I. after part number

| Part No. |  | ines Per Inch | Net Price* |
| :---: | :---: | :---: | :---: |
| M12-120 |  | 120 | . $\$ 17.95$ |
| M12.144 | .. | 144 | 17.95 |
| M12-216 | ( Micro-Aroove) | ) 216 | 27.95 |
| M12-240 | (Micro-Groove) | ) 240 | 27.95 |
| M 12-264 | (Micro-(iroove) | ) 264 | 27.95 |

NOTE: All Rek.O.Kut Turntables are supplied for $\mathbf{1 1 0 . 1 2 0}$ volt, Goecrele AC oferation. Availatile in other voltages and frequencies at arditional cost.

## REK－O－KUTCOMPANY

Manufacturers of fine Recording and Playback Equipment，and Specialized Sound Sysfems．

## PORTABLE SOUND SYSTEMS， RECORD PLAYERS and VARIABLE－SPEED TURNTABLES


 Which permits the plasine spere to lat comtinumals sarimi from
 racord．It is ibwilly suitent in applications whatw rhythm mbntrol is neressary：suman dancing．swimminer．skatias．（allistlanios，ate．and






## HIGH FIDELITY PHONOGRAPH AND SOUND SYSTEM



 tications）．Thr RE（＇ITAliST is used as a public addruss system in the
enme manner as described for the Rhethmaster．

## SPECIAL FEATURES Of RHYTHMASTER and RECITALIST

Both the RHYTHMISTER and RECITALIST permit a mierophone ta the used even while a reoord is loeing played．Volume of each ean his indemmiently comtrollnd for uffective miximes．There is also provision
 iII onttomers．
 ponenta，features．aum sumeifications of both the RHYTHMISTER and

 abtained with twin sparaters．In the twin sjemker momples．there is mo provision for a spaker in the cover．The two spakets are mounter？ in two halfecase gections which join（whert not in lise）to form

Single Speaker Models RECITALIST RP－43M RHYTHMASTER RP－43 VM

Twin Speaker Models RECITALIST RT．43M RHYTHMASTER RT－ 43 VM

\＄239．95＊
\＄279．95＊
\＄279．95＊
\＄319．95＊


SPECIFICATIONS FOR RHYTHMASTER AND RECITALIST
URNTABLE：（sed almwe）
MOTOR：Inluetion－I－pule－luilt to Irek－O－Kut spurifications．

 AMPLIFIER：Freguracy ressonse is controlled by POLVIMONIC FFIAECOR


Position 4－rilat from 50 to 8000 eveles．Increasinerly slarp PICKUP： 1 ti－incla arn with dual－sapphire marnefice cartridge． INPUT CHANNELS：Three－high impedance－Ifor mirrophome． POWER OUTPUT： 10 watts at less than $3 \%$ tutal larmonic die． lowtion． INPUT GAIN：Microphote－－ 120 db．IRadio，tape－so flb．Mag－ ＂utic Mirkup－！n dar
NOISE LEVEL：butter than 50 dh helow maximum putbut．
CONTROLS：Microphone volume，phono and radio volume，and Poly．
POWER INPUT：； 0 watie at $110-120$ volts，fo cyeles $A 0^{\circ}$
 CASE：Sturdy flywomi covereal with pray leatheretto
 WEIGHT：

TWIN SPEAKER SET Model SPK－43
Game as furnished with Twin Spoaker Models For use with Ningle sinaker RECDTAIIST or


Complete with Case，
\＄50．00＊
Cables and Jacks
NET 1．IRICE


## RECORD PLAYERS

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VARIABLE－

## SPEED

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мет phe：\＄84．95＊



## New! PORTABLE RECORDER with exclusive MONOMRTIC ${ }^{\circledR}$ Control

Instant-action single knob control selects Record or Play, in either $7 \frac{1}{2}$ " or $33 / 2$ "tape speed, as well as Fast Forward and Fast Rewind . . . 2-hour hi-fi performance! Model CT-1 $\$ 129.50$ list.

## New! MULTI-SPEED PORTABLE RECORDER

Push-button tape speed selection, $33 / 4^{\prime \prime}$ or $71 / 2^{\prime \prime} \ldots 2$ - hour fullrange hi-fi performance . . . unique editing key ... Outplays, outperforms any other recorder in its price class! Model TR-4 $\$ 189.50$ list.

## New! 3-SPEAKER HI-FI RECORDER

Exclusive "Roving Tweeter" in cover with complete LC, crossover network and 2 internal matched quality "Woofers" for true dimensional presence. Model HT-225 \$225.00 list.

## New! Dunacord PROFESSIONAL RECORDER

Meets NARTB primary and secondary standards. 3-motor drive. Dynamic braking. Automatic cycling. 3-head construction. Push-button and stop bar controls. Reversible reel seats. Operates vertically or horizontally

Tape transport mechanism. Model DTM $\$ 395.00$ list
Dynacord Audiophile Preamplifier $\pm 2$ DB 40-15,000 CPS at $15 \mathrm{in} / \mathrm{sec}$. Bulkhead construction. Separate record and playback amplifiers.

Model DS-10 $\$ 90.00$ net
Also available, a low impedance premplifier suitable for studio broadcast recording. Model DP-100 $\$ 150.00$ net


Complete Selection of Hi-Fi Tape Recorder Components for Custom Installation and Portable Use
Completely wired, ready to plug into any amplifier and speaker.

Deluxe Pre-Amplifier, Model HFP-1 \$77.75 list.

Tape Mechanism, Model 9T-3M \$77.75 list.

Deluxe Component Package, Model PMD-1 \$174.50 list.

2-Speed Tape Player Audio Mike Mixer Foot Pedal Control

Accessory Cords for external
recording and mike extension


LP MICROGROOVE AND STANDARD DISCS

MODEL 213 - The new Clarkstan $12^{\prime \prime}$ record arm offers the best in standard disc and microgroove reproduction. Heavy aluminum casting eliminates audible resonance point. The slide-in cartridge holder allows instantaneous mounting of all types of standard cortridges. Silverplated, spring loaded plungers maintain positive electrical contact without necessity of soldering. Quick acting weight adjustment is positive and occurate for change from microgroove to standard records. Arm has adjustable height, fits all standard turntables. Vertical roller bearing and thrust ball bearing minimize cramping - no mechanical bias on the pickup. Finish grey wrinkle and brushed chrome. Net Price $\$ \mathbf{2 2 . 0 0}$


MODEL 212-16" Transcription arm. This high quality professional arm is built on some proven engineering principles as the above Model 213. Has slide-in cartridge holder and quick adjusting weight for accurate needle force. Accommodates both LP microgroove and standard records - any size up to $17^{\prime \prime}$ diameter. Overall length of arm is $143 \mathrm{~s}^{\prime \prime}$. Has adjustable height for all turntable conditions. Vertical roller bearings and ball thrust bearings eliminate mechanical bias on the pickup. Attractively finished in grey wrinkle and brushed chrome.

Net Price $\$ \mathbf{2 2 . 5 0}$
MODEL 213G - Same orm slotted to accommodate G.E. cartridge RPX-050.

Net Price $\$ \mathbf{2 2 . 0 0}$
MODEL 212G - Same arm slotted to accommodate G.E. cartridge RPX-050.

Net Price $\mathbf{\$ 2 2 . 5 0}$

## WIDE RANGE RV PICKUP

MODEL 201 - Clarkstan RV wide range variable reluctance cartridge for best reproduction of LP microgroove and standard records. Instantaneously replaceable and interchangeable needles. Frequency velocity responsive to above $12,000 \mathrm{cps}$. Needle force $5-7$ grams for LP microgroove, as low as 10 grams for conventional records. Output 60 millivolts. High impedance $-5,50,250$ and 500 ohm models available. $1 / 2^{\prime \prime}$ mounting centers. Supplied with sapphire
 needle. Specify . 0012" for LP microgroove or $.0030^{\prime \prime}$ tip radius for standard records. Tip radii of . $0015^{\prime \prime}, .0022^{\prime \prime}, .0025^{\prime \prime}$ also available. (Can also be supplied with diamond needle of any of above tip radii.) Net Price \$15.00

SAPPHIRE \& DIAMOND NEEDLE
Extra needle (tubular shank) for Clarkstan Pickups:


| Sapphire | Diamond |
| :---: | :---: |
| No. | No. |
| 251.10 | 254.10 |
| 251.15 | 254.15 |
| 251.2 | 254.2 |
| 251.5 | 254.5 |
| 251.3 | 254.3 |

Ball Point
Radius
$.0012^{\prime \prime}$
$.0015^{\prime \prime}$
$.0022^{\prime \prime}$
$.0025^{\prime \prime}$
$.003^{\prime \prime}$

Net

## CLARKSTAN MAGNETIC PICKUP

MODEL 204 "RV-Jr." variable reluctance pickup has a removable and replaceable stylus. It weighs only one-half ounce and fits all popular makes of record changers having standard mounting holes $1 / 2^{\prime \prime}$ between centers. It is $11 / 2^{\prime \prime}$ overall length. This magnetic pickup with balanced armature is velocity responsive (flat $\pm 2 \mathrm{db}$ ) from 50 cps to $10,000 \mathrm{cps}$. It delivers .030 volt from the average record.

> \#204 "RV-Jr." Cartridge only (with 1 sapphire needle) Net Price $\$ 5.40$ \#204D "RV-Jr." Cartridge only (with 1 diamond needle) Net Price $\$ 21.00$ (Specify whether . 0012 " or . 0030 " radius needle desired.)

## CLARKSTAN KNOBS Madel Knob Dia. Height



Attractive one-piece knobs accurately machined from DURAL add the professional appearance to control 275-0B 275-1B 275-12B panels. All knobs have fluted sides and have screwtype mounting for round or flat shafts to fit standard $1 / 4^{\prime \prime}$ shafts. Back of all knobs recessed $3 / 4^{\prime \prime}$ dia. by 5/64" deep to accommodate panel bushing nut. Supplied with or without pointer.

275-4B

## 

| $3 / 4^{\prime \prime}$ | $5 / 8^{\prime \prime}$ |
| :---: | :---: |
| $1^{\prime \prime}$ | $5 / 8^{\prime \prime}$ |
| $11 / 4^{\prime \prime \prime}$ | $21 / 32^{\prime \prime}$ |
| $11 / 2^{\prime \prime}$ | $11 / 16^{\prime \prime}$ |
| $2^{\prime \prime}$ | $3 / 4^{\prime \prime}$ |
| $21 / 2^{\prime \prime}$ | $13 / 16^{\prime \prime}$ |

PACIFIC TRANSDUCER CORP., Los Angeles 64, California (formerly CLARKSTAN CORP.)

## AUDIO SWEEP <br> FREQUENCY TRANSCRIPTION <br> 

The Sweep Frequency Transcription is a new method of making instantaneous frequency response runs. If has been drequency response runs, ition with all correction factors designed with alf correction factors included in the original recording, therefore, no charts or graphs are heeded. Before the development of the Sweep rrequency Iranscription, the one record was used for frequency response measurements on playback ystems. This method was bork hime ments were required ments were required, a new frequency un waw Now that is needed is a methode ray oscilloscope and a 9 Frequency Transcription for instan requency aneous response measurements. Only qualizer quirck adjustments on the qualizer circuits and the lob is done. all broadcast transmission equipment and of phononents for production testing of phonographic reproducers, filter networks, dudio amplifiers, preamplifiers, tone control systems and components.
MODEL 1000A - 12"' Vinylite transeription, $78 \mathrm{RPM}, 70$ to 10,000 cps. recorded flat $\pm 1 \mathrm{db}$. Net Price $\$ 6.60$ MODEL 1000D - 12'" Vinylite transcripion, $78 \mathrm{RPM}, 5 \mathrm{KC}$ to 15 KC , recorded flat $\pm 1 \mathrm{db}$. 5 KC to 15 KC , recorded
Net Price $\$ 6.60$ MODEL 100A - $16^{\prime \prime}$ Vinylite transcription, $33-1 / 3$ RPM, 60 to $10,000 \mathrm{cps}$. recorded with NAB curve.

Net Price $\$ 10.00$
MODEL 102M - $12^{\prime \prime}$ Vinylite, for mierogroove testing, 33-1/3 RPM, 70 to groove testing, 10,000 cps. modified NAB recording Nef Price $\$ 6.60$ MODEL 115 - audio sweep frequency film, 35 mm , positive print, variable density, 10 ft . lengths Net Price $\$ 10.00$ MODEL 116 - audio sweep frequency film, 35 mm , positive print, variable area, in 10 ft. lengths. Net Price $\$ 10.00$ MODEL 117 - audio sweep frequency film, 16 mm , positive prinf, variable density, in 10 fs . lengths.

Nef Price $\$ 10.00$

## STEADY STATE FREQUENCY RECORDS

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& \text { A series of new test } \\
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MODEL 20005 - Steady State Frequency Record, 12" Vinylite, 78.26 RPM 50 cps. to 10,000 cps. flat recording (1 side only). Net Price $\$ 3.90$ MODELS 20015 \& 20025 - Microgroove Steady State Frequency Record, $12^{\prime \prime}$ Vinylite, 33-1/3 RPM, 50 cps. to 10,000 cps. one side NAB, other side flat recording.
Net Price $\$ 3.90$ MODEL 101 - Infermodulation Test Record, 12"' Vinylife, 33-1/3 RPM, standard groove, $1 / 4$ ratio, 7 KC and 100 eps. (1 side only). Net Price $\$ 3.90$

## telectrG.tape

 Custom tape recorders and PlayersE specially designed for installation in Custom High Fidelity Units, the Custom 220 offers professional full-frequency performance at a price within the reach of every high fidelity enthusiast. Consists of tape transport, with recording amplifier, playback pre-amplifier and erase-oscillator. Simplified controls permit rapid switching from "record" to "play," and the exclusive Telectrosonic-designed Wind-Rewind Interlock Switch provides instantaneous rapid wind and rewind without the possibility of "spilling" or breaking your tape. Sensitive magic-eye indicator accurately indicates the recording level for broadcast-studio results. Frequency range of 50 to 12,000 cycles (at $71 / 2^{\prime \prime}$ per second speed) matches the finest professional eqiupment. Custom 220 is a beautifully styled unit that will enhance the most luxurious of installations, and may be mounted horizontally or vertically freel holders are available for vertical mounting).

## telectro-tape CUSTOM 220 P

## for Monaural recordings only

Offers the high fidelity enthusiost the opportunity to instoll o professionol full-frequency tope ploy-back in his hi-fi cobinet in either horizontal or vertical position. Instolls like o record ployer, by merely plugging into the "phono" jock of ony amplifier, rodio or TV.
Tape Player Mechanism Only
. $\$ 49.50$

## Specifications

## FREQUENCY RESPONSE:

Custom 220-50 to 12,000 cycles $\pm 3 \mathrm{db}$ at $71 / 2$ IPS Custom 220p-50 to 15,000 cycles
Custom 220BMP.50 to 15,000 cycles
SIGNAL-TO-NOISE RATIO: 45 db defined by NARTB standards DISTORTION: Less thon $2 \%$
POWER: $110-120$ volts AC 60 cycle
DUAL SPEED: $71 / 2$ 1PS ond $33 / 4$ IPS
FLUTTER AND WOW: Less thon $0.3 \%$ RMS of $71 / 2$ IPS
REEL CAPACITY: Custom 220 ond 220P
1 hour ploy of $7 \frac{1}{2}$ IPS
2 hour ploy of $33 / 4$ IPS
Custom 220 8MP
$1 / 2$ hour Binourol ploy of $71 / 2$ IPS
1 hour Binaurol ploy of $33 / 4$
1 hour Monaurol ploy of $7 \frac{1 / 2}{2}$
2 hour Monourol ploy of $3 \frac{1}{4}$
CONTROL: Custom 220: -single function control for record, idle ond ploy
Custom 220P ond 220BMP—single control for idle ond ploy
WIND-REWIND SWITCH: Provides instontoneous rapid wind ond rewind without the possibility of "spilling" or breaking tope.
OTHER SPECIFICATIONS: Custom 220
Inputs: HIGH-for crystal or dynomic microphones
LOW-for line input from tuner. TV, rodio or record ployer
Output Jack: 1 volt for connection to power amplifier
Magic Eye Recording Level Indicator
Tube Complement: 5879, 12AU7, 6E5, 12AX7 ond $6 \times 4$ rect. MOUNTING: Moy be mounted horizontolly or verticolly (tape holders availoble for vertical mounting)
DIMENSIONS: $1213 / 16^{\prime \prime} \times 11^{\prime \prime} \times 8^{\prime \prime}\left(61 / 2^{\prime \prime}\right.$ below ond $11 / 2^{\prime \prime}$ obove dress plote)


BASIC CUSTOM 220
Complete with recording omplifier Ployback pre-omplifer and erose-oscillotor- $\$ 99.50$

## telectro-tape CUSTOM 220 BMP

## for Binaural and Monaural recordings

Now, of the fisk of o switch, you play binaurol or monaurol recordings with this single tape ployer. Studio-like "presence" is ochieved through ofull-frequency response of 50 to 15,000 CPS. Telectro-tape's twin-heod design ploys beth trocks of your binoural tape, or a single head plays moneural recordings.
Tape Player Mechanism Only .........................\$61.50


Custom 220P/2208MP
All units ore ovoiloble with luggoge type carrying cose or handsome hord wood mahogany bose, such as illustroted above.

Motching pre-omplifiers are availoble for models 220 P ond 22CBMP

## PICKERING CARTRIDGES <br> Single Play <br> (Single and Dual Stylus)

## The Most Nearly Perfect Shone <br> Pickups Ever Produced



MODEL 260
—turnover cartridge for 78 or $331 / 3$ and 45 rpm records (the 220 and 240 back-to-back)

PICKERING MODEL 260 TURNOVER PICKUP is acclaimed by thousands of owners as the finest phonograph pickup ever produced. Engineered and manufactured with the care and craftsmanship traditional with all Pickering equipment, Model 260 plays microgroove and standard groove recordings with wide dynamic range and distortion-free quality. The Model 260 actually consists of two miniature cartridges, a Series 240 for microgroove and a Series 220 for standard recordings. They are mounted back to back in a gold-plated lightweight aluminum turnover mechanism which permats either cartridge to be brought into playing position with a simple flip of the handy lever that is clearly marked to show which cartridge is in use.

## .. for the professional and the audiophile

PICKERING MODEL 220 and 240 INDIVIDUAL MINIATURE CARTRIDGES are the identical individual reproducers which make up the famous 260 Turnover Pickup . . . they have the same broad frequency response. wide dynamic range and distortion-free quality that characterizes the superiority of the Model 260.
The gold 220 series cartridge is for use with standard 78 rpm records and is available with either diamond or sapphire stylus. The silver 240 series cartridge is for use with microgroove records, both $331 / 3$ and 45 rpm The silver 240 series is available with diamond stylus only for maximum protection of the fine grooves of LP records. Diamond styli wear many times longer than sapphire and are less susceptible to damage, thus assuring preservation of expensive records.
When purchased separately as 220 or 240 cartridges, a simple clip type universal adapter is packaged with each cartridge. This universal adapter permits easy installation of the cartridges in all standard makes of changers and tone arms.

SPECIFICATIONS FOR 220,240 and 260 CARTRIDGES


The 260, 220 and 240 Cartridges are velocity. sensitive devices and are inherently "flat" on a velacity basis. When measured with on equalized preamplifier having 6 db per octave bass bast and a standard test record, their performance characteristics are in accordance with the curve shown.


MODEL 240
-for $331 / 3$ and 45 rPm fetors: diamond stylus


ADAPTER CLIP
to permit easy installation of 220 or 240 cartridges in all standard changers and tone

Recommended Lad Resistance 27,000 ohms for flat response.
Output - 30 millivalts at 1000 cycles with a stylus velocity of $9 \mathrm{~cm} / \mathrm{sec}$.
DC Resistance - 800 ohms.
Inductance - 125 millihenries.
Tracking Pressure - 4 grams up to 8 grams if required by changer mechanism. Weight
220 ar 240 Cartridges $51 / 2$ grams 220-240 adapter clip

4 grams 260 Turnover Mechanism 7 grams 260 DD \& DS pickup complete

18 grams
220 or 240 complete with adapter clip
$91 / 2$ grams Stylus D. 240 - . 001 " radius diamand Stylus D-220-. 0027" radius diamond Stylus $5.220-.0027^{\prime \prime}$ radius sapphire Frequency Response - see curve

PICKERING COMPONENTS ARE PROFESSIONAL QUALITY
con H/a010 ne/10 cane


The


Models D-120M, S-120M, D-140S and 5-1405, with diamond or sapph. ire stylus, are without equal; they produce the finest quality reproduction of lateral recordings.

MODELS D-120M AND S-120M are for playing standard records and transcric-D-143S AND S-140S are for long playing. microgroove records; $331 / 3$ and 45 RPM .

## THE PICKERING CARTRIDGE

## PICKERING CARTRIDGES . . .

are the choice of audio engineers throughout the world. They are universally acclaimed because of their high output, wide range performance and low distortion. They have an output of 50 milivolts at 10 cm per second and are used wherever a fine cartridge is required in radio stations, recording studios and for purposes of quality control by leading record manufacturers.

Model S-120M with .0027" Sapphire stylus
Model D-120M with .0025" Diamond stylus

Model S-1405 with .001" Sapphire stylus for long-playing MICRO. GROOVE recordings

Model D-1405 with .001" Diamond stylus for long-playing MICRO GROOVE recordings


Series 140 and 120 frequency response characare shown in the accompanying curves.


## THE PIGKERING 410 AUDIO INPUT SYSTEM

. . . is designed to provide a complete audio control center. Model 410 may be used in any high quality playback system. Three input channels are provided-one for magnetic cartridges and 2 "flat" channels for other audio circuits. A 3-position equalizer network is built into the magnetic cartridge channel and provides accurate equalization for LP, AES and 78 rpm recording characteristics. Separate bass and treble controls are also provided. These are of the step-type and permit bass and treble adjustments in 2 db increments. The tone control circuits are intended to compensate for record characteristics and for listener-environment acoustical conditions. They are not intended to compensate for amplifier and/or loudspeaker deficiencies. Model 410 is intended for use with the highest quality professional type playback equipment. The output of the Model 410 is fed from a cathodefollower circuit and will work into any high quality audio or line amplifier having a high impedance input. It may also be used with a transformer for the purpose of feeding a 500 ohm line. Because of its flexibility, low noise and low distortion level, it is ideally suited for bridging and monitoring purposes and for critical listening applications.

Playback and Tone Control Characteristics


PREAMPLIFIER model 230H

EQUALIZES THE BASS RESPONSE OF RECORDS AND TRANSCRIPTIONS AND PROVIDES THE NECESSARY GAIN FOR HIGH-QUALITY MAGNETIC PICKUPS.
The Pickering 230 H Preamplifier is designed to operate with any high-quality amplifier having a high impedance input. It is selfpowered, operates from the 115 volt AC line, and is installed by simply plugging in.
Model 230 H is unique in its accuracy of equalization, being superior to most broadcast station equipment in this respect Further, the intermodulation and harmonic distortion is lower than good engineering piactice requires in professional equipment.


The 230 H Preamplifier represents the most advanced design ever ochieved in phonograph preamplifiers, and like all Pickering Audio Equipment, symbolizes maximum performance.

## TECHNICAL SPECIFICATIONS

ГREQUENCY RESPONSE: Within 2 db from $40-20,000 \mathrm{cps}$. Compensates for 6 db per octave loss below 500 cps . . . . OUTPUT: pensates far High impedance, 2 volts average from phonograph records. (For $500 / 600 \mathrm{ohm}$ output at - 10 dbm use Pickering 600 G transformer, available as accossory equipment.). . . DISTORTION: Not more available as accessory equipment.) at normal output level. Not than 0.2 percent intermodulation at normal output level. Not
more than 0.4 percent intermodulation at -10 db over normat level. Not more than 1.7 percent intermodulation $\mathrm{ct}+20 \mathrm{db}$ over
normal level. HTJM LEVEL: -56 db below maximum signal. normal INSTALLATION: Un-t Eurnished with 6 ft . approved cord which can be conneatet to wall socket or amplitier. Input socket - standard type: matching plug furnished with unit. Output - termanai strio. Rubber shock mounts provided. DIMENSIONS, WEIGFTS AND TUBES: Size of preamplifier: 7l/2 inches long, 31,2 mes deep and $45 / 8$ inches high. Weight: ithes 6 ong, Tubes: EC4, Ext 6AU6 (any good, standard brand).


SWITCH POSITIONS

## RECORD GOMPENSATOR model $132 E$

PROVIDES THE FLEXIBILITY REQUIEED TO PROPERLY EQUALIZE FOR THE DIFFERENT RECORDING CHARACTERISTICS USED BY VARIOUS RECORD MANUFACTURERS.
The Pickering Record Compensctor permits proper equalization of the amplifier system to produce optimum reproduction of individual records; because all linear circuit elements are used it has no inherent distortion. This Compensator permits each individual record to offer all of its quality without compromise... permits getting the maximum use out of scratched and worn records. Its six positions correctly equalize for all of the established recording characteristics including microgroove and standard records, domestic and foreign.
The Pickering Record Compensator is a most important addition to any record player equipped with ar amplifier system having a high gain preamplifier, such as the Pickering 230 H . It is easily installed, and like all Pickering Audio Equipment, symbolizes maximum performance.

## TECHNICAL SPECIFICATIONS

INPUT: High impedance magnetic cartridge . . . OUTPUT: To feed into high-gain amplifier which has 6 db per octave rise below 500 cycles per second, and which has an input resistance of $; 7,000$ ohms . . . INSTALLATION: Unit can be mounted in any position (on panels up to $3 / 8$ inch thick) by means of threaded bushing. Since no power is required to operate the Record Compensator only a single connection has to be rade to a suitable preamplifier. Input connection - standard socket. Matching plug furnished with unit. Maximum distance between record compensator and preamplifier input 20 inches, cable supplied ... DIMENSIONS AND WEIGHT: Size of unit: 19/8" square by $3^{1^{1}}{ }^{\prime \prime}$ overall. less switch shaft. Weight: $6^{1 / 2}$ oz.

1 - European 78 - This group covers HMV, English Decca, FFRR 78's and American pressings of European recordings. 2 - London 33. Old LP - For London FFRR $331 / 3$, old Columbia LP's and most makes of $331 / 3$ microgroove recordings made before June 1953. 3 - Old Capitol, AES - For all Capitol recordings and most domestic 78's made before June 1953. Original AES playback characteristic. 4 - A.E.S., Victor Orthophonic, Columbia. Capitol 78, 45, 33 - The new AES characteristic for all of the latest RCA Victor, Columbia. Capitol and Decca recordings 78 , 45, 33. 5 - Maximum Highs, Mcximum Lass - No high frequency roll off - 500 cycle bass turnover. 6 - Noisy Pecords . - This position permits playing of olc noisy recoras with object hiss removed.

## PICKERING PROFESSIONAL AUDIO COMPONENTS

MAXIMIZE PLAYBACK PERFORMANCE.

PICKERING PROFESSIONAL AUDIO COMPONENTS FOR RECORD PLAYBACK

## PICKUP ARM model 190 D

## THE ONLY ARM CAPABLE OF OPTIMUM PERFORMANCE

 ON BOTH MICROGROOVE AND STANDARD RECORDS.Much distortion in playing records can be caused by an inadequate pickup arm, regardless of how good the cartridge. The most common causes of distortion inherent in the operation of conventional arms are poor tracking and excessive record and stylus wear. These undesirable quadities are a result of improper lateral and vertical moments of intertia and an incorrect relationship between the two. Further, many arms cause tracking error which creates needless distortion.

The Pickering 190-D Pickup Arm is designed to overcome the dis. aavantage of all conventional arms, the shortcomings of which have been severely accentuated by the advent of LP microgroove records. Extensive investigation by Pickering engineers disclosed that reproducer arms which perform well on 78 RPM phonograph records and standard transcriptions will not necessarily produce good results on LP microgroove records. In fact no commercially available arm was found which would meet all of the requirements for this type of service.
The 190-D Pickup Arm embodies all the features determined as significant and important to enable a high quality cartridge to meet the stringent requirements for playing LP records without distortion and free of record and stylus wear: l-The ratio of vertical-to-lateral moment of inertia is as low as posstble 2 -The vertical mass has been minimized in order to track any record without imposing extra vertical load on grooves. It plays
badly warped records just as wel as flat ones . . . 3There is no spurious arm resonance a any frequency. 4-Pivol friction is lower than 3 gram centimeters and the bearings are rugged and trouble-free. -The arm is static ally balanced about he vertical axis to he vertical axis to to jump grooves when subjected to bumping or tarin .. 6-Offset head

reduces tracking error to less than plus or minus $21 / 2^{\circ}$. . . 7 Stylus point is protected against contact with anything but the record grooves. It cannot strike the turntable mat or cener-pin. It plays all size records up to $171 / 4^{\prime \prime}$ O.D. In addition to these important design considerations, the $190 \cdot \mathrm{D}$ Pickup Arm features: Smportiant design considerations, the 190-D Pickup Arm features: turntables from $1 / 2^{\prime \prime}$ to 2 ," high . . . one-hole mounting and selfturntables from $1 / 2$ to 2 high .. one-hole mounting and selfcontained levelling screws id plug-in cartridge holder magnetic arm rest . . Model 190D, the new and smaller arm 41/4" long, when combined with a high quality manually operated turntable, requires a $17^{\prime \prime} \times 17^{\prime \prime}$ motor board.
Piekering Cartridges used with the Model 190
than is required when arm require $50 \%$ less vertical tracking force
than is required when using conventional arms.


## EQUALIzER model 163A

A loss-type equalizing network for use with the Model 161 M Pickup. It is designed to compensate for most of the commonly encountered record characteristics. Position 1flat high frequency response to over $15,000 \mathrm{cps}$. Low frequency rise to give full compensation from 500 to 40 cycles. Position 2 -flat high frequency response. Low frequency response approximately 5 db . below position 1. Position 3 -for NAB or Orthacoustic transcriptions. Position 4-Low frequencies same as position 2. High frequencies sharply attenuated to reduce surface noise. Attenuation starts at 4000 cycles. Position 5-low frequencies same as position 1. High frequencies same as position 4. 250/600 ohms output, 60 lb . Size $31 / 2 \times 33 / 4 \times 5$ inches. Shipping weight 2 lbs .

## EACH PICKERING PICKUP AND CARTRIDGE IS UNCONDITIONALLY GUARANTEED

With the exception of the stylus point, all models of the Pickering Cartridge Reproducer and Pickering reproducing equipment, are covered by an unconditional guarantee provided that the unit has not been tampered with nor subjected to extraordinary abuse. Replacement diamond and sapphire styli can be installed in cartridge reproducers for the following net charges:

## Pickering Reproducing Equipment is <br> 5old by All Principal Distributors

For Models 160 and 161 Diamond stylus.
\$22.50 Net
For Cartridge Reproducers
.0027"' Sapphire for 120 Series....................... 2.50 Net
.001" Sapphire for 140 Series................................. 5.00 Net
.C025" Diamond for 120 Series.......................... 15.00 Net
Special Radius Diamond for 120 and 140 Series
22.50 Net 22.50 Net

PICKERING PROFESSIONAL AUDIO COMPONENTS
maximize playback performance


# 2 New Sonotone Pickup Cartridges <br> FEATURING THE FAMOUS CERAMIC PRINCIPLE 

## SPECIFICATIONS

Response一 $\pm$ db $30-15,000$ cycles.
Tracking Force-8-10 grams.
Compliance-1.0×10-4 cm/dyne.
Unit Capacitance-450 $\mu \mu \mathrm{f}$ 。
Output Voltage-1.10 volt.
Recommended Load-1-5 megohms.
Cartridge Weight-5.5 grams.
Mounting Dimensions-Standard $1 / 2$ " and 5/8" mitg. centers.

Needle-Dual tip.
(.001" sapphire or diamond for microgroove . $003^{\prime \prime}$ sapphire or diamond for standard records.)

## 2T CARTRIDGE PRICES

## 2T CARTRIDGES



N-2T REPLACEMENT NEEDLES
List Price

| N-2T-S | (2 sapphires) | \$ 3.50 |
| :---: | :---: | :---: |
| N-2T-SD | (1-mil diamond. B-mil sapphire) | 28.00 |
| N-2T-D | (2 diamonds) | 50.00 |

## The Sonotone 2T Tin

A new and revolutionary cartridge designed to provide unequalled listening enjoyment of all records, regardless of speed or groove size.
Essentially two cartridges in one, the Sonotone $2 T$ represents the ultimate refinement of the needle change principle-only the tiny jewel tip itself is changed - thus permitting the design of a reproducer in which no unused but moving part can "eat up" the energy being transmitted by the needle.

Foremost among the many outstanding features of the new Turnover are:

Adaptability-Because of its small size and its standard half-inch mounting centers. the new Turnover will replace and modernize most three-speed cartridge installations.
Simplicity of replacement - Since only the needle rotates, the entire needle assembly may be readily removed or replaced.
Proper groove fit-Each jewel tip is accurately polished to insure an exact fit in the appropriate groove. thereby providing perfect coupling to the record.
Superior tracking ability-The high lateral compliance not only helps reduce record wear, but permits the stylus to track even the lowest frequencies at all speeds, and at a single low needle force.

High sensitivity - The new, improved ceramic element of the Turnover provides the unusually high output of 0.95 volts on the RCA 12-5-51 microgroove test record. eliminating the need for any preamplification.
Outstanding response - The wide frequency range of the new Turnover is unprecedented in piezoelectric pickups.
The curves below show the average response, without equalizers of any type, of the Turnover cartridge to the two most widely used recording characteristics. This outstanding response is pointed up in striking fashion by the dotted curve, showing the response of a typical competitive turnover type cartridge.


[^22]
# CERAMIC-the wonder element that reproduces electrically the exact tones recorded on the disc, yet is impervious to moisture and unaffected by temperature. 

## The Sonotone 1P

## IP CARTRIDGE PRICES

Response to other modern characteristics (LP, NARTB. AES. Response to other modern characteristics (LP, NARTB. AES.
etc.) is equally fine. The high compliance of this cartridge ( 1.0 microcentimeter per dynel enables the cartridge to track large
amplitude signals. It also reduces the wear of the needle and of micro-centimeter per dynel enables the cartridge to track large
amplitude signals. It also reduces the wear of the needle and of the record itself.

Replacement needles shap in easily and are available in both sapphire and diamond. The $1 P$ with 1 -mil sapphire or diamond needle ( $1 \mathrm{P}-1 \mathrm{~S}$ or $1 \mathrm{P}-1 \mathrm{D})$ is especially recommended for use on all 45 rpm record changers and all 3313 rpm record players.


Response of the $1 P-15$ to the new industry-wide (RIAA) characteristic.


The two major factors contributing to its superb fidelity are its extended frequency response and its high compliance. The wide range of this cartridge is shown in the graph below. This is the response, without equalization, to the recording characteristic now adopted ats standard by the record industry (RIAA curve).

IP CARTRIDGES
I. ist Price

| 1P.1S | (1-mil kiplutire) | \$ 8.50 |
| :---: | :---: | :---: |
| 1P-2S | (2-mil sapjlire) | 8.50 |
| 1P-3S | (3.mil sapplire) | 8.50 |
| 1P-1D | (I-mil sliamonid) | 30.00 |
| 1P-3D | (3-mil diamond) | 30.00 |

## 1P-LB CARTRIDGES




N-1P REPLACEMENT NEEDLES
List Pric...

| N1P-1S | ( 1 -mil sapphite) | \$ 2.50 |
| :---: | :---: | :---: |
| N1P-2S | (2-mil sapulire) | 2.50 |
| N1P-3S | (3-mil sapulire) | 2.50 |
| N1P-1D | ( (t-mil diamond) | 25.00 |
| N1P.30 | (3-mij <lizthond) | 25.00 |



## POLYPHASE repradiucers <br> (magnetic)

In music, listening quality is everything. . . . The AUDAX has that quality to a degree not equalled by any other pickup.


IIF.16 arm (HF. 12 same style)
To obtain your NET cost, deduct $40 \%$ from all list prices shown.

## Hi-Q7 HIGH OUTPUT CHROMATIC, for all records, Micro DIAMOND and a Micro (or 78 rpm ) Sapphire 879.50

D-L.6 Chromatic Head, Micro-DIAMOND and a Micro
(or 78 rpm) Sapphire. . . . . . . . . . . . . . . . . . . . . . . $\$ 69.5$
L-6 IIead-with two SAPPHIRE jewels................ $\$ 34.50$

VL. 9 Vertical-Lateral Head (SAPPIIIRE iencels). . . 89.00
Sapphire may be replaced with an AUDAX CIIROMATIC DIAMOND at any time.

## ADAPTERS



## C0MPASS-PIVOTED <br> tone-arins

## tcknowledged as the most efficient arm available. Useable uith most cartridges, yet it costs less. <br> - EQUIPPED FOR STYLUS-PRESSURE ADJUSTMENT <br> - Only three parts. <br> - No springs. <br> - No fatigue. <br> - No restraint to stylus travel. <br> - Highest tracing efficiency. <br> - Frontal oscillations nil.

HF-12 Arm (up to $12^{\prime \prime}$ disc)
832.00

HF-16 Arni (up to $16^{\prime \prime \prime}$ disc) . . . . . . . . . . . . . . . . . . . . . 842.00
STUDIO Arm (up to $16^{\prime \prime}$ dise) . . . . . . . . . . . . . . . . . . 865.00

## quality cutters

AUDAX CUTTER H•S-FLAT to over 10,000 cyrles. Distortion ahout $0.9 \%$ at 1000 eveles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 500 ohms.

List Price \$185.00
AUDAX CUTTER HI- - Substantially FLAT to 8.000 eyrles. Distortion about $1.5 \%$ at 1000 rycles. Fully modulates groove with input of about 18 db with 96 lines. Impedances up to 500 ohms.

List Price $\$ 125.00$ AUDAX Cutters fit most recording machines.

## STYLUSHALANCE

"It's easy to use and withont doubt is potelltially the most accurate gange available for home use. . . ."

High-Fidelity Magazine


With the scales and gauges available heretofore. it has been impossible to therk stylus-pressure closer than 2 or 3 grams one way or the other. That is $50 \%$ off-correct. This means deformation of groove-walls. which explains nuch of the echoes. ghosts and other distortion. Siroho-scope-like. STYLUS-BAIANCE accurately indicates correctitess or incorrectitess of stylus-pressure.
NO SPRINGS - NO SCALE TO REAI) - NOTHING TO HOI.D. Precision all-metal construction.
Finished in gold.
. . List \$8.00.
Net $\$ 4.80$

# WEBSTER W/ELECTRIC <br> RACINE 

## Featheride Crystal and Ceramic Cartridges


model AX LightNeight crystal cartridge for three-speed applications. Delivers 8 volts at $33 \frac{1}{3}-15$ nem and 1.5 volts at 78 rem with 7 srams traching pressure. Furnished complele with WE16 3-mil osmium needle and WE17 1 -mil usmium needle, removable twist mechanisnt and terminal lugs. List price \$8.50.
model CX Single-neadle crystal cartridge for 78 rpm or three-speed applications. Delivers 2.0 volts at $331 / 3-45 \mathrm{Rpm}$ and 4.5 volts at 78 nPm . Recommended needles: WE422 2-mil needle for three applications, WE37 3 -mii osmium for 78 nPM applications. List price $\$ 4.95$.
model GX Single-needle ceramic cartridige for $331 / 3-45 \mathrm{kr}$ maplications.
 Develops output of 0.6 volts at $331 / 3 \mathrm{kPM}$, 0.8 volts at 15 kP . Tracking pressure 7 grams. Fits any standard RMA half inch momang and RCA 45 players with half inch to live-cighths inch mounting. Furnished with IV F36LI' I-mil nemium needle. Lisl price $\$ 5.45$.
model FX Two-needle twist cart ridge for three-speed applications. High output cartridge developing 2.3 volts at $331 / 3$ -45 gem and 6.0 volts at 78 mp. Shunting eapacitor furnisheal adapts it to low sutput applications ( 0.6 volts at $331 \frac{1}{3}-45$ urv and 1.2 volts at 78 RPuI). 1 -mil osmium wedle WEALIP and 3 -mil osminu needle HEH, capacitor and mounting spacer furmisherd. Lixt price $\$ 8.50$.
model WX single-needle dual voltage crystal cartritye for three--speed or 78 rpm applications. Develops output of 5 volts at 78 kim or 2 volts at $331_{3}-45$ "rm without caparitor: 1.5 volts at 78 kpm or . 75 volts at $331_{3}-15 \mathrm{kpm}$, with capacitor. Traching pressure, it wrams at all speeds. Fits any standard $\frac{1}{2}$ inch mounting. lecommenided needles: WE422 2-mil for three-speed applications, WE37 3 -mil osmiun for 78 крм. List price $\$ 4.95$.


## Featheride " 5 -Pack"

 Replacement KitA convenient, pocket-size metal case containing one each of the most popular Featheride replacement cartridnes: vonel AX two-needle crystal cartridge, model CX one-needle crystal cartridge, model FX twoneedle erystal cartridge, model GX single-needle ceramic cartridge and model WX single-needle crystal cartridge. Each cartridge is individually pached in its own plastic "jewel "ase," with all littings and full installation instructions. 5 -pach hit contains replacement data and is designed so that it may be hung on the wall, displayed on a connter, or carried in a serviceman's repairkit.

SPECIAL WEBSTER ELECTRIC
CRYSTAL REPLACEMENT CARTRIDGES

| Model Number | Recommended Needles | Suggested List Price |
| :---: | :---: | :---: |
| D2 | WE37. | \$5.75 |
| D3. | WE37. | . \$5.75 |
| F22.1 (F2 | $\begin{aligned} & \text { 1). WE44 } 3 \text {-mil, } \\ & \text { WE44 LP } \end{aligned}$ | il . . . \$8.50 |
| G4M. | WE36-2.. | . . $\$ 5.45$ |
| P2-1. | WE122 | . $\$ 4.95$ |
| RG2M. | $\begin{aligned} & \text { WE52 } 3 \text {-mil } \\ & \text { WES2 LP } \end{aligned}$ | $\text { nil . . . } \$ 8.50$ |
| Q2. | - | . . . $\$ 7.75$ |
| Q3. | WE412 | . . $\$ 7.75$ |
| WS. | WE37 | . \$5.75 |



Here is the sensational crystal pickup that provides positive protection to record and needle, even when it is dropped or slid across the record surface. Retract. O-Matic is priced to make it a practical replacement for installation on any manual record player.

The unique spring-mounted construction gives insurance against damage to cartridge, needle, or record. A slight pressure on the arm automatically lifts needle from record surface, and lets the romided "dome" absorb the shock.

List price, complete, (tone arm, cartridge, arm rest and all parts needed for installation) $\$ 6.95$.

\begin{tabular}{|c|c|c|c|c|c|}
\hline \& \& TYPE \& Length \& REEL \& Llst <br>
\hline Soundcraft "Plus 50* Magnetic Recording Tape gives $50 \%$ extra playing time per reel. Made on a base of DuPont "Mylar" Polyester Film just 1 mil thick, with a fuil-depth oxide coating. No compromise in Sounderaft's famous wide-range, fullfrequency, uniform tape-output excellence. \&  \& $$
\begin{gathered}
\text { PL-2 } \\
\text { PL-9 } \\
\text { PL-18 } \\
\text { PL-36H } \\
\text { PL-36R } \\
\text { PL-72H } \\
\text { PL-72R }
\end{gathered}
$$ \& $$
\begin{aligned}
& 225^{\circ} \\
& 900^{\prime} \\
& 1800^{\circ} \\
& 3600^{\prime} \\
& 3600^{\prime} \\
& 7200^{\circ} \\
& 720^{\prime}
\end{aligned}
$$ \& $$
\begin{gathered}
3^{\prime \prime} \\
5^{\prime \prime} \\
7^{\prime \prime} \\
\text { Hub } \\
101 / 2^{\prime \prime \prime} \\
\text { Hub } \\
\text { Reel }
\end{gathered}
$$ \& $$
\begin{aligned}
& \$ 1.50 \\
& \$ 4.40 \\
& \$ 7.95 \\
& \$ 16.00 \\
& \$ 17.95 \\
& \$ 30.00 \\
& \$ 40.00
\end{aligned}
$$ <br>
\hline Soundcraft "Red Diamond" Magnetic Recording Tape, a superior tape in quality and performance. Soundcraft plastic base tape is attractively packaged in the familiar blue box with the red band and the famous Soundcraft design. \&  \& SPN 1
SPN 3
SPN 6
SPN 12 \& $150^{\circ}$
$300^{\prime}$
$600^{\prime}$
1200 \& 3" plastic
$4^{\prime \prime}$ plastic
$5^{\prime \prime}$ plastic
$7^{\prime \prime}$ plastic \& $\$ 1.00$
$\$ 1.75$
$\$ 3.50$
$\$ 5.50$ <br>
\hline Soundcraft Lifetime 10. Winderful addition to a distinguished line of fine recording tapes. The only tape guaranteed for life. Super high fidelity oxide coating. The base of DuPont "MYLAR" gives tremendous strength and dimensional stability...utmost durability, long-run economy. In the blue box with the yellow band. \&  \& L-1
L-6
L-12
L-24 \& $150^{\circ}$
600
1200

2000 \& $3^{\prime \prime}$ plastic
$5^{\prime \prime}$ plastic
$7^{\prime \prime}$ plastic
Hub
Reel \& $\$ 1.90$
$\$ 5.25$
$\$ 9.75$
$\$ 16.95$
$\$ 19.80$ <br>

\hline Soundcraft Plastic Base Professional Tape. Packaged in the blue box with the light blue band, this tape has been specifically engineered for professional users. Micro-Polishing insures high fidelity uniformity - sensitive high frequency response. \&  \& | SPN 12P |
| :--- |
| SPN 24P |
| SPN 33P |
| SPN 50P | \& $1200^{\prime}$

$2400^{\prime}$
3300

$5000^{\circ}$ \& | 7" plastic prof. hub |
| :--- |
| $\frac{\text { Hub }}{\text { Reel }}$ |
| Hub |
| Hub |
| Reel | \& \[

$$
\begin{aligned}
& \$ 6.00 \\
& \$ 10.00 \\
& \$ 12.85 \\
& \$ 13.00 \\
& \$ 20.00 \\
& \$ 28.00
\end{aligned}
$$
\] <br>

\hline Soundcraft Tape-Chests contain 5 reels of the tapes listed above in $5^{\prime \prime}$ or 7 " sizes, except Professional Tape which is in $7^{\prime \prime}$ sizes only. These fine, handsome packages with permanent pyroxylin covering store tape horizontally in individual, easily indexed protective drawers. \& Tape-Chests ( ${ }^{\text {B }}$ \& | PLC-9 |
| :--- |
| PLC-18 |
| SPNC-5 |
| SPNC-7 |
| LC-5 |
| LC-7 |
| SPNC-12P | \& \[

$$
\begin{array}{r}
900^{\circ} \\
1800^{\prime} \\
6000^{\circ} \\
12000^{\prime} \\
600^{\prime} \\
1200^{\prime} \\
1200^{\prime}
\end{array}
$$

\] \& \[

$$
\begin{aligned}
& 5^{\prime \prime} \\
& 7^{\prime \prime} \\
& 5^{\prime \prime} \\
& 7^{\prime \prime} \\
& 5^{\prime \prime} \\
& 7^{\prime \prime}
\end{aligned}
$$

\] \& \[

$$
\begin{aligned}
& \$ 22.00 \\
& \$ 39.75 \\
& \$ 17.50 \\
& \$ 27.50 \\
& \$ 26.25 \\
& \$ 48.75 \\
& \$ 30.00
\end{aligned}
$$
\] <br>

\hline
\end{tabular}



[^23]Coryright by U. C. P., Inc.

## SOUNDCRRFTMerchec Restere wese

NEW STANDARD OF RECORDING EXCELLENCE


## CUTTING and PLAYBACK STYLI (Sapphire Jewels) <br> LONGER LIFE • EASIER THREAD CONTROL • CLEANER HIGH-FREQUENCY • WIDER LATITUDE QUIETER CUTTING • TYPES FOR EVERY PURPOSE

## PRICE LIST

| Type | Description | List Price |
| :---: | :---: | :---: |
| Sapphire cutting stylus | Broadcast quality, dural shank, maximum length jewel. Standard $87^{\circ}$ included angle, 1.5 mil radius. Available in Microgroove .5 mil radius. (Specify long or short shank.) | \$7.50 |
| Stellite cutting stylus | For semi-professional recording. dural shank. (Specify if long or short shank.) | \$2.00 |
| Sapphire Pranscription playback neadle | Straight dural shank. Available in 2.5 mil standard radius or 1 mil radius for Microgroove. | \$4.50 |

## RESHARPENING SERVICE

Mail Styli for resharpening in original package to your distributor.
Sapphire cutting stylus . . . . . $\$ 3.75$
Stellite cutting stylus . . . . . . $\$ 1.50$
Sapphire transcription Playback . . \$2.50
SOUNDCRAFT'S NEW RESHARP MAILERS ARE AVAILABLE THROUGH YOUR DISTRIBUTOR

# REEVES <br> SOUNDCRAFT <br> CORP. 

## -14 <br> V-M Means SOUND Business For You

 the oiceSound, new features, superior design and durable construction give V-M products the kind of quality that's easy to sell. This quality, plus beauty and low price, have made V-M the most popular line in the industry. So play safe . . . buy the leading line . . . V-M. It's just SOUND business!

## World-Famous

## V-M tri-o-matic ${ }^{\circledR}$ Features

- AUTOMATIC SET-DOWN for 7", $10^{\prime \prime}$ and $12{ }^{\prime \prime}$ records. No controls necessary.
- automatic manual operation, no extra control necessary for manual operation.
- TRI-O-MATIC SPINDLE affords positive record protection; records lowered-not dropped-on spindle shelf.
- COMPLETELY AUTOMATIC OPERATION on records of all three sizes and speeds.
- AUTOMATIC SHUTOFF with all records. Tone arm returns to rest and motor shuts off.
- DUAL NEEDLE TONE ARM with reversible cartridge.
- COMPLETELY JAMPROOF. All moving parts, including tone arm, may be held at any time without damaging mechanism.
- CONVENIENT. SIMPLE CONTROLS easily accessible in any installation for turntable speed and On-Off-Reject.
- UNDERWRITERS APPROVED throughout, mechanically and electrically.
- RECORD CAPACITY, twelve $10^{\prime \prime}$ or ten $12^{\prime \prime}$, $331 / 3$ or 78 rpm ; fourteen $7{ }^{\prime \prime}, 45 \mathrm{rpm}$ records. Positive Intermix of any ten $12^{\prime \prime}$ or $10^{\prime \prime}$ records of same speed.



## V-M RECORD CHANGERS

1
NEW V.M MODEL 1200 HIGH FIDELITY
4-SPEED RECORD CHANGER
Another V.M "First" .... a low-cost high fidelity changer! Plays all four speeds, 78, 45, 331/3 and nem $162 / 3 \mathrm{rPm}$ "book' ecords. Features new direct-drive 4 -5peed motor (V.M Patent No. 2655812); new low-torque mechanism; Easy-Lift record support arm for exclusive front-loading convenience 3nd slim, modern die cast aluminum tone arm with allweather 2 -needle ceramic cartridge. Min. mounting soace:
$13^{\prime}{ }^{\prime}$." $13 \mathrm{r}^{7}{ }^{\prime \prime \prime} \times 12^{\prime \prime} \times 83 / 8^{\prime \prime}$. Shipping wt., aperox. II lbs.
V-M MODEL 1225
Is Model 1200 mounted on metal ba.e pan as wired changer attachment. Siesta Switch(1) shuts off everything, including amplifier and appliance plug on pan, after last record plays. Complete with 6 AC cCrd and $4^{\prime}$ phono cord with plugs. Measures $131 / 2^{\prime \prime} \times 12^{\prime \prime} \times 83 / 4^{\prime \prime}$. Shipping -
V-M MODELS 1200-GE and 1225-GE same as Models 1200 and 1225 but equipped with GE variable reluctance cart. ridge, 4 -pole motor and muting switch
2
V-M MODEL 936B HIGH FIDELITY
RECORD CHANGER ATTACHMENT
World's first changer attachment specifically designed for high fidelity. Features die cast arm, two plug-in heads included to fit most cartridges (pre-amo. stage required has precision-formed concentricity. Extra powerfui 4-pole motor muting switch and tri-o.matic spindle $v$-pole spindle is included Gold base burgundy accessories. Com plete with $6^{\prime} A C$ cord $4^{4}$ phono cord with plugs. Is $131 / 2^{\prime}$ $\times 131 / 4^{\prime \prime} \times 91 / 4^{\text {. Shipping }}$ wt. 18 |bs. 3 oz
V.M MODEL 935B

Same as 936B less metal pan. for use with mounting, board. Min, mounting space, $131 / 2^{\prime \prime} \times 1314^{\prime \prime} \times 81 / 2^{\prime \prime}$. Shipping wt., 12 lbs., 6 oz.
V-M MODELS 9368-GE and 9358-GE
Same as Modeis 936 B and 9358 but with ane GE cartridge installed in extra head.

V-MCORPORATION, Benton Harbor, Michigan
 CHANGER

Has all the famous tri-o-matic features. Base plate and tone arm are smartly styled die castings. Has twin sapphire needles. ceramic cartridge. Complete with $42^{\prime \prime}$ AC and phono cords. Minimum mounting space, $131^{3} 5^{\prime \prime} \times 11 / 8^{\prime \prime} \times 71 / 4^{\prime \prime}$. Shipping wt. $111 / 4 \mathrm{lbs}$.

V-M MODEL 920A RECORD CHANGER AITACHMENT

Beautifsl deluxe automatic, 3 -speed record changer at a low price. Has handsome mahogany grained plastic base; all tri-o matic features PLUS exclusive Siesta Switch that shuts off everything (including ampli fier and amp plug-in in base!) after last record plays. Model 920 plays through any standard TV or radio equipped with phono input. Has $6^{\prime} A C$ cord and $4^{\prime}$ phono cord. Size $12^{\prime \prime} \times 93 / 4^{\prime \prime} \times 7^{\prime \prime}$. Shipping wt ., $91 / 4 \mathrm{lbs}$

V-M MODEL 120 RECORD PLAYER ATTACHMENT is low cost, plays records of ALL 4 SPEEDS, all sizes. Has $6^{\circ}$ AC cord, 4' phono cord with plugs. Shipping wt. 6 lbs., 6 oz.

## V-M TAPE RECORDER

5
V-M MODEL 700 TAPE-O-MATIC $\mathbb{B}$ TAPE RECORDER
Has exe'Lsiv: features not found on expensive recerders is simple to operate and affords proiessional quality record. ings. Precision tope index timer helps locate any cesired selection on recorded tape: "Rucord Ready" 'ight glows when tape-o-matic is set to record; automatic shut-off stops me:hanism and recorder at end of er-1; silent pause button stops tape travel instantlyi ? input jacks for microphone or radio-p'iono plug, and magnetic phonc jad with tuilt-in pre-amp; 2 output jacks, No. $\mid$ for external speaker only, No. 2 for use of extermal speaker plus recorder's two intemal speakers; plus many more features. Cismplete with quality microphone, 7 'rerl of tape and empty 7"' reel, $8^{\prime}$ AC co'd, adacter plug and patch cord. shipping wt., 32 lbs.

## V-M PORTABLE P-A SYSTEM

V-M TRI-O-MATIC MODEL 960 RECORD CHANGER
Top qual'ty unit is the famous V-M Model 950 automatic, 3 -speed -ecord changer in zompact leitherette case. Measures $165 / \mathrm{g}^{\prime \prime}$ $\times 133 / 4^{\prime \prime} \times 87 /{ }^{\prime}{ }^{\prime \prime}$. S7ipping wt., $18 \mathrm{lbs} ., 5 \mathrm{oz}$.

## V-M MODEL 160 AMPLIFIER

Features Jensen $10^{\prime}$ heavy-duty Alnico 5 PM speaker with $25^{\prime}$ cord and plug for remote ase Slide-out arplifier remains near enanger or microphone. Two inputs: one for כhano, sther for high-impedance mike. Mrasares $131 / 4^{\prime \prime} \times 9^{\prime \prime} \times 147 / 8^{\prime \prime}$. Ship. ping wt., $2 \pi \mathrm{lbs}, 7 \mathrm{oz}$.

## V-M ACCESSORIES

V-M PRE-CUT MOUNTING BOARDS. Thr:= Models: 950-951, $930-935$ and 12011-1200GE. Each board individually boxed
7 -M 45 SPINDLE. Permits automatic play of up ts fourteen large center-hole records. Fits all 940, 950, 951, 930. 1200 series.

8
V-M PLUG-IN HEADS. Available in red (LP) ard turgundy (Std.). less cartridges for 935936 tone arms.
-M 'HDELIS' AUXILIARY SPEAMER ENCLCSURE

Model $26-\mathrm{M}$, African mahogany, 26 - B Champagne blonde. Two extenced-ranhe speake-s ( $4^{\prime \prime}$ and $6^{\prime \prime}$ ) complete with $55^{\circ}$ cord and olug. Measures $15^{\prime \prime} \times \mathbf{8}^{\prime \prime} \times 8^{\prime \prime}$

V-M DELUXE CONSOLE SPEAKER ENCLOSURE
Rose ind gray leatherette case matches Model 700 tape-o-matic(ik). 12" Alnico 5 PM speaker matched to portable bass eflex chaniber. Complete with carrying handle, 25 'sound cord with plug. Measu es $155 / 8^{\prime \prime} \times 201 / 4^{\prime \prime} \times 113 / 8$

## OF PHONOGRAPHS AND RECORD CHANGERS

[^24]


LEAK AMPLIFIERS

TL/IO-lll watt amslifier complete with "lount Cuse" Hemutc conital pre-amplitier.

TL $12-12$ Watt umblitier unly TL 25-\% Watt anplitter nols Vari Slope Pre Amplifier——"a Auplitiel for use with TM. I! or $\pi \mathrm{T} / 25$.


WHARFEDALE SPEAKERS Super 5-i" trelle spaker.
8 Bronze-s full rallie. Super 8/CS/AL—s" full rangt (a) 小o fut iss is tweeter)
Wio CSB-11 funge latsu fur uxe is tweeter)
Super 12 CS AL 12 full Wi2lics-1:ッ lus frefucicy
 Hriser.
1000 cycle crossover dividing nefwork. 3000 cycle crossover dividing network. 3 way cross. over dividing network, 1800 and 5,000 cycles).


## R-J ENCLOSURES


 S8MC-s" "uclosure, "mmplete unt 8" Wharfedmbe
 S8BC-Same as aboutemomde :ivish.




 F-12. B-Fur
 F-12-U-Fur 12 sluatier. Foon Shater, du" hish


S. G. BROWN HI-FI HEADPHONES

Type K—Hi-Fi Headphones of the very hichest quality. Avaliahe with binaural wiring. lie Hon cyeles. Mowlak coil iype motur assemblikes. Bakelize flux density ${ }^{5}$ standard ime peilanees - ie olams atm lino fhms. $65 / 2 \mathrm{ft}$. cord. Ragked
 filam rubler var rushtums leakhly molished headhand and
cases.

BRITISH INDUSTRIES CORPORATION

## (1)

ELECTRIC PHONO MOTORS RECORDING MOTORS
tape-disc recording assemblies
home-recording and phonograph assemblies

## TAPE-DISC RECORDING ASSEMBLY

## MODEL 250

## 115 volts a.c., 60 cycles <br> List Price $\$ 77.50$

When connected with the proper amplifier, the Model 250 performs the following functions:

- RECORDS TAPE FROM RECORDS
- RECORDS DISCS FROM TAPE
- RECORDS MICROPHONE

ON TAPE

- RECORDS RADIO ON DISC
- RECORDS micRophone ON DISCS
- records radio on tape
- plays back both tape AND discs


## TAPE RECORDING FEATURES:

One hour recording time. Dual track.
Fast forward and reverse.
Fermanent magnet erase head. Turntable acts as flywheel, giving constant tape speed. Cesigned for use with $5^{\prime \prime}$ reels. Tape speed $33 / 4$ " per second. Cesigned for use with either Plastic or paper base tape. Paper base tape. ing head electrical interlock Automatically shuts off at end of tape playback.
DISC RECORDER AND PLAYBACK FEATURES:
Cuts records up to $10^{\prime \prime}$ in diamater at 78 R.P.M.


Plays 78 R.P.M. recorded dises and all 78 R.P.M. commercial records. When pivot of arm is lifted it snaps into recording position, engages lead screw, and insures proper angle for cutting stylus.
Merely push arm down for playback.
Simple to interchange cutting stylus and playback needle.
Dimensions: Width $121 / 2^{\prime \prime}$, Length $171 / 2^{* \prime}$. Depth below mounting
plate $4^{\prime \prime}$. Equipped with G.I. amooth power, dynamically bal anced four-pole motor. Net weight $10 \frac{1 / 2}{}$ lbs. Shipping weight 14

## the general industries company, elyria, ohio

# © GENERAL INDUSTRIES © <br> Smootit Ocwer ruvonesurn norors TAPE-DISC REGORDER AND DISG REGORDERS 

Suitable for every phonograph insirument where low cost, dependable performance, compactness, light weight and quietness of operation are important considerations. GI phonomotors are even in speed and have ample power to play $10^{\prime \prime}$ and $12^{\prime \prime}$ records Fan cooling permits use in partially closed cabinets. Desigred to comply with Underwriters' Laboratories' requirements

## CONSTANT SPEEDELECTRIC PHONOMOTORS



Model LX Model LX-3 Model LX-45

## MODEL LX - 78 R. P. M. <br> MODEL LX3 - 33-1/3 R. P. M. MODEL LX45 - 45 R. P. M.

List Price, \$7.20 List Price, 8.40 List Price, 8.40 115 volts a. c., 60 cycles

Rim drive, 2-pole motor. Rubber insulated from both mounting plate and turntable for quict operation. Turatable shaft revolves with turntable, and is grooved for turntable clip. Furnished with $9^{\prime \prime}$ turntable and complete with mounting plate ready for installation.


MODEL $A X$ - 78 R.P. M.
List Price, \$6.15
$1 / 5$ volts a.c., 60 cycles
A low-priced 78 R.P.M. 2-pole, rim drive motor suitable or installation where size and cost are prime factors. Furnished with $8^{\prime \prime}$ turntable and mounting plate ready for installation.
 Parked in individual cartons. shipping weimht-3 lhes.

MODEL RM4 - 78 R. P. M. . . . . . . . List Price, $\$ 19.50$ MODEL RM4-3-33-1/3 R. P. M. . . . . . . . List Price, 20.25 MODEL RM4-45-45 R. P. M. . . . . . . . . List Price, 20.25

115 valts a. c., 60 cycles Heavy duty, rim drive. 4-pole motor. Rubber insulated from both mounting plate and turntable for exceptonally quict operation. Turntable shaft revolves with turntable and is grooved for holding clip. Retractable pin in turntabie permits playing standard records without adjustment. Efficient performance is assured by positive alignment of driving pulleys. idlar and turntable in one plane. Furnished with $10^{\prime \prime}$ weighted turntable and complete with mounting plate ready for installation.
 l'acked in individual cartons. Shippine weight-s lhs.

## DUAL-SPEED PHONOGRAPH MOTORS

MODEL DS - 45, 33-1/3 R. P. M.
115 volts o. c., 60 cycles
A novel $45-331 / 3$ R.P.M. rim drive, 2 -pole motor. Very compact. Employs a Neoprene belt for the $331 / 3$ R.P.M. speed. 45 R.P.M. speed is obtained cirect from rotor shaft. Speed is changed by a simple external lever movement. Specially designed and manufactured to hold wow and rumble to a minimum for excellent reproduction of the new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with $8^{\prime \prime}$ or $9^{\prime \prime}$ turntable, using same mounting plate. List Price, \$10.40
 complete with lurnable and monnting plate reaty for installatior. shipqine weitht-4 lus.

## MODEL DM - 33-1/3, 78.R. P. M. - MODEL DE — 45, 78 R.P.M.

115 valts a. C., 60 cycles
Novel and ingenious rim drive, 2-pole motors. Very compact. Employs a Neoprene belt for slow speeds. 78 R.P.M. speed is obtained direct from rotor shaft. Speed is changed by a simple external Icver movement. Specially designed and manufactured to hold wow and rumble to a mininum for excellent reproduction of new records. Turntable shaft revolves with turntable, and is grooved for turntable clip. Available with $9^{\prime \prime}$ turntable.

List Price, $\$ 10.40$
Dimensions: length-3 $18^{\prime \prime}$ : Width—2 $1_{4}^{\prime \prime}$ : Depth—2 $3 / 8^{\prime \prime}$ below mounting plate. Furnished conplete with $9^{\prime \prime}$ turntalile amb mouming plate ready for installation. Shipping weight- 4 lhe
I DUAL SPEED PHONOGRAPH MOTORS . . . CONTINUED ON PAGE E-33]

# © GENERAL INDUSTRIES © Smeooth Power phonograpn motors, TAPE-DISC RECORDER AND DISC RECORDERS 

## THREE-SPEED PHONOGRAPH MOTORS

## DELUXE THREE-SPEED RIM DRIVE FOUR POLE MOTOR

MODEL DSS—78, 45, $331 / 3$ R. P. M.

115 volts a.c., 60 cycles


Model DSS

Simple speed change is accomplished by shifting the idler wheel vertically to the appropriate diameter on the motor shaft for desired turntable speed. When shifting speed selector to off position, a switch turns the motor off and the idler whecl is disengaged from the motor shaft. The driving motor is of the four-pole, shaded-pole type resulting in absolute minimum of stray ficld radiation-ideally suited for use with all types of pickups including magnetic. Motor uses oilless bearings and motor is dynamically balanced to a fine degree.
Precision construction throughout-low friction oilless turntable bearing-radially operated shift lever-10 inch turntable.

List Price, $\mathbf{\$ 2 4 . 5 0}$
 complete with 10 inch turntithle, speed indicator dial, 4 , RPM record adapter, off-on switch, and monting phate rody for installation. Packed in individual cartons. ship. ping Weight (ix/2 lbs.

## THREE SPEED TWO POLE PHONOGRAPH MOTORS

MODEL SS — 78, 45, $331 / 3$ R. P. M.

115 voits a.c., 60 cycies
Very compact, threc-speed, phonograph motor using the vertical idler shifting principle. Idler wheel drives the turntable dircetly from the appropriate step on the motor shaft. Idler wheel is disengaged from motor shaft during non-operating periods. Precision construction throughout. Uses a ribbed main mounting plate to assure stability and proper relationship of all components. Rumble and wow are held to a minimum. Motor uses oilless bearing and dynamically balanced rotor. Turntable shaft revolves with turntable and is grooved for turntable clip. Available with 8 inch turn table. A 45 RPM record adapter and a speed indicator dial are furnished with each motor.


Model SS
 complete with turntahle and monting phate ready for installation. lacked in individual cartons. Shipuing Weight \& lbs.


MODEL TR - 45, 78, $331 / 3$ R. P. M.
Deluxe three-speed rim drive, 2 -pole motor. Turntable speeds of $331 / 3,45$ and 78 R.P.M. are secured through three separate pulleys running on oil-impregnated bearings and mounted on a turret plate. By means of a simple lever, the desired pulley is brought into contact with the idler wheel. The two pulleys not in contact with the idler wheel remain stationary. Symmetrical electrical and mechanical design results in minimum stray field and maximum performance. Ingenious locking device holds turret plate firmly in driving position at any of the three speeds. Available with $8^{\prime \prime}$ or $9^{\prime \prime}$ turntable. A 45 R.P.M. record adapter and speed indicator dial are furnished with each motor.

List Price, \$12.10
Model TR
 complete with turntable and mounting plate ready for installation. Shipping weight-4 lbs.

# © cenfral industries © PHONOGRAPH MOTORS, TAPE-DISC RECORDER AND DISC RECORDERS 

## DUAL-SPEED PHONOGRAPH MOTORS... (continued)

## MODEL DR - 78, 33-1/3 R. P. M. - MODEL DZ - 78, 45 R. P. M. MODEL DV - 45, 33-1/3 R. P. M. 115 volts a. c., 60 cycles

Deluxe rin drive, 4 -pole motors with a simple and positive mechanism for shifting from one speed to the other. Speed change is accomplished by means of an external push-pull lever. An ingenious mechanism raises and lowers the entire iciler assembly, disengages the idler wheel from the two-diameter motor shaft and moves the idler wheel from one diameter to the other. At the slow speed the idler wheel engages the small diameter of the motor shaft; at the fast speed it engages the large diameter. List Price, \$21.75

 plete with $10^{\prime \prime}$ turntable and mounting plate ready for installation. shipping weight-is $1 / 2$ lhs

## TAPE, WIRE AND DISC RECORDING MOTORS



## MODEL D-10

Heavy duty 4-pole, shadel pole induction motors. $1 / 20$ H.P. Free speed: 1740 R.P.M. Maximum running torque: 11 ounce-inches.
Features include: A locating and locking arrangement for both top and bottom ccevers which assures high accuracy in alignment of rotor within the stator bore; new air iatake; dual cooling fans and self-aligning, oil-impregnated sleeve bearings.
These high torque motors are used in practically all tape, wire and disc recorders now being manufactured.

List Prite, \$16.75

115 volts a. c., 60 cycles

## HOME RECORDING AND PHONOGRAPH ASSEMBLIES

MODEL GI-R85L - LP, 78 and 33-1/3 R. P. M. with conversion spring for changing the 33-1/3 R. P. M. speed to 45 R. P. M.

## 

Model GI-R90L is the standard model which has been in the GI line for several years. It cuts 120 lines per inch, and plays back records with the standard needle pressure.
The Model GI-R8sL incorporates a dual purpose pickup cartridge and an excellent and simple adjustment for playing the LP records and standard records. It cuts 160 lines per inch. In a separate envelope is furnished a conversion spring fo: changing the $331 / 3$ R.P.M. speed to 45 R.P.M. with mounting instructions printed thereon.
Both models cut records up to $10^{\prime \prime}$ diameter . . . play records up to $12^{\prime \prime}$ diameter. To shift motor from one speed to the other, merely turn the speed change dial. Beautiful walnut wood grain on steel base plate. Streamline plastic trim on pickup and cutter arm attractively engraved with legends "Reproducer" and "Recorder". Turntable recessed into we"l in base plate. Merely lower cutting arm over record disc to start recording. Convenient, depth-of-cut adjustment. Dynam-ically-balanced, rim drive, 4-pole motor. Compensating switch operated by speed change dial.


Assembly includes dual speed motor; $10^{\prime \prime}$ weighted turntable; crystal cutter; crystal pickup; compensation switch; pickup and cutter arm rests; drawn steel base plate with formed down edges.

Above prices include erystal cutter.
For (M41-10) mognetic cutter odd $\$ \mathbf{2 . 0 0}$ each.
Dimensions: Base plate- $15^{\prime \prime}$ wide; $111 / 2^{\prime \prime}$ front to back; height above lower edge of hase plate- $23 / /^{\prime \prime}$; depth below lower edge of base plate- $37 / \mathbf{s}^{\prime \prime}$. Packed in individual cartons. Shipping weicht- 17 lbs.

## ALLIANCE PHONOMOTORS

## Phonomotors

New three-speed phonomotors for record players $331 / 3,45$ and 78 RPM records New single speed 78 RPM phonomotors

## General Purpose Motors

Alliance makes a variety of fractional horse-power, shaded pole induction motors to service many specific small load applications. One of the most popular is Model B. Others are used not only in the radio-phonograph and recording industry, but in a wide range of product classifications. The motors illustrated in this catalogue are standard models designed for practical utility and to meet the maximum number of mechanical and electrical requirements for motors in this class.
(Typical uses are electranic, mechanical, electric cantrals - radia tuning and turn-table drives - dise tape and wire recarderrs - fans - heating cantrals - cain aperated mechanisms - miscellaneaus uses.)


This deluxe 78 RPM phonomotor assembly is quiet and extremely smooth in operation. It embodies all of the superior features which made the original Model 80 famous, with a new, more powerful motor.

## ALLIANCE <br> 78 RPM PHONOMOTOR MODEL JT <br> Low Cost -Ideal for Hi-Fi

Model JT is available with 8 inch and 9 inch turn-table diameters and has the same basic motor as used on Model JPT with turn-tables available in color choice. Also available for motor winding for use in series with 25L6 vacuum tube filament. Rotating spindle revolves with turntable. Features shockproof vibration mounting - a truly fine performing unit made to highest precision standards.

## ALLIANCE PHONOMOTORS



MODEL JPT - A campletely new design. Relains all af the features af ariginal madel, which became the standard of the industry, with many added impravements. Adequate reserve pawer in matar, Eliminatian af stepped pulley reduces passibility of waw and rumble. Added neutral pasitian an shifter lever remaves drive shaft fram cantact with rubber tire when instrument is nat in use. Attractive plastic knab an shifter lever available in calar. TURNTABLES AVAILABLE IN CHOICE OF COLORS. Furnished with plastic 45 RPM center disc. Can be furnished with winding far aperatian in series with 25 L6 fube
filament if desired.. Furni:hed with sperd indicatar escutchean plate. Same maunting plate cut-aut as single speed 78 RPM unit illustrated, thus praviding greater versatility far manufac. turers af phanagraph equipment.

The madel JPT pravides unimpaired perfarmance at all speeds. Siagle lever shifts and indexes speeds with freer mavement. Electranic dynamically balanced ratar. Vibratian-praaf mauntings. Minimum rumble and hum. Unexcelled sseed regulatian. Designed ta meet U. L. requirmments. Oicupies minimum space. Millians have been sald.


MODEL JP - The mast econamical player mator an the market. Available with $61 / 2^{\prime \prime}, 8^{\prime \prime}$ and $9^{\prime \prime}$ turntable diameters. Same basic matar as used an JPT madel. Same maunting cutout as three speed unit illustrated. Turntables available in calor chaice. Alsa available with matar winding far use in series with 2516 vacuum pube flament. Scintered metal tip an turntable spindle revalves with recard.

## Alliance SINGLE-SPEED PHONOMOTOR MODEL JP

List Price
$\$ 6.05$

Deluxe unit alsa available. Uses raiating turntable spindle. Shock praaf vibratian maunt ng. Same raunting cut-aut requirements as ather units shawn. A truly fine perfarming unit. Highest quality - lawest price.

## ALLIANCE MOTORS

## MODELJS MOTOR-

This new model is an extremely versatile motor of high efficiency and compact design. In realtiy JS is a "big brother" power-wise to our famous, popular MS illustrated below.

SPECIFICATIONS

|  | J5 0.600 | J5 0.800 | J5 1.100 |
| :---: | :---: | :---: | :---: |
| Stack Thickness, Inches | 0.600 | 0.850 | 1.100 |
| Locked Amps. . Cold | 0.710 | 0.920 | 0.930 |
| Lacked Watts . Cald | 35 | 50 | 55 |
| Starting Torque oz. in Cold | 1.75 | 2.7 | 2.95 |
| Idle Amps. - Hot | 0.540 | 0.670 | 0.600 |
| Idle Watts - Hat | 22 | 30 | 30 |
| Idle R.P.M. - Hot | 3470 | 3475 | 3500 |
| Full Load Amps. | 0.575 | 0.760 | 0.725 |
| Full load Watts | 29.0 | 41.5 | 44.0 |
| Full Laad Torque oz. in. | 2.7 | 4.2 | 5.1 |
| Full load R.P.M. | 2900 | 2900 | 2900 |
| Full Laad H. P. | 0.008 | 0.012 | 0.13 |
| Overall Dimensions | 2.53/64 $\times$ | 2-53/64 x | 2-53/64 x |
| (Less Shaft Extension) | $2 \cdot 13 / 32 \times 2$ | $2.13 / 32 \times 21 / 4$ | $2.13 / 32 \times 31 / 2$ |
| Weight | 1\#2 or. | 1 \# 8 oz. | 1\#13 ox. |
| Rotor Shaft In. | 0.181 | 0.181 | 0.181 |
| Shaft Ext. W. | . 750 | . 750 | . 750 |

117 volts 60 cycles, cantinuous open rating with $65^{\circ}$ centigrade lemperature rise. Motor can be supplied with internal fans for mechanical duty. Mounting hole $17 / \mathrm{B}^{\prime \prime}$ center.
Madel JS
Prices vary with stack thickness
:

## MODEL MS MOTOR

## A LEADER FOR MANY YEARS

The Alliance Model MS motor is ideal for driving fans, fimers, or rotisseries, and other applications. It is an adaptation of the quiet, smooth running motor which is used to power the Models MP8, MP9, and MP10 Phonomotors. It measures $31 / 8^{\prime \prime} \times 2^{\prime \prime} \times 13 / 4$ " not including the $7 / 16^{\prime \prime}$ long shaft extension which has a $3 / 16^{\prime \prime}$ diameter. Rotation is clockwise facing the shaft extension. Its self aligning bearings are of the porous bronze oilless type. Operating over a wide range of $A C$ voltages from 24 to 250 and frequency of 40,50 , or 60 cycles, this compact lightweight motor can be incorporated as the vital power source in all kinds of electrical and mechanical devices. Large oil wicks provide lifetime lubrication.


# ALLIANCE MOTORS GENERAL TYPES FOR SMALL LOADS 

## MODEL B Shaded Pole Induction Motor

## FOR HI FIDELITY PLAYERS FANS - RECORDERS - HEATERS and OTHER DEVICES

Model B is a 4-pole shaded pole induction motor, especially adapted for such devices as fans, unit heaters, blowers, air circulators, disc, tape and wire recorders. Comes in three standard lamination stack thicknesses. The range of power is from $1 / 100$ h.p. up to $1 / 25$ h.p. Where necessary the motor can be supplied completely enclosed.

Important advantages for Model B are economy of operation, low induced hum, low magnetic field, cool running, flexible power range and compactness. A real Hi-Fi power plant.


SPECIFICATIONS

## MECHANICAL

$33 / 8^{\prime \prime}$ square, with length of $21 / 8^{\prime \prime}$ over the end bracket for the $11 / 4^{\prime \prime}$ stack. $5 / 16^{\text {th }}$ diometer shaft.
Porous bronze, oillness type, self aligning bearings - amply proportioned, with large oil reserves.

Semi-open or fully enclosed construction. Can be supplied with oil lubes if required.

Four No. 10-32 bolts equally spaced for end mounting or motor can be supplied with mounting bushings on end covers.
$3 / 4^{\prime \prime}, 11 / 4^{\prime \prime}$ and $13 / 4^{\prime \prime}$ lamination stacks depending on rating required.

Max. weight - approx. 5.6 lbs. for largest stack thickness.
Single Phase, 4-pole, shaded pole nduction motor with squirrel cage rotor.
Approx. $1 / 25$ h.p. for fons - approx. $1 / 40 \mathrm{~h} p$. for mechoniral loads without external cooling. Entire power range runs from 1/100 h.p. to 1/:5 h.p. for seni-enclased construcion.
Starting torque opprax. $40 \%$ of torque al full load rating. 1550 r.p.m. full load speed
A. C. only - 115 valts, 60 cycles. Clockwise or counter clockwise rotation - rol reversible. Can be weund for 50 cycles ond aiher voltages.
Internal cooling fans on each end.

## FOR DETAILED INFORMATION... CATALOG SHEETS

OR ADVICE ON SPECIAL PROBLEMS WRITE THE FACTORY. ALLIANCE MANUFACTURING COMPANY ALLIANCE, OHIO

To the music lover the MIRACORD XA-100 has become a symbol of everything that could be asked for in a 3 -speed automatic changer. Wow and rumble are eliminated and the "Pausamatic" feature allows the user to silect "pause" time between records of from 5 seconds to 5 minutes. The superb craftsmanship of the MIRACORI) XA-100) permits only the recording, not the surface noise of the record. to reach your ear!

Audiophile Net $\mathbf{\$ 6 7 . 5 0}$
Audiophile with GE RPX-050 . . Net $\$ 74.50$

# * He Nixabhon XM-110 Manual Player with TRANSCRIPTION Quality! 



Truly aphonic performance is yours in this outstanding manual player. A specially designed four pole motor with a high constant speed factor is mounted in vibration-free hall hearings totally screened to prevent outside interference. High fidelity sound reproduction in the complete frequency range fills the most exacting demands of the music connoisseur.

Audiophile Net $\$ 37.50$
Audiophile with GE RPX. 050 . . . Net 44.50
The above units will be shipped completely assembled

## ACCESSORIES

No. "38" Spindle
Automatic spindle for 15 r.p.m. records. Use with MIRACORD XA-100. Holds 10 records. Consrructed of durable plastic, finished in maroon.
Supplied complere with clips for atraching spindie to base when not in Use.
Plug.In Head
Construcred of special damped plastic. The Plug. In Head will accept any standard cartridge. Sup: plied complete with turnbutton and standofs. MIRACORD XA. 100 or MIRAPHON XM. 110

Audiophile Ner \$2.50
Mounting Board
Kiln died, frisshed and sanded ready for spaining.
All hotes drilled. Specify $\times \Lambda-100$ or All holes drilled. Specify $\mathbf{X A - 1 0 0}$ or XM. 110 .

Audiophile Net \$2.50


Portable Case
Beautifully fashioned, and covered in burgundy leatheretie. Stainicess continental hardware. All clips for acressoriess atrached to the case. Addi. of the case is hin ease of operation inderallation and as special. "fall sway perminge for the corver eermits the case to be used as a base it desired. Specify XA. 100 or XM- 110 .

Audiophile Net $\$ 24.50$

Finished Base
Fashioned of seasoned plywood and covered wirh two-toned leatheretie to complement the maroon and surf.white decor of the unit. Specify XA. 100 or XM. 110 .

# SCOTCH Magnetic Tape 

The acknowledged international standard of the recording industry
Rigid manufacturing standards, continuous research and testing have made "scoтсн" Brand Magnetic Tape the international quality standard. More recording engineers use "sсотсн" Brand Magnetic Tape than all other brands combined. Ask for it-look for it in the distinctive plaid decorated box. The brand name "sсотсн" is your assurance of sound quality.

## Scotch Magnetic Tape is avaliabie in the

 FOLLOWING IYPES AND SIZES:
## No. 190 (*A or**B)SCOTHCH Magnetic Tape Extra Play plastic base-high potency red oxide coating

$50 \%$ more recording time on one single reel means new freedom from reel change. Exclusive feature is a thinner coat. ing of high potency oxide which gives an appreciably extended bigb frequency range.

| STOCK NO. | SIZE | LIST PRICE |
| :---: | :---: | :---: |
| 190A-9-100G | $1 / 4^{\prime \prime} \times 900 \mathrm{ft}$. plastic reel | \$ 4.50 |
| 190A-18-100G | $1 / 4^{\prime \prime} \times 1800 \mathrm{ft}$. plostic reel | + 7.70 |
| 190A-36H-100G | $1 / 4^{\prime \prime} \times 3600$ ft. (NARTB Hubl | 14.40 |
| 190A-36R-100G | 1/4" $\times 3600$ ft. (NARTB $101 / 2^{\prime \prime}$ Roll) | 17.25 |
| 190A-72H-100G | $1 / 4 " \times 7200 \mathrm{ff}$. (NARTB Hubl | 28.80 |
| 190A-72R-100G | $1 / 4^{\prime \prime} \times 7200 \mathrm{ft}$. (NARTB Reel) | 34.80 |



High fidelity plastic tape for every recording need, the acknowledged international standard of the recording industry. Exclusive DRY LUBRICA. TION process insures fiawless performance under all climatic conditions.


STOCK NO.
111A-1.5 $\quad 1 / 4^{\prime \prime} \times 150 \mathrm{ft}$. plastic reel
$111 \mathrm{~A}-3 \quad 1 / /^{\prime \prime} \times 300 \mathrm{ft}$. plastic reel
LIST PRICE
$\$ 1.00$
111 A-6 $\quad 1 / 4^{\prime \prime} \times 600$ ft. plastic reel
1.75
$111 A-12 \quad 1 / 4^{\prime \prime} \times 1200 \mathrm{ft}$. plastic reel
$111 A P-12 \quad 1 / 4^{\prime \prime} \times 1200 \mathrm{ft}$ plostic professional reel

$111 A-24 R \quad 1 / 4^{\prime \prime} \times 2400 \mathrm{ff}$. NARTB $101 / 2^{\prime \prime}$ reel
$1 / /^{\prime \prime} \times 2400 \mathrm{ff}$. NARTB $101 / \mathrm{m}^{\prime \prime}$
$1 / 4^{\prime \prime} \times 4800 \mathrm{ff}$. NARTB $14^{\prime \prime}$ reel
0.00
12.85
20.00
26.00

SIZE
$1 / 4^{\prime \prime} \times 300 \mathrm{ft}$. plostic reel. $1 / 4^{\prime \prime} \times 600 \mathrm{fi}$. plastic reel $1 / 4^{\prime \prime} \times 1200 \mathrm{ft}$. plastic reel $1 / 4^{*} \times 2400 \mathrm{ft}$. NARTB hub $1 / 4^{\prime \prime} \times 2400 \mathrm{ff}$. NARTB $101 / 2^{\prime \prime}$ reel $1 / 4$ " $\times 4800$ ff. NARTB hub ree

LIST PRICE
\$ 2.00
4.00
6.50
12.00
14.85
24.00
30.00
*A Magnetic coating wound loce in.

* Magnelic coating wound face out.

Empty reels and boxes may also be purchased

111 AP is supplied on $7^{\circ}$ plastic reel with special $23^{\circ}$ hub. Other 1200 ft . lengths (7" reels) of topes ore supplied on new "V" slot ?" reels with $21 / 4$ "hubs.

## Scöticn Splicing Tape \#41



This is a pressure sensitive tape specially designed for splicing magnetic tape. Its white thermosetting adhesive will not ooze and cause sticky splices when spliced to magnetic tape. $1 / 2^{\prime \prime} \times 150^{\prime \prime}$ length on handy metal utility dispenser. Stack Na. 41-1/2s
. Lis1 price $39 \$$

Scötch Leader \& Timing Tape \#43


This is a tough $1 / 4^{\prime \prime}$ highimpact strength paper tape that can be spliced to magnetic tape for a threading leader, identification of selections within reel, for cueing and exact timing. $1 / 4^{\prime \prime} \times 150 \mathrm{ft}$. length.
Stock No. 43-1.5 . . . . . . . . . List price $60 \downarrow$

Scö̀cн Write on Labels \#48

"Scotch" Brand Write on Labels are specially designed for identifying reels. They are printed with "Reel No.--Date-Subject", and are available on handy metal utility dispensers. Stock No. 48-3/4 S
. List price 254
\& MANUFACTURING CO., St. Paul 6, Minn.

## * Diflod raplacement nezolfs *



IMPORIANT NOTICE! Wolsomodel numbers olso indisole speciscotions os follows A-Altoy S-Sapphire (5yn.) MG-MicroGroove AG-All-Groove (3-specd)


## * Melad raplacemant najelas *

| CARTRIDGE NUMBER | illustration | Cartridge M'fctr's Needle Number | WALCO <br> neEdLe number | LIST PRICE | WALCO DIAMONDS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | NUMBER | LIST PRICE |
| Prilco |  |  |  |  |  |  |
| 35.2671.1 | $\xrightarrow{2}$ | 45.1597 | W.304 | 1 so |  |  |
| 35.2671-1 | - | 45.1651 | w. 305 | 2.00 | W-300 | 25.00 |
| 45 1609. 55.1612 | 1 | 45.1613 | W.4smga | 1.50 |  |  |
| 45.1609. 451612 | $1-$ | 45.1613 | w-4smbs | 2.00 | W-45MGD | 25.00 |
| 7616.99 | 1 | 35.2693 | W-46TPA | 2.50 |  |  |
| 76.4649 | L | 45.9589 | w.4strs | 3.50 | W-469pD | 49.50 <br> 30.00 |
| 45.9792 | L- | 45.9793; 45.1993 | w-47 mos | 2.00 | W-47MGD | 25.00 |
| Oynamic Reproducer |  | 45.1596 | w-ass | 2.00 | W-48D | 25.00 |
| RCA |  |  |  |  |  |  |
|  | $\cdots \mathrm{l}$ | 79983(M) | W.JmGA | 1.50 |  |  |
| 74984. 76297 | $n \times-1$ | 74983 (9) | W-3mGs | 2.00 | W-3MGD | 25.00 |
| 75044 <br> 75044 <br> 7504 | $\cdots$ | $\begin{aligned} & 750.05(\mathrm{M}) \\ & 75046 \mathrm{M}) \\ & \hline \end{aligned}$ | W. ${ }_{\text {Wrat }}^{\text {Wrama }}$ | 1.30 |  |  |
| 75044 <br> 75044 <br> 7893 | $\cdots$ | $\begin{aligned} & 75045(1) \\ & 75046 \mathrm{fl}) \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { W.7.75 } \\ & \text { W-29MGS } \end{aligned}$ | 2.00 | ${ }_{\text {W. }}^{\mathbf{W}} \mathbf{- 2 9 0}$ | 25.00 |
| $\begin{aligned} & \text { 70332:70338:70339:72551;74067 } \\ & 74625: 75976: 9490: 38453 ; 38598 \end{aligned}$ |  | ${ }_{7}^{72348}$ | $\begin{aligned} & \text { W-425 } \\ & \mathbf{W}-42 m G S S \end{aligned}$ | 2.00 <br> 300 <br> 100 | $\begin{aligned} & \text { W.42D } \\ & \text { W.42MGD } \\ & \hline \end{aligned}$ | 25.00 |
| 39550. 39851: 39919 |  |  | W.43A | 1.30 |  |  |
| 75475 <br> 75475 <br> 7585 | $\square$ |  | W. 44 MGA | $1{ }^{30}$ |  |  |
| 75473 <br> 75973 | $\cdots$ | $\begin{aligned} & 75497 \\ & 75496 \end{aligned}$ | $\begin{aligned} & \text { W. } 445 \mathrm{~s} \\ & \text { W-44MGS } \end{aligned}$ | - ${ }_{2}^{200}$ | $\begin{aligned} & W-44 D \\ & W-4 M D \end{aligned}$ | 25.00 |
| 74066 | $\xrightarrow{\circ}$ | 74672 | w,himas | 3.50 | W.67mGD | 27.50 |
| RONETE |  |  |  |  |  |  |
| IYPE P <br> TYPE 0 10-284.N.TO.284.OV RA284 | \% | $\begin{aligned} & 53041 \\ & 5304 \mathrm{~N} \end{aligned}$ | $\begin{aligned} & \text { W.64MGS } \\ & \text { W.64S } \\ & \text { W.64AGS } \end{aligned}$ | 2.00 | $\begin{aligned} & \text { W-64MGD } \\ & \text { W. } 640 \\ & \text { W-64AGD } \end{aligned}$ | 25.00 |
| SE3BURC |  |  |  |  |  |  |
|  | $5$ |  | w.s3s <br> w.sjmgs | $\begin{aligned} & 2.00 \\ & 2.00 \end{aligned}$ | $\begin{aligned} & \text { W.53D } \\ & \text { W.53MGD } \end{aligned}$ | 25.00 |
| SHURE |  |  |  |  |  |  |
| W.22AG, W. 22AB.T, W22A: WC 22AB P76Y, Pigary. | - | Recommended tor orest results in furn. ouefmodels |  | 1.50 |  |  |
|  | $\sim$ |  | $\underset{\text { W. }-295}{\text { wigas }}$ | 2.00 3.00 | $\begin{aligned} & W-290 \\ & W-29 M G D \end{aligned}$ | 25.00 |
| W60A. W60日, W618 W60H5, P30, P 30 B P70 P $74 A 0$ P76, P76AK <br> P30日, P70, P74AO P76, P76AF. P7OA P75A, W668 | $\sim$ |  | $\underset{\mathbf{W}}{\mathbf{W}-30 \mathrm{MagGA}} \underset{\mathbf{W}}{\mathbf{W}-30 \mathrm{GAGA}}$ | $\begin{array}{r} 130 \\ 130 \\ 1.50 \\ \hline \end{array}$ |  |  |
|  |  |  | w. 305 <br> W-30MGs <br> W JoAG | $\begin{aligned} & 2 . \infty \\ & 2 . \infty \\ & 2.00 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathbf{W}-30 D \\ & \mathbf{W - 3 0 M G D} \\ & \mathbf{W}-30 A G D \end{aligned}$ | 25.00 |
|  | +-5 | AS2A AS3MG AS6U | W-31A <br> W. 31 MGA <br> W-jiAGA | $\begin{aligned} & 190 \\ & 1.50 \\ & 150 \\ & \hline \end{aligned}$ |  |  |
| $\begin{aligned} & \text { WC } 338 \\ & \text { W3AR. WC } 31 A R \\ & \text { WC36E. W } 368 \end{aligned}$ |  | $\begin{aligned} & \text { AS1A } \\ & \text { ASSMG } \\ & \text { AS70 } \end{aligned}$ | W.JIs <br> w.31MGS <br> W-jiags | $\begin{aligned} & 2.00 \\ & 3.00 \\ & 2.00 \\ & \hline \end{aligned}$ |  | 25.00 |
| WS6N |  | 4680 | w-80c | 2 so |  |  |
| $\begin{aligned} & \hline \text { PC12 } \\ & \text { PC13 } \\ & \text { PC14 } \\ & \text { WC38 } \end{aligned}$ | m |  | W. 325 <br> W.32MGS <br> W-32AGS <br> W-32A <br> W-32MGA <br> W-32AGA | $\begin{aligned} & 2.00 \\ & 2.00 \\ & 2.00 \\ & 1.30 \\ & 1.50 \\ & 1.50 \\ & \hline \end{aligned}$ | $\begin{aligned} & W-32 D \\ & \text { W-32MGD } \\ & W .32 A G D \end{aligned}$ | 25.00 |
| PC2 |  |  | $\begin{aligned} & \text { W-35TPS } \\ & \text { W.35TPA } \end{aligned}$ | $\begin{aligned} & 3.50 \\ & 2.50 \end{aligned}$ | $\begin{aligned} & \text { W.35PPD } \\ & \text { W.3505 } \end{aligned}$ | $\begin{aligned} & 49.50 \\ & 30.00 \end{aligned}$ |
| $\begin{aligned} & \text { PC4 } \\ & \text { PC5 } \end{aligned}$ | Sen |  | $\begin{aligned} & \text { W-33TPS } \\ & \text { W-33TPA } \end{aligned}$ | $\begin{aligned} & 3.50 \\ & 2.50 \end{aligned}$ | $\begin{aligned} & \text { W-33ipd } \\ & \text { W-33DS } \end{aligned}$ | $\begin{array}{r} 49.50 \\ 30.00 \end{array}$ |
| - PC4zad |  |  | $\begin{aligned} & \text { W-34S } \\ & \text { W-34MGS } \\ & \text { W-34A } \\ & \text { W.34MGA } \end{aligned}$ | $\begin{aligned} & 2.00 \\ & 2.00 \\ & 1.50 \\ & 1.50 \end{aligned}$ | $\begin{aligned} & \text { W.34D } \\ & \text { W.34MGD } \end{aligned}$ | D 25.00 |
|  |  | SONOT | NE |  |  |  |
| $\begin{aligned} & \text { w. } 1590.3 \\ & w .7590 .2 \\ & w .7590 .1 \end{aligned}$ | $\cdots$ | $\begin{aligned} & 7590.3(\mathrm{M}) \\ & 7590.2(\mathrm{~m}) \\ & 5990 \mathrm{M}) \end{aligned}$ | w.ja <br> W.jAGA <br> W.JMGA | (1.50 |  |  |
| $w .390 .3$ <br> $w .7590 .2$ <br> $w .75990 .1$ | $\longrightarrow$ | $\begin{aligned} & 7593010 \\ & 7590 \\ & 7990.110 \\ & 7911 \end{aligned}$ | $\begin{aligned} & \text { W-JS } \\ & \mathbf{W - J A G S} \\ & \text { W.JMGS } \end{aligned}$ | $\begin{aligned} & \mathbf{3 . 0 0} \\ & i .00 \\ & 7.00 \end{aligned}$ | $\begin{aligned} & \text { W.3D } \\ & \text { W.3MGD } \\ & \text { w.JAGD } \end{aligned}$ | 25.00 |
| $\begin{aligned} & \hline \text { w. } 99805 \\ & w .998050 \end{aligned}$ |  | 99875 | w.tstes | 3.50 | $\begin{aligned} & \text { W.75TPD } \\ & \text { w.750s } \end{aligned}$ | $\begin{aligned} & \mathbf{5 0 . 0 0} \\ & 30.00 \end{aligned}$ |
| 1 l |  | NIP | $\begin{aligned} & \text { W.76MGS } \\ & \text { W.76s } \end{aligned}$ | 2.00 | $\begin{aligned} & \text { W-76MGD } \\ & \text { W-760 } \end{aligned}$ | 25.00 |



[^25]**A vailable 12 needies to o counter disploy cord
*** Available 12 packages to a counter display card
Alt WALCO conventionol stonk needies, unless otherwise stoted, ore ovollable in !wo irpes of pockoging:
(1) Colorful sounter displays of 12 needios eoch and
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## FERRO-SHEEN irish SHAMROCK \#300

The ultimate in professional magnetic recording tapes for broadcast and studio use. A premium quality, wax-free, pre-selected tape, manufactured by the exclusive irish "FERRO-SHEEN" process which results in recuced read wear, extended frrquency range and reduced "dropouts." Has a 5 -foot Mylar leader and comes in a dust-prooi polyethylene bag. I. 5 mil plastic base.

| Size | Reel | Hi-Fi Net |
| :---: | :---: | :---: |
| $600^{\circ}$ | plastic | 2.40 |
| $1200{ }^{\prime}$ | plastic | 3.80 |
| 2400 | hut only, NART8 | 6.90 |
| $2400{ }^{\prime}$ | metal or fiberglass. | 8.60 |
| 4800 | hut only, NARTB. | 13.80 |
| $4800{ }^{\prime}$ | meral or fiberglass | 17.40 |


irish GREEN BAND
PROFESSIONAL \#211
Professional quality tape for the broadcast sta tion, recording studio and for all applications where professional standards are required. Every reel inniformly manufactured to the exact standards of the NARTB 1.5 mil plastic base
Size Reel Hi-Fi Net

${ }_{2400^{\prime}}$ Pastic NARTB hub only $\quad 3.30$

2400 NARTB nuw only
$2400^{\prime}$ NARTB $101 / 2^{\prime \prime}$ metal $\quad 7.71$
4800 NARTB hub only
$4800^{\circ}$


FERRO-SHEEN irish LONG-PLAYING TAPE \#600
This new FERRO-SHEEN tape, on I-mil Mylar has the same superior featuies of Shamrock $\# 300$. Extends the playing time $50 \%$ over conventional type, on the same size reel.

| Size | Reel |  | Mi-Fi Net |
| :---: | :---: | :---: | :---: |
| 225' | plastic |  | \$ 1.16 |
| ${ }^{450}$ | plastic |  | 1.85 |
| 900' | plastic |  | 3.05 |
| $1800^{\prime}$ | plastic |  | 5.50 |
| ${ }^{3600}{ }^{\prime}$ | NART8 | hut only | 11.00 |
| $3600{ }^{\prime}$ | Tiberglas |  | 12.90 |
| $3600^{\circ}$ | NARTB | 10\%: metal... | 12.90 |
| $7200{ }^{\prime}$ | NARTB | hut only | 21.97 |
| 7200 | NARTB | 14" metal | 26.23 | NAR B adaptor needed. irish Long Play tape also available on acetate kase.


irish
BROWN BAND \#195

Quality, plastic-base tape, ecenomically priced, specifically designed to reproduce the frequency range between 100 and 8000 cps . Recommended. for all non-hi-fi applications in homes, offices, schools and churchtis.
Size
Reel
Hi-Fi Net
plastic $\$ 1.50$
1200' plastlc


FERRO-SHEEN irish SOUND PLATE \#220

The super-tough recording tape pioneered by Orradio, now on 1.5 mil Mylar base, made by the FERRO-SHEEN process. For all applications requiring abnormal physical strength, such as safeguarding tape-master, etc. Recommended for electronic photography, telemetering, etc.
Size Reel Mi-Fi Met

$1200^{\circ}$ plastic ................. 5.50
1400 NARTB hub only 9.00
2400 fiberglass 10.75
2400 年 $101 / 2^{\prime \prime}$ retal 10.75

irish
COLLECTOR'S CABINET
Solves the problems of reel storage and identification. Incluces three $600^{\prime}$ reels of irish GREEN BAND tape, one roll splicing tape, 150 roll of le.sder stock, 20 irish reel tabs and one each empty $600^{\circ}$ and $150^{\circ}$ reel.
Hi-Fi Net

## Made in U. S. A. by ORRADIO INDUSTRIES, Inc., Opelika, Alabama

World's Largest Exclusive Magnetlc Tape Manufacturer

| Permo Noedle Number | Cartridge Originatora Name and Neodie Number |  | Permo Needte Number | Carteldge Origlnators Name and Noedie Number |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| A-300 | Shure | A65MO(J). | AC-336 | Webster Chieago | NE215(M\&M). |
| C-301 | Astatic | Nylon(M). Nylon(J). | A-337 | Electro Voice | O-1(M). |
| A-302 | Webster Electric | 221-12882. | AC-338 | Webster Chicago | NE316(M\&M). |
| C-303 | Webster Electic | 221-14688. | A-339 | Electro Voice | S-1 (J). |
| A-304 | Asentic RCA | $\begin{aligned} & \mathrm{O}(\mathrm{M}) . \\ & 74985(\mathrm{M}) . \end{aligned}$ | C-340 | Electro Voice | O-3(M). |
|  |  |  | C. 341 | Astatic/Markel | D(M). |
| A-305 | Astatic Columbla | $\begin{aligned} & \text { Q-33(J), Q-33(X). } \\ & 3135(\mathrm{~J}), 3521(\mathrm{~J}), 3709(\mathrm{~J}) . \end{aligned}$ | B-342 | Astatic | D-AG(M). |
|  |  |  | A-343 | Astatic | D-33(M). |
| E-306 | Electro Voice O-2(M). |  | C-344 | Astatic | T(M). |
| B-307 |  |  | C-345 | Electro Volce | S-3(J). |
| C-308 | Astatle | Q(M). | B-346 | Electro Volce | S-2(J). |
| C-309 | Astatic | A-3(M). | A.347 | Astatle | A-1(J). |
| B-310 | Permo | Conventional Type. Conventional Type. AG4MO(M). | C-348 | Astatic | A-3(J). |
| A-311 | Permo Shure |  | B-349 | Astatic | A-AO(J). |
| C-312 |  |  | AC-350 | Magnavoz | 560138(M\&M). |
|  | Permo | Convontional Type. | AC-351 | Magnavor | 560153(M\&M). |
| AC-313 | Phlloo | ```35-2693(M&M), 45-9588(M&M). 45-9589(J&J). 45-9677(M&M). 45-9678(J&N).``` | C-352 | Magnavox | 560102(M). |
|  |  |  | C. 353 | Astatic/Markel | C-3(J). |
| A-314 | Philco/Columbia | 45-1650(J), 45-9587(J), 45-9676(J). | A-354 | Astatic/Markel | C-1(J). |
| AC-315 | Philco | $\begin{aligned} & 35-2693(M \& M), 45-9588(M \& M) \text {, } \\ & \text { 45-9677(M\&M). } \end{aligned}$ | C-355 | Astatic/Markel | C-3(J). |
|  |  |  | A. 356 | Astatic/Markel | C-1 (J). |
| A-316 | Philco/Columbla | $\begin{aligned} & 35-2678(M), ~ 45-1613(M) . \\ & 45-9586(M), ~ 45-9675(M) . \end{aligned}$ | A-357 | Astatic Columbla | $\begin{aligned} & \mathrm{Q}-33(\mathrm{M}) . \\ & \text { 3135(J). } 3521(\mathrm{~J}), 3709(\mathrm{~J}) . \end{aligned}$ |
| C-317 | Philico | $\begin{aligned} & \text { 35-2638(J), 35-2661 (J), 45-1552(J). } \\ & \text { 45-1596(J), 45-9610(J), 45-9674(J). } \end{aligned}$ | C-358 | Astatic | U-78(J), U-78(X). |
|  |  |  | A-359 | Astatic | $\mathrm{U}(\mathrm{J}), \mathrm{U}(\mathrm{X})$. |
| C-318 | Shure | A61A(J). | C-360 | Astatic | U-78(J), U-78(X). |
| A-319 | Astatic RCA | $\begin{aligned} & A-1(M) . \\ & 76323(M) . \end{aligned}$ | A-361 | Astatic | $\mathrm{U}(\mathrm{J}), \mathrm{U}(\mathrm{X})$. |
| C-320 | Shure <br> RCA <br> Webster Electric | A62A(M). <br> 75046(M). <br> 221-12211. | 363 |  |  |
|  |  |  | 364 |  |  |
| B-321 | Astatic | A-AG(M). | 365 |  |  |
| A-322 | Shure <br> RCA <br> Webster Electrle | $\begin{aligned} & \text { A63MG(M). } \\ & 75045(M) .76374(M) . \\ & 221-12419 . \end{aligned}$ | D-366 | Permo | Cutting Stylus. |
|  |  |  | AC-367 | Electro Voice | O-13(M\&M). |
| C-323 |  |  |  |  |  |
| C-324 |  |  | Conventional Type. |  |  |  |
|  |  | Permo |  | D-368 | Astatic | U-TR(J), U-TR(X). |
| C-325 | AC-369 |  |  | Electro Voice | S-13(JdJ). |
| 8-326 |  | Astatic Sonotone | $\begin{aligned} & \text { G-AG(M). } \\ & 7590-2(M) . \end{aligned}$ |  |  |
| C-327 | Astatic | $Q(J), Q(X)$. | C-370 | Permo | Conventional Type. |
| B-328 | Astatic | Q-AG(J). |  |  |  |
| B-329 | Astatic | $\begin{aligned} & \mathrm{G}-78(\mathrm{~J}) . \\ & 7590-3(\mathrm{~J}) . \end{aligned}$ | AC-371 | Wobster Electric | 221-12605. |
| C-330 | Astatic Sonotone |  | C-372 | Wobster Eloctric | 221-12881. |
| C-331 | Astatic | G-78(M). | C-373 | Wobster Eloctric | 221-12972. |
| A-332 | Astatic Sonotone | $\begin{aligned} & G(J) . \\ & 7590-1(J) . \end{aligned}$ | A-374 | Wobster Eloctric | 221-12973. |
|  |  |  | C-375 | Webster Electric | 221-13014. |
| AC-333 | Electro Volce | SO-13(J\&M). | A-376 | Webstor Electric | 221-13015. |
|  |  |  | C-377 | Webstor Electric | 221-13016. |
|  |  |  | A-378 | Wobstor Electric | 221-13017. |
| 8-334 | Astatic | G-AG(J). | B-379 | Webster Electric | 221-13320. |
| 8-335 | Shure | A67U(J). | B-380 | Webster Eloctric | 221-13745. |



## ME REGULAR NEEDLES, CUTTING NEEDLES, TAPE, DISCS, ELECTROWIPECLOTH, 45 ADAPTERS

No. 12-SERVICE MAN'S KIT List $\mathbf{\$ 2 5 . 0 0}$
'onsisting of the forluming nuse nallalar mewles


Included Free: Ouc ins. Micmosemp
Profersiunal Trools. Jemelel * siren
Iriser, Ilastic A's.


## MIRO-POINT No. 21

The Mito-Pontht Needlu is the "low surface" sberialist of the lhotune Ifine. Desnite this fact it still brinks out the huhs in a manmer onever before attained liy a areothe of this unge. Desimued to shay ulf to buth records the Siro-Joint is the outstanding nevole in the field tonday

List Price
Nemble list price. each ...................... $\$ 0.50$

Cat. No. $21 /$ C-flisplay eatal uf is nembles ... 9.00

DURPOINT No. 15
Permanmer medle for hame use. Will bay un to fonn records without changing. Takes adtlitional molish from
 peint should not bee remoned from phek ub until replate ment is neressary. l'aclied on indivintual rartio.

## Wiach Noerlit <br> Cat. No. 15.C-lisplay card of 12 nembers <br> Cat. No. 15-B- intom of 12 neentes

Cat. No. 15.C-AC-A11 Gruove
List Price
. 51.00
12.00
12.00
12.00
12.00
12.00

DUOTONE No. 20 'LIFETONE'" OSMIUM TIPPED
 tuse whth recore chankers. Its hrlliant performance couphe the whe surfare mise makes it heat for thi
 bial mand.
 comtather

Each Niedle
Cat No. 20 B
Car. No. 20.B-
Cat. No, $20 . \mathrm{C}-$ siliay card uf 12 needle
Cat. No. 20.AC-Sll frome
18.00
18.00
18.00
18.00
18.00


## SHOCKPROOF NYLON NEEDLE No. 25

Inimue in clesian. this neetile has an osmium tin on spriag stew set into a Nyton bumper. This ellminates damage to miber needle or remord should the piokup) arm the accidentally drombed. This nevdle atso climinates surface noise. Indivilualis parked in attractive lucitu
 Iteat for chilitren.

List Price Cat. No. 25-C-Dinmay carel of le neveltes. Cat. No. 25 (M) Micro-firons Cat. No. 25-(A) All Gruove
*sume prices as alonse

cme prices as aliont

DUOTONE "ELECTRO-WIPE'"
MAGIC RECORD CLOTH

- Completely remosea record statie charkes with Gat wise:
- Ends reeord "pogs" and "elieks!
- Adds momelis to record life?
- ('leans harmful hrit from recond growes Used hy leading broadeast stations and rerort companies.

1 Jitetro-Wize Masic Recorl Ploth.... $\$ \mathbf{8 . 0 0}$ Packed 12 'loths 10 a Jisnlay........... 12.00

No. 19 ''STAR'
Cat. No. 19-B
Carton of 12 ncedles
List Price

Carton of is to Iarite Case $\$ 30.00$
45.00


SAPPHIRE CUTTING NEEDLES DURAL SHANK No. 11

This peetle is similar 1 No. $1 \%$ and in atditiom i hok to more exanting speciticathons, as established hy leadinh enkineers. Anumted in Dural shank. I'arket in Mastic comainer. Each $\$ 7.50$ Avaitable Stylus No. $12 . \quad \$ 6,00$ Each, List

MICRO-GROOVE CUTTING NEEDLES $\$ 7.50$ eo. LAPPED STEEL CUTTING STYLUS No. 10
lisphay card of 10 carels - $\$ 15.00$


No. 150-REPLACEMENT KIT
Beautiful Lucite Counter Display Case - contains four drawers divided Into sections for simple selection of varions tyong of noedles. Contains suct in tho




List Price $\$ \mathbf{\$ 0 . 0 0}$

DUOTONE RECORDING BLANKS All Duotone recording discs have a "professional nitrate" coating

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|  |  | Carton | bach | - ${ }^{\text {ariont }}$ | 1:abch | C'armot | Eatal |
| (1/20 | inch | 110 | \$.45 | 1101 | \$.35 | 100 | \$.20 |
| s | inch | 50 | . 60 | 1111 | . 50 | 1110 | . 30 |
| ! 1 | fuct | :11 | . 90 | 1011 | . 70 | - |  |
| 12 | inch | $\because$ ¢ | 1.10 | - | - | - | - |



## ANNIVERSARY DEAL

sensational Ambiversary Ital which is at complete needle department at a trementaus saving. The card is very attractively printed on foll in beantiful colors. Contains the 8 , 512.00 12 Durpoint uectles - © $\$ 1.00$. 12.00 12 Mropuint necdles - (ii) ©.in . . 6.00 TOTAI L.IsT ........... $\$ 30.00$
A viliable in standart is HiPM No. 30 (. Dvallable in all speeds
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## DUDTONE REPLACEMENT NEEDLES



FOR AMERICAN MICROPHONE CARTRIDGES

| Duotone Numerical Listing | Fig． | For Carridge Type | $\begin{aligned} & \text { Type } \\ & \text { Point } \end{aligned}$ | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 596 | 8 | \＄1；s1－A；S2：\＄2－A | sted． |  |
| 597 598 59 | 9 9 | \％ | Nitlic | 1．．nt |
| 598 599 |  |  |  |  |
| FOR ASTATIC CARTRIDGES |  |  |  |  |
| 501 | 1 |  | Stid． | 1．50 |
| 502 503 | 1 |  | $\mathrm{Sta}_{1 / \mathrm{G}}$ | 2．50 |
| 504 | 2 | LT2；Livts ；M ；LT3－1；LT4－D，Di | stol． | 1．50 |
| 506 | ${ }_{6}^{6}$ | －JTw won！ | $\mathrm{Nid}_{\mathbf{N}-\mathrm{C}}$ | 2.80 1.80 |
| 516 520 50 | $\frac{1}{2}$ |  | M－G | 1.30 |
| 521 | 3 |  | stit． | 1.50 |
| 522 536 | 1 | G4．JGG－M；GCIJ；GC－1M；MG．J．M | ${ }^{31} \cdot 0$ | 1.50 1.50 |
| 537 | 1 |  | A－4 | 2.50 |
| 538 | 2 | IT4－AG | A－G | 1.50 |
| 539 540 | 3 3 | GC－AG－M\％MG－AG－M GO－ | A－G | 1．70 |
| 541 | 4 | N－M | M－G | 1.50 |
| 542 543 5 | 4 |  | sid． | 1.50 2.50 |
| 544 |  | －78．j | stu． | 2.50 |
| 554 | 47 | AG78 A＇D Nerles | ${ }_{\text {Stil }}$ | 1．50 |
| 555 556 5 | 47 48 |  |  | 1．70 |
| 570 | 47 | Ac＇：ACI）Serles． | A－G | 2.50 |
| 571 | 47 | AG78：ACD Series | Ntul． | \％．50 |
| 572 573 | 48 3 | AM－AGM：AC－AG－J | A－G | ${ }^{2}$ |
| 574 579 | ＋ | G¢－78－7 | Stil． | 5.50 |
| $\begin{array}{r}579 \\ 586 \\ \hline\end{array}$ | $\stackrel{4}{2}$ | T－J，－ | A－G | 2．90 |
| 587 | $\frac{2}{2}$ |  |  | 2．in |
| 588 | 2 | IT－4－AG：IT， 5 －AG：COL \＃ 105 | A．${ }^{\text {a }}$ | 2．50 |
| 606 607 | 7 | LT1－M；LT2－M；LT：3－M |  | 1.50 |
| 638 | 55 | fict | Twin | 3.50 |
| 642 | 55 | 5it | Twin | 3.50 |
| FOR AUDAK CARTRIDGES |  |  |  |  |
| 583 | 49 | 13－2：R－6 | Stur | 3.510 |
| 584 | 19 | 18－2： H －13 | M．a | 3．7n |

FOR COLLARS AND RONETTE


FOR CROSLEY CARTRIDGES

| 592 | 10 | 1157 ！ | ． |  |
| :---: | :---: | :---: | :---: | :---: |

FOR ELECTRO－VOICE CARTRIDGES

| $\begin{aligned} & 529 \\ & 530 \\ & 531 \\ & 532 \\ & 533 \\ & 534 \\ & 535 \\ & 575 \\ & \hline \end{aligned}$ | $\begin{aligned} & 11 \\ & 11 \\ & 13 \\ & 14 \\ & 12 \\ & 12 \\ & 11 \\ & 11 \\ & \hline \end{aligned}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| FOR GENERAL ELECTRIC CARTRIDGES |  |  |  |  |
| 566 567 568 569 | 50 50 51 51 |  |  |  |
| FOR MAGNAVOX CARTRIDGES |  |  |  |  |
| $\begin{aligned} & 526 \\ & 527 \\ & 589 \\ & \hline \end{aligned}$ | $1 \begin{aligned} & 15 \\ & 16 \\ & 16\end{aligned}$ | ［160101 |  | 1.510 3.50 3.50 |
| FOR PHILCO CARTRIDGES |  |  |  |  |
| $\begin{array}{r} 524 \\ 525 \\ \hline \end{array}$ | 19 | $\begin{aligned} & \hline 66.1620 \\ & 76-1614 \\ & \hline \end{aligned}$ | Sution | 20， |



FOR PHILLIPS OF HOLLAND


FOR RCA CARTRIDGES

| 309 | 24 | 703：38：70：339；725：1： 36919 ； |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 510 | 24 | $74067 \%$ | ${ }_{10} 18$ | 2.50 |
| 315 | 25 | 71067 ：7625 | M－a | 1.50 |
| 545 | 24 | 39350：48598：70332；39851 | Stad | 2．010 |
| 537 | 26 | 75175 | Ntid | 2.00 |
| 558 | 26 |  | Sus． | 3.50 3.00 |
| 559 | 27 | 75475 | M－6 | 3.00 |
| 560 | 97 | 75178 | M 4 － | 2.50 |

FOR SHURE CARTRIDGES

| 511 | 20 |  | Std． | 1． 50 |
| :---: | :---: | :---: | :---: | :---: |
| 312 | 28 |  <br> Wit－13：W6．j－R；170－A：P76－A： <br> 177fi－NF：1＂30－1B；1766－AV | std． |  |
|  | 20 |  | M．G | 1． |
| 317 319 | 28 | Admiral toy－all ：aiso surn－over | 3 －6 | 2.30 |
|  |  |  |  |  |
| 519 552 | 28 |  | ${ }_{\text {A }}{ }^{\text {G }}$ | 2．511 |
|  |  | W－6－4：W66－A：W26－13：W66－13 |  |  |
|  | 5 | We33－13 |  | 1．90 |
| 581 582 | 52 52 52 | W3i－AR W What AR | P1－G $A$ | 1．3110 |
| 382 508 | $5{ }^{5}$ |  | Std | 2.511 |
| 609 | 52 | W：31－AR：Went－Al | 11.6 | 2.511 |
| 510 | 32 | Werin 1s：WCa6－B． | A 6 | 2.510 |
| 643 | 48 | PC42AD | sid． | 1．50 |
| 644 | 58 | PC42Ab | 11.3 | 1．54 |
| 645 | $5 \times$ | 1642ab | sid． | $\frac{2}{2} 811$ |
| ${ }_{646} 6$ | 58 | P640 | ${ }^{31} 0$ | 2．50 |
| 647 648 | 514 | \％ 114 | Twin | 2．50 |

FOR SEEBURG CARTRIDGES

| $\begin{aligned} & 576 \\ & 577 \end{aligned}$ | $\begin{aligned} & 21 \\ & 211 \end{aligned}$ | MHN：A－25152 | ${ }_{\text {N10 }}^{4}$ | $\frac{2.511}{2.510}$ |
| :---: | :---: | :---: | :---: | :---: |

FOR SONOTONE CARTRIDGES

| $\begin{aligned} & 585 \\ & 612 \\ & 613 \\ & \hline \end{aligned}$ | 54 30 30 30 | $\begin{aligned} & \text { S.0886 } \\ & \text { w-7540 } \\ & \hline 15 \\ & \hline \end{aligned}$ | Tuin $1 / 6$ 1.6 | 2.50 |
| :---: | :---: | :---: | :---: | :---: |

FOR WEBSTER－CHICAGO CARTRIDGES


FOR WEBSTER－ELECTRIC CARTRIDGES

| 528 | 35 | F11：F14－I；F14－2；F143 | Tuin | 4.50 |
| :---: | :---: | :---: | :---: | :---: |
| 546 | 31 | 311 | Stal | 1.50 |
| 547 | 37 | A1－M；A1－M1：A5－M；Ati－M． | MO | 1.50 |
| 548 | 37 | A1－M：Al－31；AT－\＃；A6－M1． | Stl． | 1．00 |
| 549 | － $7: 16$ | ，11：A8：Ab；A：3：A：At．．． | M－ $\mathrm{H}^{\text {a }}$ | 9.80 |
| 550 | 36 | A8： 11 ．．．．．．．．．．．．． | Std． | －5110 |
| 551 | 10 |  | A．${ }^{\text {\％}}$ | 1．301 |
| 561 | 42 | F16：F16－1；F16．2 | Stil． | 1.70 |
| 562 563 | $4 \frac{15}{5}$ | $\underset{\text { F13－}}{\text { F16 }}$（16－1：F16－2 | M． 11 | 1．301 |
| 563 564 | 45 | Ci3－${ }_{\text {ch }}$ | Std | 1．511 |
| 565 | 4.5 | G＊－ | A－G | 1．．11 |
| 621 | 43 | Fis；FiJi | Stal． | 1．in |
| 622 | $4: 3$ | F゙す！F15－1． | $\mathrm{M}-\mathrm{Cl}$ |  |
| 623 | 41 | F10：F11；F゙1－1 | Stid． | 1．50 |
| 624 | 44 | F1才）F11．F11－1 | M－6 | $\because 0$ |
| 631 | 38 |  | Stil． | 1.311 |
| 632 633 | 41 | （23：A！Flis | A－C Stid． | 1． 1.811 |
| 633 634 | 399 |  |  | 1．：30 |
| 635 | if | Ws ．．．．．．． | Std． | 1． 210 |
| 635 | 16 | ． 1.11 | $\mathrm{M}-\mathrm{Ci}$ | 1．．51） |




# audiodises 



## For truly fine recording and reproduction

For more than a decade．Audiodises have consistently main－ tained their position of eminent leadership in every field of instantaneous disc recording．
A superior lacquer coating．applied to the mirror－smooth aluminum base by a patented process．gives these outstanding advantages：maximum uniformity of coating．permanent resistance to humidity．longer stylus life，freedom from audible background scratch．long playback life．hrilliant frequency response，and freedom from deterioration with are．

| Type |  | Diameter | List Price per Disc | $\begin{gathered} \text { Box } \\ \text { Contains } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| RED LABEL Ausionlises for frofessiontal use． |  |  | \＄1．28 |  |
| Exened the most exactiner demands for hiohest | hiomest | 8＂10 | 1.00 | 2 |
| quality professional recorelings．The finest |  | 12＂ | 2.30 | － |
| bisis obtainable．Aluminum hase．Double sided．Emborsed labrels． |  | $1 \mathrm{f}^{\prime \prime}$ | 4.22 |  |
| SINGLE FACE RED LABEL Audiodisce． |  | 1．＂ | 1.86 |  |
| same quality as douhle sided hed Itabel Audin－ dises．listed above． |  | $11 ;$ | 3.32 | 25 |
| YELLOW LABEL Audiodiscs for general use． |  | ， | ． 84 |  |
| High uniform quality：The popular chonice for |  |  | 1.12 |  |
| atl reneral purpose rerordints．Almminum bise． |  | ！＂＊ | $\frac{1}{3} 86$ | 25 |
|  |  | $1{ }^{\prime \prime}$ | 3.32 |  |
| REFERENCE LABEL Audiodisi＊． |  |  |  |  |
| l＇rovide maximum economy for tuist cuts． filing．reference recordings．anditions amb épuipment adjustments．AlumiDouble sided．White paper laburls． |  |  |  |  |
|  |  |  |  | 25 |
|  |  |  |  |  |
| BLUE LABEL Audiodiscs for amateur usi． |  |  |  |  |
| Same hirth quality lacquer as profissional diser，but on thinure aluminum hises．Ideal for soluols，homer，and general amateur bese． tronble siden．Blue paper lalifls． |  | $\stackrel{17}{ }$ | ． 62 |  |
|  |  |  |  | 50 |
|  |  |  |  |  |
| MASTER Auliodiscs． <br> The outstanding choice of profes－ simal recordists for use where press－ ings are to be made．（ive fitie results with either silvering or rold sput－ terings．Aluminum lase．Double sided or single face． |  |  |  |  |
|  | Double | 1：3，＂ | 3.75 | 25 |
|  | sided | 1：＂ | 5.46 6.30 | 2. |
|  |  |  | 2.30 |  |
|  |  | 1：3\％＂ | 2.64 |  |
|  | Fiace |  | 4.44 4.60 | 2.5 |

 for recomlats on romventional lumbtala

## Prices slightly higher in Pacific Coast and Southwestern Areas．



## AUDIODISC CHIP－CHASER

A simple but verferet solution to the thread removal problem in recording， The felt－linod wiper hlade is set on The dise before starting the recording the howelaser automatically and the centers windiur it un toward the center，wimding it up on the oremend most or drive pins．as the cast may be．
$\left\{\begin{array}{l}\text { for } 1 \mathrm{fi}^{\prime \prime} \text { turntahles．} \$ 7.00 \\ \text { for } 19^{\prime \prime}\end{array}\right.$
List Price for $^{\prime} 12$＂turntables．$\$ 6.00$


HOW TO MAKE GOOD RECORDINGS＂
A cormplete，anthoritative and non－ fechainal hamabook on all phases of dise ruerding－materials，equipment and fremithes．Contaills 140 pagers profusely illustratel with photo graphs，charts ant narerams．Includes a mbossary of recordintr terms．Now in its ： 1 th printingr．List price $\$ 2.00$

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microscopically matched recording and playback styli

The complete line of Audiopoints covers the full range of recording and playback needs－for professional as well as general use．Audiopoints are made by skilled craftsmen，and con－ veniently packaged in cards，boxes or envelopes．

## RECORDING AUDIOPOINTS



SAPPHIRE No．14－lenneremizel as the finest recortinus stylus mate．Short or lonir dural shank， and $5-0$ or $\mathrm{T}^{\circ}$ includerl anyle．

$$
\begin{aligned}
& \text { Lieshanluenime List Price- } \$ 7.50
\end{aligned}
$$

SAPPHIRE No． 202 －a hirlu－d fallity professional stylus．Nwor or lomg hrass blank．

List Price－$\$ 6.00$
（Rosharpeniaェ cost—\＄3．2ら）
SAPPHIRE No． 20 －－ fossumal micmarmove recordints．Short or lontr dural sutnk．List Price－$\$ 7.50$

STELLITE No． 34 －a favorite w゙ith many pro． fessimat and non－professional users．Short or lons shank． $\boldsymbol{x}^{-\circ}$ includerl angle．

List Price－ $\mathbf{\$ 2 . 0 0}$

DIAMOND LAPPED STEEL No．50－most urac－ tical and economical strlus tor mon－profersiomal usen．List Price－ 3 for $\$ 1.75$

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SAPPHIRE No．113－meets the requirements of the most critiand professional reeordists．Straight flural shank．List Price－$\$ 4.50$

SAPPHIRE No．123－for professional use with minsorroove recordinge．List Price－$\$ 2.00$
＂RED CIRCLE＂SAPPHIRE No．103－for pre－ tessmaal use with instantanuons recordiners or finsl tramserintions．Strairht dural shank．

List Price－$\$ 2.00$
＂RED CIRCLE＂SAPPHIRE No．303－same as Nir． 103 ，extepit with lent dural shank．Ideal for jumatiralel records．List Price－$\$ 2.00$

STEEL TRANSCRIPTION NEEDLE No．151－ timat steel meediles mato． $100 \%$ shadowigraphed to assure pertection of every meribe．

List Price－1 100 for $\$ 1.25$
20 for $\$ 0.25$

RESHARPENING SERVICE
Esuhhlixhed years ago，our Resharpenimg Service surfrially moduces tho overoall cost of usine sauhhire and stellite Audionoints．Each reshara
 envolnuets are available for returninu Audiopointe for waharvening．
 it spealks for ibelf


## PLASTIC BASE AUDIOTAPE

The finest. professional-quality recording tape obtainable -with maximum fidelity. uniformity, frequency response and freedom from noise and distortion.

## COLORED AUDIOTAPE

Same professional quality as above hut on blue or green plastic base. Used in conjunction with standard red-brown tape. it provides instant visual identification of recorded selections spliced into a single reel-fast. easy color cueing and color coding.

## PAPER BASE AUDIOTAPE

A professional-ruality tape that offers maximum econcmy for general recording applications where a small amomit of surface noise is not objectionable.

## TYPE "LR" (Longer Recording) AUDIOTAPE

Made on 1 mil "Mylar." it provides $50 \%$ more recording time per reel. Polyester film hase material has exceptional strength and durability, plus longer storage life.

## AUDIOTAPE ON MYLAR*

High-strength. super-durable magnetic recording tape that meets the highest professional standards of performance. Made on polyester film, it withstands extreme temperatures. is virtually immme to humidity. and gives maximum tape life mader any conditions of use or storage.
*Darom Trade Mark

 from "l" to "11.
 :Ntra mot.



AUDIO SELF-TIMING LEADER TAPE—lmrahlo matic matwial with
 ADHESIVE REEL LABEL.S-comeniont presenn allesine Jatmels wh


AUDIO HEAD DEMAGNETIZER-A 110.115 volt A.C olectromawnet assembly for remowing permanem. marnetism from mannetic recordintr hourls.

List Price, \$12.00

AUDIO HEAD ALIGNMENT TAPE——merorded with perforet alisu-






## © Miller <br> REPLACEMENT <br> NEEDLES



Export Department: JOSEPH PLASENCIA, INC. Cable "Uniontex" New York

## Canadian Representatives: ATLAS RADIO CORP. LTD. 50 Wingold St.

Toronto 10, Canada

## © Niller replaceuent needles



## RECOTON <br> 4 <br> Phoneedlles

No. 2412 SUPEROSMIUM Recoton's flne permanent-tupe needle mate uf
the tinest osmiunt alloys. Niern-tested and farthe tinest osmiunt alloys. Nerbitsested for precision results. Excentimaly gentle to records.
No. 2412-1 needle to a container....s $\begin{array}{r}\text { List Price } \\ 12.00\end{array}$

No. 2512 NYLON PHONEEDLE*
Recoton's preclsfon-mate nylon phonequile pro. vites long hours of enjoyable phays. Cnemulithonaction. Contains surface noise filter. . eliminates needle scratches. List Price No. 2512 - aectle to a eontainer.... $\$ 18.50$ No. 2512 - M for $331 / 3$ \& 45 RPM Recordings


No. 15 SUPERIOR RECOTON Rernon's damous potular-priced steel neetle. precision turned in swizerland, mate of siwedisli steel. Fine repromation ani elínination of surface noise. Gond for 12 in 15 plays. List price No. IS—Parkage of 2.5 needles to an $\$ 25$ envelope
50 enve

## ALL GROOVE NEEDLES



No. 2712 SUPEROSMIUM UNIVERSAL 3-SPEED OSMIUM TIPPED
Recoton's fine permanent-type needle made of the finest osmiutn alloys. Micro-tested and fare
tory-sented for procision results. Iowest surface bolse and hiss. Fixcemtonally gentle to reeords. List Price $\begin{array}{r}5 \begin{array}{r}1.00 \\ 12.00\end{array} \\ \hline\end{array}$

No. 2812 ULTRA UNIVERSAL 3-SPEED SAPPHIRE $\dagger$
Popular-milect samphire t thped needle featuring high-level periormane at low-level cost. duality tine resulls.
No. 2812
List Price
$\$ 1.50$

No. 2912 PRIMUS SAPPHIRE + NEEDLE Versatile . . Mmmatar priced f fateal for esery kimi of cledrical blayer incladime anto-
 follow matulatjom track of recoril fatehtaly.
 mintmi:
range.
No. 2912 Kach neelle
List Price
. $\$ \mathbf{2 . 5 0}$
30.00


No. 2124 OSMIUM TIPPED FEATHER-LITE NEEDLE
Ifecoton's nuw osmiam thused bent shank ghanepde. IPermanent type construction. Fine
villue for nedle or shis quality! No. 2124-1 nerrlle tu package...... List Price


No, 3D COMBO CARD All your needs on ONE card!

CONTAINS
12-50c 3 speed Phoneedles
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List $\$ 30.00$


## 

45 RPM RECORD INSERT
Its unimue design guranters that it will always lit: And it won't hreak under nomal use-may he und remdjusted.
Cat No. 3224-Gnutains
inserts in phe, at 2ic. ea. sturdy six spoke phastic rec'ls which turn true and RECOTON Magnetic Recordirg Tape is emstant mutput controtled. tion ghe bynamie Range with minimum background elimitating rimble and erch
microscont: irrtgularities! Withe glas latitude results in hich unform output athd tow distortion Withut critlent bias atjustment.
RECOTON Maqnetic Recording Tape is easy to erise and is guaranted for thousanils of rectriting:

 i12B Red Plasile out




HOME RECORDING DISCS

I'erfected for hame, commervial athl edurational usic these nomblar recording dises are breferred for their surface noise. Each dise is smooth rutinh unifermes coated and free from warpage. Carefully insperton REDLABEL—ALUMINUM BASE List Price
 10" parkid iin to a cartun (Noc eachi.: 40.00
 GREEN LABEL-THIN ALUMINUM BASE (per carton)
List Price


CUTTING STYLI

SAPPHIRE $\dagger$ CUTTING NEEDLES Factory Tested and Sealed Superlity ratited. embibned with finest sayharet point. For professional
 No. $5^{*-13}$ - Liss Price packed in wondell container … $\$ 6.00$ nacked in whonk, container ... $\$ 7.50$ * avaitable in "Lang Nhank: : sureify whth No. 5 No. 7 irder 1 s after catalog aralialole in Dumber. No, 7 also Speciry No. 7 Mit; when ordering.

## steel cutting needles

Crafted of the highest-grade stee! alloy to eut smooth grooves with low surfaed noise level. shaped with care (u) precision, polished to mirrar-like flimish for accurate recordings. HANi) L.ADIPED for extria effleiency.

No. $1060 \quad$ List Price 5 needles to a card........ 51.50 12 carls to a carton........ 18.00

STELLITE CUTTING NEEDLES
hesigned for professional use, these bigh-grade cutting needles have a sperial batented finish that euts at d polishes eroove of clise at same thme.
tombund with bural shank, can be lopended upon for noiseless, high fidelity performatices. Will imbrow any recorder: rec
sueed remordings.
Cat. No.
No. List Prize It-Stellte 'uthag Necdle, parked jo individsal
rard .................
2.00 1112-12 cards to a display 24.00 tSynthetic

PRECISION-TURNED CUTTING STYLI Made in Switzerland

These steel cutting styli are precksion turned of finest swedish steel alloys. They are eliamond-dast hanel-labued for cutting smonth growws with ixtremely low surfa
mum liacksround.

No. 2330 List Price liach stylus nacked in indi- 50 rach styal rontainer .........s 5.50 \%) containers to a earton.... 15.00
fran : und RECOTONCORPORATION-LONGISLAND CITY 4, N.Y.
The MASTER - 20th Edition

# RECQTON Replacement Weedles 

NO DUPLCATION:
Of the same needle under another number! Keep; youn inventory down.

SIMPLE
CONSECUTIVE
MODEL NUMBERS!
As 301, 302, 303
etc.

INVENTDRY CONTROL!
A sepanate inventory control sard for each number - moresales with less stock.
complete INFORMATION!
All the information is on the card the needle is mounted on.
†JEWEL and OSMIUM TIPPED

## Replacement Needles for Cartridges of:

ASTATIC - AMERICAN MICROPHONE - COLUMBIA • CROSLEY • ELECTRO-VOICE GENERAL ELECTRIC - MAGNAVOX • PHILCO • RCA • SEEBURG - SHURE SONOTONE • WEBSTER-CHICAGO • WEBSTER ELECTRIC • AND MANY OTHERS


For complete information regarding replacement needles, refer to Recoton Simplified Reference Guide. WRITE US - IT'S FREE! shop," andi on "nutside calls."


200 Power RECOTON Precision Microscope
 2712 R , $2 \times 12 \mathrm{R}, 2412 \mathrm{R}$ with FRFE 200 - power Recuton Micro) Scarr" on illusirated lisplay barkuround. . . . . . . . . . . . . $\$ 377.40$ No. 751 -Mctal Regilarcment cahinet contains 1 ncuple each of Cat: No. $301-14291216,2512 \mathrm{R}$. 251231618 , $271 \% \mathrm{H}$. 2812 R ,


RECOTON Ne. 171 KIT
Mere is the basie space-saring tarter kir you will want to own. "umtains puls the raost posular replarement reedles. The sturdy crey metal cabinct ran th disphayed to cimol nivantage andle the extras the kit affords can be used

No. 171-lieplacement Kit contains 1 ne区ule each of 301, 304, 310, 311, 312, 316, 317, $318,319,320,337$, , 339, $340,354,355,372$ and 388 . Includet Fstely is atractive metal rabinet, indes eards for inventory control, high-phorered jewelers' double eye louple, forens, screw dariver, mirror, assorted nuts, all in
List Price $\$ 32.00$ Convenient polyethylene bas. plus all the free nuerchandising ades cinila to No. 171 . List Price' $\$ 425.40$


No. 99 Serviceman's on the job phoneedle kit
 yet holits approxnatcly eat medles. This profit-making kit ran:


 as set of $\mathrm{B}=\mathrm{d}$-stik labels 10 fil in with catalog number of re placed neede, and your name, addiress and phone number, $\mathbf{~ L i s t ~ P r i c e ~} \mathbf{\$ 2 0 . 5 0}$

RECOTON-GOLDRING MODEL 500 TURNOVER CARTRIDGE SPECIAL FEATURES


| Catalog Number | Description | Audiophile Net Net |
| :---: | :---: | :---: |
| 500-ss | (rartrinfer equiphetl with two sapmhiret styli | \$ 9.90 |
| 500-SD | Coratige enuirned with diamond stylus for ${ }^{3}$ © $\& 4$. RIM, sapmhiret stylus for is R1'M | 23.40 |
| 500.DD | 'artridge equiphed with two diamond stsli | 36.90 |

Mu-Metal Shielding lum an akainst humb phek-un, the "inu" is chuipher
with a nu-metal shicld which isulates the ragntic mo prieces.
Replaceable Styli
diach sts'us way be replaced indepme dent is lut a walter the user.

Push-Pull Coil Assembly Exrluslye. patanted feature represents greetest moden atvance of magnetir pirk-up design. Veutralizes indlective hum from ehanger motors, Provides ascellem
signal-to-maise ratio, permittims reduced output and sinut triving mass necessary for saperb audio quality. Note: Output of
the 500 is entirely sufficient for driving o full rated power any amplinier equilppe netio carrios
lioth complendeal reernell life alal unsurpasse: modio nerturmancer are assimed thy these features. Insurpassed lys any other cart ridge, regardless of price.

## Safety Styli

11 uromped. or sulijected to pressure areater than 10 brames the stylus auto matho teram ana mermits exces thleld this feature insures that in the vent of arcideltal duppinir of the tome arm, the shock will be ta:en up by the lowidy "the piekup. and nal by the delt cite stylus tip.

## SPECIFICATIONS

Froquegey Resnomse - Virtually flat from
output - in wincoles seasured ae re
curdicd veloctey of 3.16 cm per scenad.) Normal Tracking Pressure - 6 to 7 grams when used with high-fidelity changer. on graths whe used wher player and trarseription tone arm D.C R.sistance $\boldsymbol{-} \mathbf{1 5 0 0}$ ohms. + Syntretic

Recommended Loading Resistance- 17,000 Effective Mass at Stylus Tip- 0.5 milli.
Lrams.
Lateral
Compliance Weight - I.ess than 1 oz . in lluding mount-mounting- fasily installe! in any tome Mounting-
Easily instaled in any tone
stantiard half- with nounting arm
holes.

Musicians, engineers, and music lovers are replacing their old-fashioned phonograph pickups with the sensational new ESLelectrodynamic cartridge - because only ESL reproduces the full realism and naturalness of the original sound.

## ESL CONCERT SERIES CARTRIDGE • For the andio coииоisseur



Never before-a magnificent cartridge designed for all fine arms only, with no sacrifices for record changer operation. Built around the same coil as the Professional Series, which it closely approaches in performance, the Concert Series is so superb that it is used for quality control by leading record manufacturers. Not recommended for record changers.
Diamond: ESL-CI (.001") or ESL-C3 (.00;") \$35.95

Breathtaking perfection of reproduction for the most critical broadcast, recording, and laboratory use is now made possible by this superlative reproducer. Utilizing the same principles as the other ESL cartridges, the Professional Series is the ultimate in compromise-free design, plus matchless Danish hand craftsmanship. This arm and cartridge must be used together.
ESL-310 arm ( $15 \frac{3}{4}$ ") with dianond cartridge $\$ 106.50$
ESL-310 arm ( $15 \frac{3}{4}$ ") with diamond cartridge
Additional cartridges, any stylus radius $\$ 49.50$
年


## ESL STANDARD SERIES CARTRIDGE For high guality iustallatious



This eartridge is revolutionizing home music reproduction with its brilliant performance, its rugged suitability for any arm or record changer, and its extraordinary compliance which prolongs record and stylus life. Like all ESL cartridges, the Standard Series has the exclusive, patented D'Arsonval movement which ensures clean, faithful reproduction unapproached by other pickups.
Dinnond: ESL-121 (.001") or ESL-131 (.003") \$29.95 Sapphire: ESL-ı11 (.001") or ESL-101 (.003") \$14.95

## -ESL MATCHING TRANSFORMERS • For flexibility of application



A high quality ESL step-up transformer is recommended for use with each ESL cartridge: the 201 Series for preamplifiers having low level inputs, and the 211 with insensitive amplifiers.
ESL-201 7.5 mvoutpuat 50 ohms, or 15 wvat 200 ohms $\$ 7.50$ ESL-201M An ESL-201 mounted; wired for 200 ohm ontput and instant plug-in conисction $\$ 11$
ESL-20IF Same as 201 M , plus supersonic filter and switch $\$ 15$
ESL-2 11 . 2 volts output at 90,000 ohms $\$ 6,25$

## ELECTRO-SONIC LABORATORIES, INC.

Long Island City 1, N.Y.
For listersing at its best

## 量 CIMCH-Jones sales. <br> DIVISION OF CINCH MANUFACTURING CORPORATION

## CINCH SOCKETS ARESTANDARD

## MOLDED OCTAL

-5/16" MOUNTING CENTERS


Molded from high di electric black bakelite or mica-filled low loss bakelite. Solder coated brass contacts and sturdy steel press-on type saddle with 4 ground lugs. Mounts in $1^{\prime \prime}$ chassis hole.


List Price

| No. | Description | List Price |
| :---: | :---: | :---: |
| 8RB | Black | Each $\$ .17$ |
| 8RM | Mica-Filled | Each |

## MOLDED OCTAL

$11 / 2^{\prime \prime}$ MOUNTING CENTERS
Same as 8A series molded octal above except has clinch-on type saddle with 4 ground lugs and mounts in $11 / 8$ chas* Sis hole. Available in bakelite, or ceramic.

No.
8EB
8EM
8EC

## Desc <br> Black <br> Mica-Fill



## RING MOUNT OCTAL

Molded from high dielectric black bakelite. Solder coated brass contacts. Used extensively on test equipment, public address am plifiers and on other ap paratus where sockets are exposed. Molded keyway in side engages key in chassis hoe, preventing socket from turning. Mounts in
chassis hole. Crimped retainer fing is furchassis hole. Crimped reta

| No. | Description | List Price Each |  |
| :---: | :---: | :---: | :---: |
| 8R1 | For 1/16" Chassis | Black | \$ . 24 |
| 8R2 | For 1/8" Chassis | Black | 24 |
| 8R3 | For 1/16" Chassis | Mica-Filled | . 35 |
| 8R4 | For 3/32"' Chassis | Black | . 24 |
| 8 R 5 | For 3/32" Chassis | Mica-Fille | .35 |
| 8R6 | For 1/8" Chassis | Mica-Filled | . 35 |



## RETAINER RING

A crimped retaining ing formed of spring steel that will securely anchor sock. ets designed for ring mounting, such as the one above. Standard finish is cadmium.

| No. | $\begin{array}{c}\text { Description } \\ \text { 8RO }\end{array}$ |
| :---: | :---: |
| $\mathbf{0 2 0}$ Spring Steel | List Price |
| Each $\$ .06$ |  |



## MOLDED LOKTAL

Steel mounting saddle with solder coated brass contacts and center guide clip, with locking spring. Molded from high dielectric black bakelite or mica-filled low loss bakelite. Mounts in $1^{\prime \prime}$ chassis hole.
No.
BLB Black Each $\$ .25$


MOLDED LOKTAI
Has same characteristics as molded loktal shown above, except saddle has 4 ground lugs.


List Price Ecch \$. 25 Each . 33

WAFER OCTAL
Laminated bakelite sockets with solder
coated brass positive grip contacts, Designed to fit all standard eiah prong tubes. Avaleble prong lubes. Avarable with $1 B^{\prime \prime}$ or $11 / 2^{\prime \prime}$ diameter mounting holes. styles have $11 / 2$ moserintion 8WI 1 采" Mounting Centers Each $\$ .17$ 8W2 11/2" Mounting Centers Each . 17

GLASS TUBE SOCKETS


Laminated bakelite sockets with solder coated positive grip brass contacts. $11 / 2$ mounting centers. 140
diameter
mounting holes. Designed to fit four, five and seven prong tubes.

| No. | Description | List Price |  |
| :--- | :--- | :--- | :--- |
| 4WX | 4 Prong | Each | .15 |
| 5WY | 5 Prong | Each | .15 |
| 6WZ | $\mathbf{6}$ Prong | Each | .16 |
| 7WU | $\mathbf{7}$ Prong | Each | .17 |
| 7WA | $\mathbf{7}$ Pronq (Large) | Each | .17 |



MOLDED OCTAL
$11 / 2^{\prime \prime}$ MOUNTING CENTERS

Molded from mica-filled low loss bakelite. Silver plated Beryllium copper contacts with hot tinned tails. Heavy brass saddle wickel plated with 4 ground lugs hot tinned. Conforms to JAN-S-28A Specs.

|  |  |  |  | List |
| :--- | :--- | :--- | :--- | ---: |
| No. | Description | Hole | Type No. | Pach |
| Price |  |  |  |  |

## CINCH CAPACITOR "PLUG-IN" SOCKETS

Motion picture, telephone, airborne radio, broadcasting equipment, electric organs, and other electrical equipment need instant replacement when failures in electronic circuits occur at the capacitor connections. Cinch "Know How" has solved this problem.


Designed for use with Mallory and Magnadensers Moppe condensers. Molded from high dielectric black bakelite. Sturdy steel mounting saddle has 4 ground lugs. $11 / 2^{\prime \prime}$ mounting centers. 3 recessed center contacts for extended prongs of condenser and two outer contacts tlush with surface for short prongs of condenser. All contacts are solder coated for fast, easy soldering.
No.
2 C 5

List Price
Each \$ . 63

Designed for use With Mallory and Magnavox $13 / 8 \mathrm{FP}$ Mpe condensers. Molded from high dielectric black bakelite. Sturdy steel saddle has
 centers. Four re-
 cessed center con tacts for extended prongs of condenser and three outer contacts flush with surface for short prongs of condenser. All contacts are solder coated.
No. List Price Each \$ 78

## CRYSTAL SOCKETS



Molded from high dielectric black bakelite or mica-filled low loss bakelite. Silver plated beryllium copper contacts
 on if centers. mounting hole. Socket body is thick, and fist high. For use with FT243 type thick, and
crystal.

| No. | Description | List Price |
| :---: | :--- | :---: |
| 2KB | Black | Each $\mathbf{\$ . 3 8}$ |
| 2KM | Mica-Filled | Each $\mathbf{. 4 3}$ |

## 4 PRONG



Molded from mica-filled low loss bakelite. Silver plated beryllium copper contacts on B' $^{\prime \prime}$ centers. .140 diameter mounting hole recessed ${ }^{\circ}{ }^{\circ 1}{ }^{\prime \prime}$ from surface in ${ }^{\circ}{ }^{\circ} 0^{\prime \prime}$ diameter hole. Socket body is long, है", $^{\prime \prime}$ wide, and $1 / 2^{\prime \prime}$ high. Designed for use with two No. FT243 type crystals.
No.
2K4
List Price Each \$. 51 No. Each $\$ .38$


Molded from high dielectric black bakelite or mica-inled low loss bakelite. Silver plated phosphor bronze contacts on $1 / 2 \mathbf{2}^{\prime \prime}$, centers. No. $4-40$ tap mounting hole. $11 / 8$ long, $3 / 8^{\prime \prime}$ wide and ${ }^{7} \epsilon^{\prime \prime}$ high. For No. CR-1 and CR-7 type crystals.
$\begin{array}{clc}\text { No. } & \text { Description } & \text { List Price } \\ \mathbf{2 K 1 B} & \text { Black } & \text { Each } \$ .51\end{array}$ 2K2C $\quad$ Coramic $\quad \underset{\text { Each }}{ }$. 31

DIVISION OF CMNCH MANUFACTURING CORPORATION

## 7 PIN MINIATURE SOCKETS AND SHIELDS



## MOLDED SADDLE TYPE

 Top MountMolded
hoided from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. Cadmium plated steel saddle with $7 / 8^{\prime \prime}$ mounting centers and .093 diameter mounting holes. Solder coated brass contacts. Designed for mounting Wrough top of chassis in 5/8" diameter hole. Will securely hold all standard seven pin
miniature tubes.

| No. | Description | List Price |
| :--- | :--- | :--- |
| 7AB1 | Black | Each $\$ .24$ |
| 7AM1 | Mica-Filled | Each |



MOLDED SADDLE TYPE Bottom Mount
Molded from high dielectric black bakelite or mica-filled low loss bakelite. Cadmium plated steel saddle with $7 / 8^{\prime \prime}$ mounting centers. . 093 diameter mounting holes. Solder coated positive grip brass contacts. Designed for mounting through bottom of chassis in $5 / 6^{\prime \prime}$ diameter hole. For use with all standard seven pin miniature tubes.
No. Description List Price

| 7EB | Black | Each $\$ .24$ |
| :--- | :--- | :--- |
| 7EM | Mica-Filled | Each |
| .31 |  |  |



## WAFER TYPE SOCKET

Laminations consist of $1 / 32^{\prime \prime}$ top plate and $3 / 64^{\prime \prime}$ bottom plate made from high grade chocolate XP Bakelite. Solder coated brass contacts and center shield.

| No. | Mtg. Centers | Mtg. Hole | List Price |
| :---: | :---: | :---: | :---: |
| 7W2A | $7 / 8^{\prime \prime}$ | .093 | $\$ .15$ |
| 7WL2 | $l^{\prime \prime}$ | .093 | .18 |
| 7WL4 | $1-5 / 16^{\prime \prime}$ | .136 | .19 |



- Snap-On Type Base is made of hardened carbon steel supplying ade quate spring retentivity on shield. Base has $7 \mathrm{~s}^{\prime \prime}$ mount ing centers with mounting holes that coincide with those for miniatur 7 pin sockets as established by R. M. A. standards. For use with saddle type sockets with $7 / 8^{\prime \prime}$ mounting centers illustrated on his page.
$75 B 3$
$\mathbf{1 1 / 3 2 ^ { \prime \prime }} \mathbf{H i q h}$
Each $\$ .07$


For J Slot Type
Durable steel shield bases designed for use with "J' slot type shields illustrated at left. Available in two
sizes: $7 / 16^{\prime \prime}$ high or $5 / 8^{\prime \prime}$ high. Both types have 7,8 , mounting centers.

## TUBE SHIELDS - "J' Slot Type

Durable steel shields complete with tube securing spring. "I" slot feature designed to fit securely with Cinch shield base type sockets, such as 7X. series shown above. Also fit 7SB type shield bases shown in end column at right. Avalable in three lengths:

| No. | Description | List'Price |  |
| :---: | :--- | :--- | :--- |
| 7S2 | $13 / \mathbf{n}^{\prime \prime}$ Long | Each $\$ .21$ |  |
| 7S3 | $13 / 4^{\prime \prime \prime}$ Long | Each | .22 |
| 7S4 | $21 / 4^{\prime \prime \prime}$ Long | Each | .32 |

5

Each . 32

Durable brass nickel plated shields com plete with tube securing spring. "I"" slo feature designed to fit secutely with the shield base type sockets listed above. Matervals and finishes are those required by IAN-S-23A Specrfications. Avallable in the sizos listed below. 7Sj2 13/8" Long TS102U01 \$.33 7SJ3 $13 / 4^{\prime \prime}$ Long TS102U02 7SJ4 21/4" Long TS102U03

SHIELD BASES - Snap-O

Molded from mica filled low loss bakelite or cercmic material. Shield base is attached to socket body for mounting through top of chassis. Same type as illustrated at the left. Materials and finishes are those required by JAN-S-28A Specifications. Shield base has $7 / 8^{\prime \prime}$ mounting centers.

Use No. 7SJ2, 7SJ3 or 7SJ4 shields as shown below.

| No. | Description | IAN Type No. | Price |
| :--- | :--- | :---: | ---: |
| 7JC | Ceramic | TS102C01 | $\mathbf{\$ 1 . 1 0}$ |
| 7JM | Mica | TS102P01 | $\mathbf{8 0}$ |

7XB1 Black
7XM1
7XC

Mica.Filled Bakelite
Ceramic

List
Each \$. 44 Each . 50 Each . 83

## SHIELD BASE TYPE

Shield base is attached to sock body for mounting through op of chassis. Molded from mica-filled low loss bakelite or ceramic material. Solder coated brass contacts and center with 7/" ${ }^{\prime \prime}$ mountin plated stee shield base with $7 / 8^{\prime \prime}$ mounting centers. Use below with these 7 sh shields illustrate below with these sockets

No. Description

## 9 PIN MINIATURE SOCKETS AND SHIELDS

MOI.DED - SADDLE TYPE Bcitom Moun
 lviolded fiom high dielectric black bakelite or micaHed love loss bakelite. Debottom of chassis in $3 / 4^{\prime}$ diameter hole. 1.8 mount ter mounting holes solde coater: biass contacts and center shield.

| No. | Description |
| :---: | :---: |
| 9EB | Black |
| 9EM | Mica-Filled Bakel |



## SHIELD BASE

Durable steel shield base designed for use writh shields illustrated to right. ${ }^{11 / /^{\prime \prime} \text { mounting centers. }}$. pin wafer or saddle type sockets shown ai the right.

## No.

9SB1

List Price
Each \$ . 28


TUBE SHIELDS
Made from durable steel. Complete with tube securdesioned spring. "J" slot feature designed io it securely wir type sockets illustrated to The right. Wiil also fit No. left. Available in three lencths.
 $11 / 2^{\prime \prime}$ Long
$1^{1 / 2, \prime \prime}$ Long
$2^{3 / 2}$ Long

List Price

MOLDED-SADDLE TYPE Top Mount
Molded from high dielectric black bakelite or micafilled low loss bakelite. Designed for mounting through op of chassis in ${ }^{3 / 4}{ }^{4 \prime}$ diameter hole. $11 / 8$ moirnting centers with 033 diameter mount ing holes. Sold
center shie.d.

| No. | Description | list Price |
| :--- | :--- | :--- |
| 9AB | Black | Each $\$ .36$ |
| 9RM | Mica-Filled | Each |



SHIELD BASE TYPE
Molded from high dielectric black bakelite, mica-filled low loss bakelite, or ceramic material. One-piece base and saddle with diameter mounting holes 11" centers. Solder coated brass con acts and center shield. Mounts through top of chassis in $3 / 4^{\prime \prime}$ diameter hole. Use Cinch S type shields with these sockets,

| No. | Description | List Price |
| :--- | :--- | :--- |
| 9XB | Black | Each $\$ .63$ |
| 9XM | Mica | Each |
| 9XC | Ceramic | Each |

## WAFER TYPE

Has two laminations con isting of $1^{1,}{ }^{" 1}$ top plate and bottom plate made from $11 /{ }^{\prime \prime}$ mounting enters wilh. 093 diameler holes. Solder coated brass

| No. | Mtr. Centers | List Price |
| :---: | :---: | :--- |
| 9W1 | $1-1 / 8^{\prime \prime}$ | Each $\$ .21$ |
| 9W2 | $1-5 / 16^{\prime \prime}$ | Each $\quad .22$ |

contacts and center shield
 $-1 / 8^{\prime \prime}$

TUBE SHIELD
Snap-On Type
Shield fits over and outside of shield base. Indentation on shield locks into ridge on hase of 7SB3 as shown above.

Description List Price Si $\quad$ Description Each

## MOLDED CONNECTOR PLUGS AND SOCKETS

8 CONTACT PLUG


Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on $\frac{1}{18}$ " chassis using No. 1018 retaining ring, or can be used with No. 16F cap shown below. Will fit any standard octal socket.

## No. <br> 8PB <br> List Price <br> Each \$ . 36

11 CONTACT PLUG


Molded from high dielectric black Bakelite. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on it "chassis using No. 1018 retaining ring. Can be used with No. 16 F cap shown below. Will fi No. llRB socket shown at right.
No.
List Price
11PB
Each \$ . 41

## 11 CONTACT SOCKET



Molded from high dielectric black Bakelite. Solder coated brass contacts. Mounts on ${ }^{\frac{3}{1}} 6^{\prime \prime}$ chassis using Nc. 1018 retaining ring. Can be used with No. 16F Cap shown below. Used with No. 11PB plug shown at left.
No.
List Price
11RB
Each $\$ .48$

CONNECTOR PLUGS AND SOCKETS


18G


6K2


5K2


18E


Assembled

These low cost plugs and sockets are ideal for a multitude of applications. A "Cinch" where space is at a premium. Complete assembly of plug, socket, male and female shell will close to a compact unit of li/2" long. Polarized-Nickel plated brass tube pins-Solder coated brass contacts. Plugs, sockets and shells have lock feature which prevents turning in shells.

| PLUGS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Part No. | No. Prongs | Use Skt. No. | Use <br> Shell No. | List Price |
| 5K2 | 2 | 6 K 2 | 18E | . 09 ea. |
| 5K3 | 3 | 6K3 | 18 E | .10 ea . |
| 5K4 | 4 | 6 K 4 | 18 E | .12 ea . |
| 5K5 | 5 | 6K5 | 18 E | .13 ea . |
| 5K6 | 6 | 6K6 | 18 F | .15 ea . |


| SOCKETS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Part No. | No. <br> Prongs | Use <br> Skt. No. | Use <br> Shell No. | List <br> Price |
| 6 K 2 | 2 | $5 K 2$ | 18 G | .08 ea. |
| 6 K 3 | 3 | $5 K 3$ | 18 G | $.09 \mathrm{ea}$. |
| 6 K 4 | 4 | $5 \mathrm{K4}$ | 18 G | $.10 \mathrm{ea}$. |
| 6 K 5 | 5 | 5 K 5 | 18 G | $.12 \mathrm{ea}$. |
| 6 K 6 | 6 | 5 K 6 | 18 H | $.13 \mathrm{ea}$. |

## PLUG CAPS AND SHELLS

For above Battery Plugs and for Connector Plugs and Sockets on page F-34.



## No. $3 M 11$ 3R11

MAGNAL—11 PRONG
Molded from mica-filled low loss bakelite. Socket is 1 "3" " wide and 1 """ high. Full floating silver plated beryllium copper contacts designed to insure easy insertion of tubes and yet provided excellent electrical connections. For use with 5BP1 and 2AP1 type cathode ray tubes.

Description
Mica Socket
Steel Mounting Ring

List Price Each $\$ 7.60$ Each . 53


## SECOND ANODE

## CONNECTORS

For television tubes-Silver plated snap but fon type pluy well insulated by $11 / 2^{\prime \prime}$ diam eter rubber protective cap. Snaps into opening on side of tube. Available in three engths wire leads.

Description
2"' Wire Lead
15" Wire Lead
18" Wire Lead

List Price
Each \$1.14
Each 1.33
Each 1.59

## CORONA SHIELDS

Specifically designed for Television and high vollage wide excellent prong. These cadmium plated brass shields will protions. Outside diameter .470. Hole diameter . 136 . Thickness 172 No.

List Price 3 Cl Each 5.04

## 110-250 VOLT SOCKET

## (Underwriters Listed)

When space is at a premium use this $110-250$ volt 2 prong socket. Rated at 15 Amp., 110 V . or 10 Amp., 250 V . Molded from high dielectric black bakelite. Solder coated brass contacts on $1 /{ }^{\prime \prime \prime}$ cen-
 mounting holes on $11 / 8^{\prime \prime}$ centers. Ideal for radio chassis and many other applications.
No.
List Price
2R2
Each $\$ .25$


Each $\$ .25$


DIHEPTAL 14 PRONG

Molded from high dielectric black bakelite or mica-filled low loss bakelite. $2:^{7} 2^{7 "}$ wide and $11 / 8^{\prime \prime}$ high. Possesses same features as Cinch Magnal socket shown at left.

| No. | Description | List Price |
| :--- | :--- | :--- |
| 3B14 | Black Socket | Each $\$ 2.53$ |
| 3M14 | Mica Socket | Each |
| 3R14 | Steel Mounting Ring | Each |
| 3R | .53 |  |

## SECOND ANODE CONNECTOR

For diheptal based tubes. Cadmium plated brass contact surrounded by rubber insulator $3 / 4^{\prime \prime}$ wide and $1{ }^{3} \mathbf{3}^{\prime \prime}$ " long. Snaps over . 096 diameter prong

List Price
on side of diheptal tubes.
No.
3A 1

## SUB-MINIATURE SOCKETS


No. 2H5


No. 5PC


No. 5WC


Use extensıvely for hearıng aids, radics and other electronic apparatus which require sub-miniature tubes. Molded from micafilled low loss bakelite with silver plated beryllium copper contacts. Available with 5, 6, 7 or 8 contacts. Four prong tubes use No. 2H5 five prong socket. No. 2H5 can be used as a transistor socket. No. 5PC for printed circuits. No. 5WC for wired circuits.

| No. | Description | List Price |  |
| :---: | :---: | :---: | :---: |
| *2H5 | 5 Prong | Each | \$ . 47 |
| * 2H6 | 6 Prong | Each | . 49 |
| *2H7 | 7 Prong | Each | . 52 |
| 5PC | 5 Prong | Each | . 62 |
| 5WC | 5 Prong | Each | . 67 |
| *8SM | 8 Prong | Each | . 89 |
| *Mtg. |  |  |  |


-

Each S 95

No. 8SM



Page F-4

## CINCH BATTERY PLUGS



## EQUIFLEX ALL METAL VIBRATION ISOLATORS

Equiflex Vibration Isolators consist of a double array of springs arranged to form two opposed cones, the springs serving to join the outer plate member resiliently to the inner tubular member. Within the two cones of multiple springs there is a damper consisting of two floating metal stampings held apart by an internal compression spring. The damper serves to keep the amplitude at resonance within sate limits. The mounting incorporates safety rebound washers attached to each end of the inner tubular member, thus taking care of overlcad and shock conditions and keeping the equipment within proper limits.
With this type of construction, vibration is controlled both verically and horizontally at the rated load the mounting deflects $1^{1} 0^{\prime \prime}$ (within a tolerance of zero to $10 \%$ ), whether the load is placed in the apial or the radial direction-vertical.y (either up or down), laterally (sideways. fore and aft. or diagonally). with the spring rate linear up to $1 / \mathrm{B}^{\prime \prime}$ deflection. The spring rate then stiffens slightly up to the maximum movement. The safety washers are designed to provide additional spring deflections when the mounted equipment is subjected to shock loads.
These units are made of steel finished in cadmium with a dichromote dip and will withstand a 100 hour salt spray test. Mountings will withstand 15 G shocks without damage and will keep equipment captive up to 30G's. Two types of mounting are available. Square Plate Mounting and Circular Cap Mounting as illustrated.

SQUARE PLATE MOUNTING


CIRCULAR CAP MOUNTING


|  | Load |  |  |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | in Pdst |  |  |  |  |  |  |  |
| Price |  |  |  |  |  |  |  |  |






CONTACT STRIPS
For connec－ rons which mus $\begin{aligned} & \\ & \text { m } \text { e }\end{aligned}$ quickly and eacily．Solder coat－ ed spring siefl contacts spaced on＂3，8＂centers and mounted on lis bakelite．Contacts are sized for＂8 d：ameier tube pins such as Cinch No． $13 C$ Illustrated on page F－33．

| No． | Con－ tacts | Mounting Centers | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: |
| 49－1 | 1 | $3 / 4$. | Ea．s | ． 07 |
| 49－2 | 2 | 11／8＂ | Ea． | ． 10 |
| 49－3 | 3 | 11／2＂ | E $\boldsymbol{\alpha}^{\text {．}}$ | .13 |
| 49－4 | 4 | 17／8＂ | E $\alpha$ ． | ． 16 |
| 49－5 | 5 | 21／9＂ | E $\alpha$ ． | ． 20 |
| 49－6 | 6 | 25／8＂ | Ed． | ． 23 |



## PLUG BUTTONS



Used to cover punched or drilled holes in metal，wood，fibre． ubes，plast．c，cardboard，etc．Nickel plated steel flua butions for eight popular size holes．（）ther sizes availatle，？et us know your equirements．Spring tension prongs hold flucg bctiom firmly in oosition．l！lustrations are $1 / 3$ actual size．

| No． | For hole Diameter | Cap Diameter | List Pirce Er． |
| :---: | :---: | :---: | :---: |
| 41A | 1／4＂ | ： $\mathrm{it}^{\text {a }}$ | S ． 04 |
| 41 B | $3{ }^{\prime \prime}$ | $1{ }^{1 / 4}$ | ． 04 |
| 41 C | 1／2＂ | 部＂。 | ． 04 |
| 41D | $5 / 8.0$ | $\cdots \cdots$ | ． 04 |
| $41 E$ | $3 / 4{ }^{\prime \prime}$ | 新＂ | ． 04 |
| $41 F$ | 7／8＇ | 11．＂ | ． 05 |
| 41 G | $1{ }^{\prime \prime}$ | 1：${ }^{\text {a }}$＂ | ． 07 |
| 41H | $11 / 4^{\prime \prime}$ | 1 ${ }_{\text {Bia }}$ | ． 08 |

[^26]Page F－6
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY－MINIMUM BILLING $\$ 5.00$


No.
S-302-WPC

FOR ANTENNA LEAD-IN Cinch-Iones Wall Plates provide a convenient junction beween antenna lead-in Made of steel with heavy chrome plate. Fits standard outlet box. Connection is made to a Iones S-302AB socket. Wall Plate mounting screws furnished. We suggest using a Jones P-302FHT Plug with this frit.

List Price Ea, \$1.90


No.
S-302-4WPC

FOR ANTENNA LEAD-IN and 4 CONTACT ROTOR
This Wall Plate uses a lones $\mathrm{J}-302-\mathrm{AB}$ socket for the Antenna lead-in and a S-304-
AB for the Rotor leads. Used with alliance, CTG Tool, Koenig U. S. Devices and other rotors having 3 and 4 wires. We suggest using a P-302-
FHT and P-304-FHT with this unit.

List Price Ea. \$2.30


No.
S-302-8WPC

FOR ANTENNA
LEAD-IN and
8 CONTACT
ROTOR
This Wall Plate uses a lones S-302-A.B for the antenna lead-in and a S-308-AB for the rotor leads. Used with Cornell Dubilier. Crown, Radiant and other rotors having up to 8 wires. We sugFHT and P-308-FHT for this unit.

List Price Ea.

## SERIES 101 PLUGS

The entire No. 101 Series of Plugs are identical with the exception of the cable ferrule which is furnished in four sizes as listed below. All metal parts are of brass. These Plugs fit all of the No. 101 Series Sockets. A low loss Plug and Socket ideal for high frequency connections.



## SERIES 101 SOCKETS

The No. 101 Series Sockets are furnished in three types as shown below. Base is of Brass with Bright Nickel Plated finish. Brass contact is Silver Plated. Insulation of low loss natural color XXX Bakelite. Meets Navy Specifications. The S.101-D is similar to the S-101 except that the Bakelite is recessed in the base. S-101-D Mod. is the same as S-101-D except that two sides of the base are milled as shown. Mounting Holes No. 101--No. 41 drill on $1 \mathrm{~h}^{\prime \prime}$ centers. Mounting holes No. 101-D and 101-D Mod. Nc. 30 drill on $13^{\prime \prime}$ centers.


SERIES 201

PLUGS
The No. 201 Series Plugs are of the same design as the No. 101 but are of heavier stock and larger. Made in one size only with $3 / 8^{\prime \prime}$ ferrule. All metal parts are of Brass, same finish as No. 101 Series and Wax Impregnated Ceramic insulation. Overall length $1 \frac{9}{15^{\prime \prime}}$. Prong diameter $\frac{5}{32}{ }^{\prime \prime}$. Fits only the 201 Socket.


3/4"-27 thread.
List Price
Code
P.201.3/8 Ea.
$\$ 1.13$

Code
S-201

## SOCKETS

The 201 Socket is similar to the S-101-D except larger. Brass base is Bright Nickel Plated. Brass contact is Silver Plated. Insulation is of low loss natural color XXX Bakelite. Both Plug and Socket meet Navy Specifications.
Mounting holes - No. 30 drill on $1^{\prime \prime}$ centers.


List Price $\stackrel{E}{\mathrm{Ea} .}$

## SERIES 202

## PLUGS

## SOCKETS

The 202 Series Plugs and Sockets are made in two contacts only: Metal parts are of Brass with Bright Nickel Plate. Instalation is of Molded Bakelite. Phosphor Bronze "Knife Switch" type Socket Contacts engage both sides of flat Plug Contacts-double contact area. Formed Fibre linings in caps. Polarized. Knurled nut has $3 / 4^{\prime \prime}-27$ thread. Socket Mounting Holes. No, 30 drill on l" centers.
The S-202-CCT-THR has been added to this series and when used with the P-202-CCT will make an ideal microphone


S-202-CCT-\$0.91 (Socket instead of Plug)
P-202-FHT- $\$ 0.72$
(Same as above less Cable Clamps)
S-202-FHT-\$0.74

S-202-B-S1.05
(Socket for Base
Mig.)
P-202-B- $\$ 1.02$
(Same as above except with Plug)


S-202.CCT-THR-\$1.21 (as shown above)
Used with P-202-CCT as an extension connection

## "300" SERIES PLUGS AND SOCKETS <br> General Specifications

Small in size with good separation between contacts. Made in sizes of 2 to 33 contacts. All Plugs and Sockets are polarized so that Plugs of one size cannot fit into Sockets of another size. Body of Molded Bakelite. Phosphor bronze "knife-switch" type Socket contacts engage both sides of flat Plug contacts-double contact area. Plug prongs are $5 / 32^{2 "}$ wide by $3 / 6_{4}{ }^{\prime \prime}$ thick. Formed metal caps are finished in Black Crystal. Fibre linings for caps
are also formed. Plugs and Sockets arranged for either cap or panel mounting. Two contact Plugs and Sockets are round as shown at the right, all others are rectangular. Illustrated are the P-302CCT and S-302-AB. Standard 24 to 33 contact Plugs have a special long polarizing pin in approximate center position to assist in correct insertion and removal.



Socket with Flush Plate


| No. | Contacts | List Price Each |
| :---: | :---: | :---: |
| S-302-FP | 2 | \$0.52 |
| S-303-FP | 3 | . 58 |
| S-304-FP | 4 | . 63 |
| S-306-FP | 6 | . 72 |
| S-308-FP | 8 | . 85 |
| S-310-FP | 10 | . 98 |
| S-312-FP | 12 | 1.10 |

Plug with Recessed Plate


|  | P-306-RP |  |
| :---: | :---: | :---: |
|  | List Price |  |
| No. | Contacts | Eqch |
| P-30-RP | 2 | $\$ 0.59$ |
| P-303-RP | 3 | .64 |
| P-30-RP | 4 | .70 |
| P-306-RP | 6 | .79 |
| P-308-RP | 8 | .92 |
| P-30-RP | 10 | 1.05 |
| P-312-RP | 12 | 1.16 |

Socket with Recessed Plate


Plug, Flared Hole in Cap


P-306-FHT

List Price

No.

| P-302-FHT | $\mathbf{2}$ | $\mathbf{\$ 0 . 4 9}$ |
| :--- | ---: | ---: |
| P-303-FHT | 3 | $\mathbf{. 5 4}$ |
| P-304-FHT | 4 | .60 |
| P-306-FHT | 6 | .68 |
| P-308-FHT | 8 | .77 |
| P-310-FHT | 10 | .87 |
| P-312-FHT | 12 | .99 |

Socket, Flared Hole in Cap


S-306-FHT


No. Contacts Each
S-302-FHT $2 \$ 0.51$
S-303-FHT 3 . 55

S-304-FHT 4 . 61
S-306-FHT 6
S-308-FHT 8 . 86
S-310-FHT $\quad 10 \quad 1.00$
$\begin{array}{lll}\text { S-312-FHT } & 12 & 1.14\end{array}$

Plug, Flared Hole in Cap and with Latches


P-306-FHT-L
List Price

|  | List Price |  |
| :---: | :---: | ---: |
| No. | Contacts | Each |
| P-302-FHT-L | 2 | $\$ 0.67$ |
| P-303-FHT-L | 3 | .72 |
| P-304-FHT-L | 4 | .78 |
| P-306-FHT-L | 6 | .86 |
| P-308-FHT-L | 8 | .95 |
| P-310-FHT-L | 10 | 1.06 |
| P-312-FHT-L | 12 | 1.16 |

Socket. Flared Hole in Cap and with Keepers


S-306-FHT-K
No. Contacts Each

| S-302-FHT-K | 2 | $\$ 0.68$ |
| :--- | ---: | ---: |
| S-303-FHT-K | 3 | .74 |
| S-304-FHT-K | 4 | .79 |
| S-306-FHT-K | 6 | .91 |
| S-308-FHT-K | 8 | 1.05 |
| S-310-FHT-K | 10 | 1.18 |
| S-312-FHT-K | 12 | 1.33 |

## "300" SERIES PLUGS AND SOCKETS



Socket. Flared Hole in End

S.306.FHE


Small size of caps of 302,303 and 304 will not permit FHE type. Socket, Cable Clamp in Cap

S.306-CCT

P.306.CCT.L

| P.306.CCT.L |  |  | S-306-CCT-K |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ist Price |  |  | ist Price |
| No | Contacts | Each | No | Cantrets | Each |
| P.302-CCT-L | 2 | 50.85 | S-302-CCT-K | 2 | \$0.86 |
| P.303.CCT-L | 3 | . 90 | S.303-CCT-K | 3 | . 92 |
| P-304.CCT-L | 4 | . 97 | S-304-CCT-K | 4 | . 98 |
| P-306-CCT-L | 6 | 1.05 | S.306-CCT-K | 6 | 1.09 |
| P-308-CCT-L |  | 1.13 | S.308-CCT-K | 8 | 1.23 |
| P-310-CCT-L | 10 | 1.24 | S.310-CCT-K | 10 | 1.37 |
| P-312-CCT.L | 12 | 1.36 | S-312-CCT-K | 12 | 1.51 |
| Plug, Cabl | e Clamp | in End | Socket, Cab | ble Clam | in End |


P.306-CCE

|  | List Price |  |  |  | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Contacts | Each | No. | Contacts | Each |
| P-306-CCE | 6 | S0.86 | S.306-CCE | 6 | S0.91 |
| P.308-CCE | 8 | . 95 | S-308-CCE | 8 | 1.05 |
| P-310.CCE | 10 | 1.06 | S.310.CCE | 10 | 1.18 |
| P.312.CCE | 12 | 1.16 | S.312.CCE | 12 | 1.33 |

Plug with Angle Brackets
Socket with Angle Brackets

P.315-EB

|  | P.315.EB |  | S-315-EB |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | List Price |  |  | List Price |
| Vo. | Sont-7: | E\% | No. | Conasts | E? |
| P-315-EB | 15 | S0.97 | S-315-EB | 15 | \$1.13 |
| P-318-EB | 18 | 1.21 | S-318-EB | 18 | 1.36 |
| P-321-EB | 21 | 1.52 | S-321-EB | 21 | 1.68 |
| P.324.EB | 24 | 1.84 | S-324-EB | 24 | 2.00 |
| P-327.EB | 27 | 2.16 | S.327.EB | 27 | 2.32 |
| P. 330 EB | 30 | 2.48 | S-330-EB | 30 | 2.65 |
| P-333-EB | 33 | 2.79 | S-333-EB | 33 | 2.96 |




## "300" SERIES PLUGS AND SOCKETS

Plug with Flared Hole in Top of Cap


P-315-FHT


P-315-FHE

|  |  |  |
| :---: | :---: | :---: |
| No. | Contacts | Each |
| Eacice |  |  |
| P-315-FHE | 15 | $\$ 1.28$ |
| P-318-FHE | 18 | 1.61 |
| P-321-FHE | 21 | 1.92 |
| P-324-FHE | 24 | 2.32 |
| P-32-FHE | 27 | 2.65 |
| P.330-FHE | 30 | 3.05 |
| P-333-FHE | 33 | 3.37 |

Plug, Flared Hole in Top of Cap with Latches


P-315-FHT-L
No. Contacts List Pric
P-315.FHT-I
P-315-FHT-L
$\begin{array}{lr}15 & \$ 1.44 \\ 18 & 1.77\end{array}$
P-321-FHT.L
P-324-FHT-L
P-327-FHT-L
P-330-FHT-L
P-333-THT-L

Socket, Flared Hole in End of Cap


S-315-FHE

|  |  |  |
| :---: | :---: | :---: |
| No. | List Price |  |
| S.315-FHE | 15 | $\$ 1.44$ |
| S-318-FHE | 18 | 1.77 |
| S-321-FHE | 21 | 2.09 |
| S-324-FHE | 24 | 2.50 |
| S-327-FHE | 27 | 2.81 |
| S-330-FHE | 30 | 3.21 |
| S-333-FHE | 33 | 3.53 |

Socket, Flared Hole in Top of Cap and with Keepers


S-315-FHT-K
No. Contacts

List Price
Each

## "400" SERIES PLUGS AND SOCKETS <br> (Formerly "Heavy Duty")

General Specifications

Made in 2, 4, 6, 8, 10 and 12 contacts. All Plugs and Sockets are polarized. Body of molded Bakelite. Phospher bronze "knife-switch" type Sockel contacts engage both sides of flat Plug Contacts-double contact area. Plug prongs are $1 / 4 "$ wide by $\frac{1}{6 \prime \prime}$ thick. Caps are finished in Black Crystal. and equipped with fibre lining. Plugs and Sockets arranged for cap or panel mounting.

Note: Standard angle brackets cannct be attached to S.402.AB due to narrow block and insufficient material for screw threads. A special bracket is supplied (Type 46) See illustration. The Socket fits into this bracke' which is attached tc panel.

Check the No. 2 inj Serizs Plugs and Sccke's ias:ed on. pages F-42 and F-43 which are simtiar to the 400 Series except their design increases the arespaq distances and theroto: = $=00$ g't higher voltages.

S.402-AB (No. 46 Bracket)



|  | $\begin{aligned} & \text { PLUG - With } \\ & \text { Shallow Bracket for } \\ & \text { Flush Mounting } \end{aligned}$ |  |  |
| :---: | :---: | :---: | :---: |
|  |  | Contacts | $\xrightarrow[\substack{\text { List Price } \\ \text { Each }}]{\text { che }}$ |
|  | P.402-SB | 2 | s0.87 |
|  | P.404.SB | 4 | 1.13 |
|  | P.466.SB | 6 | 1.37 |
|  | P.408.SB | 8 | 1.61 |
| P.406-Sb | P.410-SB | 10 | ${ }^{1.85}$ |
|  | P.412-SB | 12 | 2.09 |



PLUG - With Deep Brackets for Recessed Mounting


| PLUG - With Deep Brackets for Recessed Mounting |  |  |
| :---: | :---: | :---: |
| Coae | Contacts | List Price Each |
| P.402.DB | 2 | \$0.87 |
| P-404-DB | 4 | 1.13 |
| P.406-DB | 6 | 1.37 |
| P-408-DB | 8 | 1.61 |
| P.410.DB | 10 | 1.85 |
| P.412-DB | 12 | 2.09 |


S.406-LAB

## SOCKET - Less Angle

Brackets
Drilled and Tapped Unless Otherwise Specified

| Code | Contacts | List Price <br> Each |
| :---: | :---: | :---: |
| S.402-LAB | 2 | $\$ 0.49$ |
| S.404-LAB | 4 | .72 |
| S.406-LAB | 6 | .97 |
| S.408-LAB | 8 | 1.21 |
| S.410-LAB | 10 | 1.44 |
| S.412-LAB | 12 | 1.68 |



S-406-AB

SOCKET - With Angle Brackets

| Code |  | Lisi Price |
| :---: | :---: | ---: |
| Contacts | Each <br> S-402-AB | 2 |
| S0.81 |  |  |




SOCKET - With Deep Bracket for Recessed Mounting

| Contacts | List Price <br> Each |
| :---: | :---: |
| 2 | $\mathbf{\$ 0 . 9 7}$ |
| 4 | 1.28 |
| 6 | 1.61 |
| 8 | 1.92 |
| 10 | 2.24 |
| 12 | 2.55 |

# "400" SERIES PLUGS AND SOCKETS <br> (Formerly "Heavy Duty") 



P-406-FHT

## P-

PLUG - With Flared Hole in Top

Code No.
P.402-FHT
P.404.FHT

P-406-FHT
P-408-FHT
P-410-FHT
P-412-FHT


P-406-FHE

PLUG - With Flared Hole in End

Code No.
P-402-FHE
P-404-FHE
P-406-FHE
P-408-FHE
P-410-FHE
P-412-FHE

|  | List Price |
| :---: | :---: |
| Contacts | Each |
| 2 | 50.81 |
| 4 | 1.05 |
| 6 | 1.28 |
| 8 | 1.52 |
| 10 | 1.76 |
| 12 | 1.99 |



S-406-FHT

SOCKET - With Flared Hole in Top

| Code No. | Contacts | List Price <br> Each |
| :--- | :---: | :---: |
| S-402-FHT | 2 | $\$ 0.89$ |
| S-404-FHT | 4 | 1.22 |
| S-406-FHT | 6 | 1.53 |
| S-408-FHT | 8 | 1.85 |
| S-410-FHT | 10 | 2.17 |
| S.412-FHT | 12 | 2.50 |



SOCKET - With Flared Hole in End

|  | List Price |
| :---: | :---: |
| Contacts | Each |
| 2 | $\$ 0.89$ |
| 4 | 1.22 |
| 6 | 1.53 |
| 8 | 1.85 |
| 10 | 2.17 |
| 12 | 2.50 |



S-406-CCT

SOCKET - With Cable Clamp in Top

Code No.
S-402-CCT
S-404-CCT
S-406-CCT
S-408-CCT
S-410-CCT
S-412-CCT

|  | List Pric |
| :---: | :---: |
| Contacts | Each |
| 2 | $\$ 1.22$ |
| 4 | 1.53 |
| 6 | 1.85 |
| 8 | 2.17 |
| 10 | 2.50 |
| 12 | 2.81 |

SOCKET - With Cable Clamp in End

|  |  | List Price |
| :--- | :---: | :---: |
| Code No. | Contacts | Each |
| S-402-CCE | 2 | $\$ 1.22$ |
| S-404-CCE | 4 | 1.53 |
| S-406-CCE | 6 | 1.85 |
| S-408-CCE | 8 | 2.17 |
| S-410-CCE | 10 | 2.50 |
| S-412-CCE | 12 | 2.81 |

## CINCH-JONES SALES • DIVISION OF CINCH MANUFACTURING CORPORATION

## "2400" SERIES PLUGS AND SOCKETS

The 2400 Series Plugs and Sockets are designed for highest electrical and mechanical efficiency, and although they carry the same rating as the 400 Series, they will actually handle considerably higher currents due to their improved construction.
An entirely new type of socket contact has been designed. Four individual flexing surfaces make positive contact over practically their entire length. Note in the illustration how they exert maximum pressure at every point. Also note unique method of anchoring terminals in the block--they cannot be moved up or down.
This design provides greater contact surface, increased pressure, with smoother action.
Socket contacts are of phosphor bronze, cadmium plated. Male contacts are of heavy brass $1 / 4^{\prime \prime} \times 1^{\frac{1}{6}}{ }^{\prime \prime}$, cadmium plated.


Solder connecting side of Plug Body showing Recessed Pockets with Barriers around conacts. Plua contacts are also in Recessed Pockets on opposite side.


Solder connecting side of Socket Body showing Recessed Pockets with Barriers around contacts. Socket contacts are also in Recessed Pockets on
opposite side.


The contact to contact, and contact to ground distance has been considerably increased by mounting the contacts into recessed pockets with a Bakelite barrier surrounding and extending above. This method is used on both the top and bottom sides of both plugs and sockets, greatly increasing the leakage path.
The outside dimensions of corresponding plug and socket bodies are the same and can. therefore, be changed from brackets to caps, or vice versa
Two styles of brackets are furnished "SB" (shallow bracket) for flush mounting and "DB" (deep bracket) for recessed mounting. Caps are furnished with flared hole in top or end or with cable clamps in top or end. Unless otherwise specified the following size cable entrance holes will be supplied:

As noted above, the 2400 Series is furnished in $2,4,6,8,10$. and 12 contacts. All plugs and sockets are polarized.
Plug and socket bcdies are of molded Bakelite. The fibre 'inings in the caps are the same for both plugs and sockets. A shoulder extends around the face side of plug and socket presenting a finished appearance when mounted in bracket or cap.
On account of this shoulder extending around the entire face of the body blocks, angle brackets cannot be used with the 2400 Series Plugs or Sockets.
The entire 2400 Series is interchangeable with the 400 Series as 2400 Plugs fit corresponding 400 Sockets, and 400 Plugs fit corresponding 2400 Sockets.
PLUG-Less Mounting Bracket
Drilled and Tapped Unless
Specitied Otherwise

## PLUG-With Shallow Bracket for Flush Mounting


PLUG-With Deep Bracket for Recessed Mounting


P-2406-DB

|  |  | List Prics |
| :---: | :---: | :---: |
| Code | Contacts | Each |
| P-2402-DB | 2 | $\$ 1.08$ |
| P-2404-DB | 4 | 1.25 |
| P-2406-DB | 6 | 1.43 |
| P-2408-DB | 8 | 1.63 |
| P-2410-DB | 10 | 1.82 |
| P-2412-DB | 12 | 2.02 |

## "2400" SERIES PLUGS AND SOCKETS



P 2406.FHT

PLUG-With Flared Hole in Top

|  |  | List Price |
| :--- | :---: | :---: |
| Colfello. | Contacts | Each |
| P.2402.FHT | 2 | $\$ 1.08$ |
| P.2404.FHT | 4 | 1.25 |
| P.2406.FHT | 6 | 1.43 |
| P.2408.FHT | 8 | 1.63 |
| P.2410.FHT | 10 | 1.82 |
| P.2412.FHT | 12 | 2.04 |


P. 2406-FHE

PLUG With Flared Hole in End

|  | List Price |
| :---: | :---: |
| Contacts | Each |
| 2 | $\$ 1.08$ |
| 4 | 1.25 |
| 6 | 1.43 |
| 8 | 1.63 |
| 10 | 1.82 |
| 12 | 2.04 |

SOCKET-With Flared Hole in Top

|  |  | List Puce |
| :--- | :---: | :---: |
| Code No. | Contacts | Each |
| S.2402-FHT | 2 | $\$ 1.15$ |
| S-2404-FHT | 4 | 1.36 |
| S-2406-FHT | 6 | 1.54 |
| S-2408-FHT | 8 | 1.76 |
| S-2410-FHT | 10 | 1.97 |
| S-2412-FHT | 12 | 2.17 |



S-2412-FHT


S-2406-FHE

SOCKET-With Flared Hole in End

Code No:
S-2402-FHE S-2404-FHE S-2406-FHE S-2408-FHE S-2410-FHE
S-2412-FHE
Conlacls
2
4
6
8
10
12

List Prace
Each
$\$ 1.15$
1.36
1.54
1.76
1.97
2.17


SOCKET-With Cable Clamp in Top

|  | List Price <br> Each |
| :---: | :---: |
| Contacts | $\$ 1.50$ |
| 2 | 1.67 |
| 4 | 1.86 |
| 6 | 2.07 |
| 8 | 2.28 |
| 10 | 2.50 |
| 12 |  |



Code No.
S-2402.CCT
S-2404.CCT
S-2406-CCT
S-2408-CCT
S.2410-CCT
S.2412-CCT
$\qquad$

SOCKET-With Cable Clamp in End


## acrech-ones sales.

## "500" series plugs and sockets

Designed for 3,000 volts and 25 amperes per contact. Circuit characteristics, however, may alter this rating one way or the other.
Long leakage path from terminal to terminal, and terminal to ground. Contacts are brass and phosphor bronze, silver plated. Metal parts of caps and brackets are steel, parkerized (rust-proofed). Plug and socket blocks are interchangeable in caps and brackets.
All sizes are polarized in a manner 10 prevent a smaller plug being inserted in a larger socket. Thus different sizes may be used on one installation without danger of making wrong connections.
Extreme care has been taken to make terminal connections under cap very accessible both for original wiring and subsequent inspection. The cap is insulated with canvas bakelite. Plug prong cross section $\frac{5}{1}{ }^{\prime \prime} \mathrm{x} \frac{3}{32^{\prime}}$
IMPORTANT: For safety with high voltages DEEP BRACKETS should always be used on one plug or socket, when the other plug or socket has a CAP. SHALLOW BRACKETS are for use only in connecting two units, each unit having plug or socket with SHALLOW BRACKET.


## LOCKS FOR 500 SERIES pLUGS AND SOCKETS



No. 500-L Locks
Locks shown above are used in connection with any DEEP BRACKET and cap combination

The locks securely hold the units together, but they can be released instantly.
The mounting plates are made to fit all DEEP BRACKETS, and are fastened by the same screws or rivets that hold the deep brackets to the panel. Can not be used on shallow brackets. Sold in pairs only.

| PLUG |  |  | PLUG |  |  | With S | PLUC | racket |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Code | Contacts | st Price Each | Code | Contact | st Price Each | Code | Conto | ist Price Each |
| P-502.CE | 2 | \$3.48 | P-502-DB | 2 | \$3.06 | P-502-SB | 2 | \$3.06 |
| P-504-CE | 4 | 5.01 | P-504-DB | 4 | 4.39 | P-504-SB | 4 | 4.39 |
| P-506.CE | 6 | 6.54 | P-506-DB | 6 | 5.70 | P-506-SB | 6 | 5.70 |
| P-508.CE | 8 | 8.07 | P-508-DB | 8 | 7.04 | P-508-SB | 8 | 7.04 |
| P.510-CE | 10 | 9.60 | P.510-DB | 10 | 8.35 | P-510-SB | 10 | 8.35 |
| P-512-CE | 12 | 11.13 | P.512-DB | 12 | 9.68 | P-512.SB | 12 | 9.68 |
| SOCKET |  |  | SOCKET |  |  | SOCKET |  |  |
| With Cap |  |  | With Deep Bracket |  |  | With Shallow Bracket |  |  |
| Code | Contacts | ist Price Each | Code | Contact | st Price Each | Code | Contac | ist Price Each |
| S.502.CE | 2 | \$3.48 | S-502-DB | 2 | \$3.06 | S-502-SB | 2 | \$3.06 |
| S-504-CE | 4 | 5.01 | S-504-DB | 4 | 4.39 | S-504-SB | 4 | 4.39 |
| S-506-CE | 6 | 6.54 | S.506-DB | 6 | 4.70 | S-506-SB | 6 | 5.70 |
| S-508-CE | 8 | 8.07 | S-508-DB | 8 | 7.04 | S-508-SB | 8 | 7.04 |
| S-510-CE | 10 | 9.60 | S.510-DB | 10 | 8.35 | S-510-SB | 10 | 8.35 |
| S-512-CE | 12 | 11.13 | S-512-DB | 12 | 9.68 | S-512-SB | 12 | 9.68 |

Cable entrance: Because of the great variation in type and size of cables, we have considered it best not to supply cable clamps of any kind. The cap end is made to accommodate standard $B X$ clamps which may be obtained at any electrical jobbing house. The cap end will be furnished with round hole from $1 / 2^{\prime \prime}$ diameter and $11 / 4^{\prime \prime}$ diameter in steps of $1 / 8^{\prime \prime}$. if the size required is qiven on order. If no size is given, plain cap end with center punch locating center will be shipped.


PLUG
With Shallow Bracket

## SOCKET

With Shallow Bracket

## BARRIER TYPE TERMINAL STRIPS

Increased insulation is provided by having Barriers placed between each Terminal. These Barriers follow arcund the edge of the Strips and terminate at the base. They not only make a long leakage path but prevent direct shorts from frayed wires at the terminals. Mcunting holes are at the ends as illustrated. The base is molded Bakelite. The Eyelets and Binder Screws are of brass, nickel plated. The $3 / 4 \mathrm{~W}$ or Y terminals are of brass, hat tin finish.

No. 140 TERMINAL STRIPS
$5-40 \times 3 / 16$ Binder Head Screws. Metal to Metal Spacing over Bakelite $1 / 4^{\prime \prime}$


No. 142 TERMINAL STRIPS
$8-32 \times 5 / 16^{\circ}$ Binder Head Screws. Metal to Metal Spacing over
Bakolite 9/16"


No. 2-142
No. 142
$\begin{array}{lr}\text { Code } & \begin{array}{r}\text { List } \\ \text { Price } \\ \text { Each }\end{array} \\ 1-142 & \mathbf{5 0 . 2 3} \\ 2-142 & .36 \\ 3-142 & .51 \\ 4-142 & .65 \\ 5-142 & .78 \\ 6-142 & .92 \\ 7-142 & 1.07 \\ 8-142 & 1.20 \\ 9-142 & 1.34 \\ 10-142 & 1.49 \\ 11-142 & 1.62 \\ 12-142 & 1.76 \\ 13.142 & 1.90 \\ 14-142 & 2.04 \\ 15-142 & 2.18 \\ 16-142 & 2.32 \\ 17-142 & 2.45\end{array}$


No. 2-142-3/4 W
No. 142-3/4 W List
Price
Code 1-142-3/4 W 2.142-3/4 W 3.142.3/4 W 4-142-3/4 W $5-142-3 / 4 \mathrm{~W}$ 6.142-3/4 W 8-142-3/4 W 9.142.3/4 W 10-142-3/4 W 2.12 $11-142-3 / 4 \mathrm{~W} \quad 2.33$ 12-142-3/4 W 2.53 $\begin{array}{lll}13-142-3 / 4 W & 2.74 \\ 14-142-3 / 4 & W & 2.94\end{array}$ $15.142-3 / 4 \mathrm{~W} \quad 3.15$ $16-142-3 / 4 W \quad 3.34$ $17-142-3 / 4$ W 3.54

.50
.70

No. 141 TERMINAL STRIPS
$6.32 \times 1 / 4$ Binder Head Screws. Metal to Metal Spacing over .32 $x$ 1/4 Biader Hakelite $3 / 8^{\prime \prime}$

## No. 170 TERMINAL STRIPS

 Terminal .032" Brass, Tin Plated A heavy solder Terminal.
Insulation: Black molded Bakelite, 5/16" wide 1/4" ${ }^{\prime \prime}$ thick. Terminals mounted on $3 / \mathrm{a}^{\prime \prime}$ centers. Mounting holes are $3 / \mathrm{a}^{\prime \prime}$ from center of ends
No. 2-170
List Price
Each
$\$ 0.23$
.28
.33
.39
.45

| Code |  |
| :--- | :---: |
| No. $6-170$ |  |
| No. $7-170$ |  |
| No. $8-170$ |  |
| No. $9-170$ |  |

List Price
Code

No. 1-170
No. 2-170
No. 3.170
No. 4-170
No. 5-170

| .35 | No. 10-170 | .55 |
| :--- | :--- | :--- |
|  | .61 |  |
|  | .67 |  |

No. 2000 TERMINAL STRIPS


Mounting,
Terminal .019' Brass, Tin Plated
Compact and sturdy junction terminal strip Useful in assembling radio chassis, wiring etc.
Insulation: Bakelite, Brackets: Steel cadmium hole-9/64' plated. Terminals spaced on $5 / 16^{\prime \prime}$ centers.

| Code | Mounting Hole Centers |
| :---: | :---: |
| No. 2002 | $1 \prime$ |
| No. 2003 | 1-5/16' |
| No. 2004 | $1-5 / 8^{\prime \prime}$ |
| No. 2005 | 1-15/16'9 |
| No. 2006 | 2-1/4' |


| List |
| :---: |
| Price |
| Each |
| $\$ .089$ |
| .097 |
| 106 |
| .114 |
| .123 |
| .130 |


|  | Mounting <br> Hole | List <br> Price |
| :--- | :--- | ---: |
| Code | Centers | Each |
| No. 2008 | $2-7 / 8^{\prime \prime}$ | $\$ .139$ |
| No. 2009 | $3-3 / 16^{\circ \prime}$ | .148 |
| No. 2010 | $3-1 / 2^{\prime \prime}$ | 156 |
| No. 2011 | $3-13 / 16^{\prime \prime}$ | .164 |
| No. 2012 | $4-1 / 8^{\prime \prime}$ | .173 |
| No. 2013 | $4-7 / 16^{\circ \prime}$ | .181 |

## BARRIER TYPE TERMINAL STRIPS


$1-13 / 16^{\prime \prime}$ wide by $25 / 32^{\prime \prime}$ high. Terminals are mounted on $11 / 16^{\prime \prime}$ centers. Screws: 10.32 x $5 / 16^{\prime \prime}$ brass, burnished nickel plate. Fits standard 50 Amp. solder lug for 6 Ga. stranded wire. Metal, to metal spacing over bakelite $5 / 8^{\prime \prime}$

| Code | List Price Each | Code | List Price Each |
| :---: | :---: | :---: | :---: |
| 1.150 | \$0.55 | 6.150 | \$2.48 |
| 2.150 | . 94 | 7.150 | 2.86 |
| 3.150 | 1.32 | 8.150 | 3.25 |
| 4.150 | 1.71 | 9-150 | 3.63 |
| 5.150 | 2.09 | 10-150 | 4.02 |


$2^{\prime \prime}$ wide by $15 / 16^{\prime \prime}$ high. Terminals are mounted on $7 / 8$ centers. Screws: 12-32 $x$ 3/8' brass, burnished nick 1 , plate. Fits standard 70 Amp. solder lug for 4 Ga stranded wire. Metal to metal spacing over bakelite $3 / 4$

|  | List Price |  | List Price |
| :--- | :---: | :---: | :---: |
| Code | Each | Code | Each |
| $1-151$ | $\$ 0.94$ | $5-151$ | $\$ 4.02$ |
| 2.151 | 1.71 | 6.151 | 4.79 |
| $3-151$ | 2.48 | $7-151$ | 5.56 |
| 4.151 | 3.25 | 8.151 | 6.33 |



|  | For use with Barrier Strip | List <br> Price <br> Each | Code | For use with. Barrier Strip | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No. W-140 | No. 140 | \$. 044 | No. W. 150 | No. 150 | \$. 10 |
| No. W.141 | No. 141 | . 059 | No. W. 151 | No. 151 | . 18 |
| No. W-142 | No. 142 | . 072 | No. W. 152 | No. 152 | . 26 |


$21 / 2^{\prime \prime}$ wide by $11 / 8^{\prime \prime}$ high. Terminals are mounted on $11 / 8^{\prime \prime}$ centers. Screws: $1 / 4^{\prime \prime}-28 \times 1 / 2^{\prime \prime}$ brass burnished nickel plate. Fits standard 90 Amp. solder lug for 2 Ga. stranded wire. Metal to metal spacing over bakelite $1^{\prime \prime}$.

|  | List Price |  | List Price |
| :---: | :---: | :---: | :---: |
| Code | Each | Code | Each |
| $1-152$ | $\$ 1.27$ | $4-152$ | $\$ 4.73$ |
| 2.152 | 2.42 | 5.152 | 5.89 |
| 3.152 | 3.58 | $6-152$ | 7.04 |


|  | For use |  |  |
| :--- | :--- | :--- | ---: |
| with | List |  |  |
| "Y" |  | Barrier | Price |
| Solder | Code | Strip | Each |
| Terminal | No.Y.140 | No. 140 | S.044 |
|  | No.Y-141 | No. 141 | .059 |
|  | No.Y.142 | No. 142 | .072 |

## FANNING STRIPS FOR CONNECTING TO BARRIER TERMINAL STRIPS

Jones Fanning Strip Terminals are of $0.032^{\prime \prime}$ Brass, Cadmium Plated. The Bakelite strips are furnished with a hole in either the right or left end for fastening the cable with a cable clamp or lacing twine. Simplifies cable or harness wiring, assuring positive connections. Makes replacement of units an easy matter and assures correct connections after servicing.


No. 6-160-L

## THE 160 SERIES

The following Fanning Strips fit the 140 Series Barrier Strips. Terminals are mounted on $3 / 32$
Bakelite, $1 / 2$ " wide and on $3 / 8$ Bakenters.
cente

| Code | List Price Each | Code | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| 2-160-L | \$0.13 | 2.160-R | \$0.13 |
| 3-160-L | . 20 | 3.160-R | . 20 |
| 4-160-L | . 25 | 4-160-R | . 25 |
| 5-160-L | . 32 | 5-160-R | . 32 |
| 6.160-L | . 39 | 6-160-R | . 39 |
| 7-160-L | . 45 | 7.160-R | . 45 |
| 8.160-L | . 51 | 8-160-R | . 51 |
| 9-160-L | . 57 | 9-160-R | . 57 |
| 10-160-L | . 64 | 10-160-R | . 64 |
| 11-160-L | . 70 | 11-160-R | . 70 |
| 12-160-L | . 76 | 12-160-R | . 76 |
| 13-160-L | . 83 | 13-160-R | . 83 |
| 14.160-L | . 89 | 14-160-R | . 89 |
| 15-160-L | . 96 | 15-160-R | . 96 |
| 16-160.L | 1.01 | 16-160-R | 1.01 |
| 17-160-L | 1.08 | 17-160-R | 1.08 |
| 18-160-L | 1.16 | 18-160-R | 1.16 |
| 19-160-L | 1.21 | 19-160-R | 1.21 |
| 20.160-L | 1.28 | 20-160-R | 1.28 |
| 21-160-L | 1.33 | 21-160-R | 1.33 |



6-161-L (Cable Clamp on Left) (No. 162 same type)

## THE 161 SERIES

The following Fanning Strips fit the 141 Series Barrier Strips. Terminals are mounted on $3 / 32^{\prime \prime}$ Bakelite, $5 / 8^{\prime \prime}$ wide and on $7 / 16$ centers.

| Code | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ | Code | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: |
| 2-161-L | S0.14 | 2-161-R | s0.14 |
| 3-161-L | . 21 | 3-161-R | . 21 |
| 4.161-L | . 26 | 4-161-R | . 26 |
| 5-161-L | . 33 | 5-161-R | . 33 |
| 6.161-L | . 40 | 6-161-R | . 40 |
| 7-161-L | . 46 | 7-161-R | . 46 |
| 8.161-L | . 52 | 8-161-R | . 52 |
| 9-161-L | . 58 | 9-161-R | . 58 |
| 10-161.L | . 65 | 10-161.R | . 65 |
| 11-161-L | . 72 | 11-161-R | . 72 |
| 12-161-L | . 77 | 12-161.R | . 77 |
| 13-161-L | . 84 | 13-161-R | . 84 |
| 14-161-L | . 91 | 14-161-R | . 91 |
| 15-161-L | . 97 | 15-161-R | . 97 |
| 16-161.L | 1.03 | 16-161-R | 1.03 |
| 17-181-L | 1.09 | 17.161-R | 1.09 |
| 18-161-L | 1.17 | 18-161-R | 1.17 |
| 19-161-L | 1.22 | 19-161-R | 1.22 |
| 20-161-L | 1.29 | 20-161-R | 1.29 |


6.161-R (Cable Clamp on Right) (No. 162 same type)

## THE 162 SERIES

The following Fanning Strips fit the 142 Series Barrier Strips. Terminals are mounted on $3 / 32^{\prime}$ Bakelite, $5 / 8^{\prime \prime}$ wide and on $9 / 16^{\prime}$ centers.

| Code | List <br> Price Each | Code | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: |
| 2-162-L | S0.17 | 2-162-R | S0.17 |
| 3-162-L | . 23 | 3-162-R | . 23 |
| 4-162-L | . 29 | 4-162-R | . 29 |
| 5-162-L | . 35 | 5-162-R | . 35 |
| 6-162-L | . 43 | 6-162-R | . 43 |
| 7-162-L | . 48 | 7-162-R | . 48 |
| 8-162-L | . 55 | 8-162-R | . 55 |
| 9-162-L | . 61 | 9-162-R | . 61 |
| 10.162-L | . 68 | 10-162-R | . 68 |
| 11-162-L | . 74 | 11-162-R | . 74 |
| 12-162-L | . 80 | 12-162-R | . 80 |
| 13-162-L | . 86 | 13-162-R | . 86 |
| 14.162-L | . 94 | 14-162-R | . 94 |
| 15-162-L | . 99 | 15-162-R | . 99 |
| 16-162-L | 1.06 | 16-162-R | 1.06 |
| 17-162-L | 1.11 | 17-162-R | 1.11 |



## CABLE CLAMPS

Cable Clamps are avail able for the Fanning Strips listed at the left and are furnished in 6 different sizes as listeत below. Cable Clamp is o Brass Nickel Plated, with 6-32 round head Nicke Plated Brass Screws. For convenience the Cable Clamps are furnished un assembled.
$\underset{\text { CAVAILABLE }}{\text { CABLES }}$
No.
CC. 161 -4
CC.161-6

CC-161-8
CC. 161 -10

CC-161-12
CC-161-14
7'0"
List Price Each \$0.14
Be sure to give code number when ordering.

On small sizes Lacing Twine can be used for anchoring cable to the Fanning Strip instead of Cable Clamp.

## for Power, Signal and Control Circuits in Electronic Equipment

"AN" stands for Army-Navy and these services have provided the official definition of the AN connector: to provide a detachable connection in one or more electrical circuits; a complete AN connector consists of two mating units-a plug assembly and receptacle assembly.

Amphenol AN connectors, although designed and approved under government specifications for use by the armed forces, are ideal for commercial and industrial use where the same dependability is mandatory. These modern, efficient connectors are being used by practically every part of the giant electronics industry.

features of AMPHENOL AN CONNECTORS

Contacts

Dielectric

Finish

All contacts are gold-over-silver plated for improved appearance and better electrical and mechanical sarface. Gold assures indefinite, like-new shelf life. Gold-plated conticts make soldering eatsier and faster - no pre-tinning of solder cups is :equired.

Inserts are molded of Amphevol high-strength 1-501 Blue dielectric material. This material has ligh impact strength, exceptionally low loss and low shrinkage.

Chromate conversion finish over cadium. Extremely high corrosion resistance as well as excellent corductivity.

ORDERING AN CONNECTORS
The AN series of connectors includes thousands of combinations, but the functional numbering system permits easy and accurate ordering. To illustrate the system employed a typical part number, AN $3100 \mathrm{~A}-16-11 \mathrm{P}$, is exploded and analyzed.
\%)_Standard "AN" indicates Army-Navy part number has O__SHELL TYPE AN specifications or exclusive Amphenol design 3100 wall receptacle, 3101 cable receptacle, 3102
box recentacle. 3106 straight plug. 3107 quick

- ${ }^{\text {D SHELL DESIGN }}$
$\overrightarrow{\text { a) — S }} 12 \mathrm{E}$

 O- INSERT STYLE $P$ for pin contacts, $S$ for socket contacts.

AN CONNECTOR AVAILABILITY
The latest issue of the Distributor AN Connector Price List is the authoritative source for connector availability.

## AN CONNECTORS FOR POTTING

Potting, injecting a synthetic rubber sealant in a mold on the back of a connector, is a superior method of waterproofing.

## QUICK REFERENCE INSERT SPECIFICATIONS



CABLE CLAMP

Sturdy amphenol AN3057 Cable Clamp supports cable or wire at the plug or receptacle, prevents twisting or pulling at soldered connections.

| "AN" Number | Fits Shell Size |
| :---: | :---: |
| $3057-3$ | $8 \mathrm{~S}, 10 \mathrm{~S}$ |
| $3057 \cdot 4$ | $12,12 \mathrm{~S}$ |
| $3057-6$ | $14,14 \mathrm{~S}$ |
| $3057-8$ | $16,16 \mathrm{~S}$ |
| $3057-10$ | 18 |
| $3057-12$ | 20.22 |
| $3057 \cdot 16$ | 24,28 |
| $3057-20$ | 32 |
| 3057.24 | 36 |
| 3057.28 | 40 |
| 3057.32 | 44 |
| $3057-40$ | 48 |



Fits AN and 97 type receptacles and plugs. Provides protection against live circuits, dirt and dust when connector is not in use.

| Part Number | Fits Shell Size |
| :---: | :---: |
| $9760 \cdot 8$ | 8 S |
| $9760 \cdot 10$ | 10 S |
| $9760 \cdot 12$ | 10SL, 12, 12S |
| $9760 \cdot 14$ | $12 \mathrm{SL}, 14.14 \mathrm{~S}$ |
| $9760-16$ | $16,16 \mathrm{~S}$ |
| $9760 \cdot 18$ | 18 |
| $9760 \cdot 20$ | 20 |
| $9760-22$ | 22 |
| $9760-24$ | 24 |
| $9760 \cdot 28$ | 28 |
| $9760-32$ | 32 |
| 9760.36 | 36 |




Versatile group available in 11, 15 and 20 contacts, with or without protective can and cable clamp. Rated at 900 volts RMS, 60 CPS at sea level. Bodies mica-filled phenolic; contacts gold-plated.

RECTANGULAR CONNECTORS

| AMPHENOL Number Insert Only | Description | Contacts |  | Mounting <br> Screw Size | AMPHENOL Number With Can |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 26-804 \\ & 26.805 \end{aligned}$ | Male Female | $\begin{aligned} & 2 \\ & 2 \end{aligned}$ | 9 | $\begin{aligned} & \hline \text { No. } 4 \\ & \text { No. } 4 \end{aligned}$ | $\begin{aligned} & \hline 26.809 \\ & 26.808 \end{aligned}$ |
| $\begin{aligned} & 26.151 \\ & 26.150 \end{aligned}$ | Male Female | $\begin{aligned} & 3 \\ & 3 \end{aligned}$ | $\begin{aligned} & 12 \\ & 12 \end{aligned}$ | $\begin{aligned} & \text { No. } 6 \\ & \text { No. } 6 \end{aligned}$ | $\begin{aligned} & 26 \cdot 152 \\ & 26-153 \end{aligned}$ |
| $26-806$ 26.807 | Male Female | 4 | 16 16 | No. 4 No. 4 | $\begin{aligned} & 26.811 \\ & 26.810 \end{aligned}$ |
| 26.813 26.812 | Male | 20 | - | No. 4 | ーー |

These unique spring-ribbon contact connectors are finding increasing popularity throughout every part of the electronics industry. As a result of continuing AMPHENOL development work the Blue Ribbon line has been expanded to include keyed shells and lateh-lock type cans-the complete line now offers the following outstanding features:

- Visual aligmment is not required; ideal for multi-circuit connection, switching or re-routing;
- Spring contacts provide quick disconnect with low insertion and withdrawal force requirements.
- Insert material is famous amphenol diallyl phthalate blue which meets government specifications MIL-P-4389 and MIL-P-14D. - Contacts are finished with gold over a silver base plate, will not corrode, are easy to solder.
- Molded-in mounting plates are corrosion resistant passivated stainless steel.
- Available in latch-lock cans for cable-tochassis applications.

26.4201-85 $\quad 26.4101$ - BP


Other shell key combinations analidble require set up charge.


MINIATURE HEXAGON CONNECTORS

| Contacts | With <br> Hex. Nut | With <br> Locking Clip | With <br> Hood \& Clamp |
| :--- | :---: | :---: | :---: |
| 4 pin | -- | $26-214$ | -- |
| 4 socket | -- | -- | $26-215$ |
| 5 pin | 26.010 | $26-216$ | $26-217$ |
| 5 socket | 26.011 | $26-218$ | $26-223$ |
| 7 pin | 26.191 | $26-197$ | 26.195 |
| 7 socket | 26.192 | 26.198 | 26.196 |
| 9 pin | 26.012 | $26-219$ | 26.220 |
| 9 socket | 26.013 | $26-221$ | $26-222$ |

For interconnection of miniature electronic equipment; interchangeable hardware and contacts. 1-501 dielectric, goldplated contacts; all hardware is solid brass, nickel-plated.


AMPhe： R ． RF connectors are avail－ able in every popular series desig－ nation－the most complete line ever offered for military and commercial use．There are literally thousands of applications existing for these versatile connectors and more are being discovered every day．Any company engaged in electronics will concur．
Finest materials，craftsmanship as－ sembly，strict quality－control are the reasons for the outstanding rep－ utation of AMPHENOL RF connectors plus a complete engineering serv－ ice that is always available to our customers．
（T）and
subminax


SERES BMC


SERIES AM

| SERIES BNC |  |  |  |
| :---: | :---: | :---: | :---: |
| Military Number | AMPHENOL Number | Description | $\begin{gathered} \text { For RG-/U } \\ \text { Cables } \end{gathered}$ |
| UG．88 U | 31.002 | Plug | 55， 58 |
| UG．88B，U | 31.018 | Plug | 55， 58 |
| UG－88C U | 31．202 | Plug | 55， 58 |
| UG．89，U | 31.005 | Jack | 55，58 |
| UG．89B／U | 31.205 | Jack | 55，58 |
| CW－123／U | 31.006 | Cap and Chain | －－ |
| CW－123A／U | 31.026 | Cap and Chain | －－ |
| CW－155，U | 31.007 | Cap | －－ |
| CW－155A／U | 31.027 | Cap | －－ |
| CW－159．U | 31.017 | Shorting Plug | －－ |
| UG－254A／U | 31.016 | Receptacle． Pressutized | －－ |
| 116．260，U | 31.012 | Plug | 59．62， 71 |
| UG．260A，U | 31.021 | Plug | 59，62．71 |
| UG－260B／U | 31.212 | Plug | 59．62，71 |
| UG－26I／U | 31.015 | Jack | 59．62，71 |
| UG－261A／U | 31.022 | Jack | 59，62，71 |
| UG－261B／U | 31－215 | Jack | 59，62， 71 |
| UG－262，U | 31.011 | Panel Jack | 59，62， 71 |
|  | 31.023 | Panel Jack | 59，62，71 |
| UG．262B，U | 31－211 | Panel lack | 59，62，71 |
| UG－274／U | 31－008 | Adapter．Tee | －－ |
| UG－274A U | 31－208 | Adapter．Tee | －－ |
| CW．282 U | 31.210 | Cap and Chain | －－ |
| UG－290 U | 31.003 | Receptacle | －－ |
| UG－290A U | 31．203 | Receptacle | －－ |
| UG．291／U | 31．001 | Panel Jack | 55， 58 |
| UG－291A U | 31．020 | Panel Jack | 55， 58 |
| 116.2918 U | 31－201 | Panel Jack | 55.58 |
| 16．306 U | 31.009 | Adapter， Right－Angle | －－ |
| 16.447 U | 31.817 | Receptacle | －－ |
| dG－491A U | 31.218 | Adapter | －－ |
| －E．CS＇A U | 31.220 | Adapter． Pressurized | － |
| LG．t25A II | 51．214 | Receptacle | －－ |
| －¢－6を | 31.102 | Receptacle． Pressutized | －－ |
| $\therefore .905 \mathrm{U}$ | $31.20{ }^{\circ}$ | Jack，Bulkhead | 55， 58 |
| －E．bic U | 51.207 | Jack．Bulkhead | 59，62， 71 |
| －ご！！し | 51－204 | Plug． Right－Angle | 55， 58 |
| $\therefore \because 2 \mathrm{U}$ | \＄1．219 | Adapter．Straight | －－ |
| －－ | 51．104 | Receptacle | －－ |
| －－ | 21－105 | Receptacle | －－ |
| －－ | ミ． 1.75 | Shield Grounding lug | － |
| －－ | ミ： 842 | Recepiacte | －－ |
| －－ | §3－851 | Cable feed－Thru | 55． 58 |


| DMPHENOL Number | Description | For RG－U Cables |
| :---: | :---: | :---: |
| 27．1 | Plug | 174．21－596 |
| ． 7.2 | Jack | 174．21－596 |
| 27.3 | Receptacle | －－ |
| 27－4 | Jack，Bulkhead | 174．21－596 |
| ： 7.5 | Cable Feed－Thru | －－ |
| 27．13 | Plug | 21.597 |
| 27－14 | Jack | 21.597 |
| 27．15 | Receptacle | －－ |
| 27．16 | Jack．Bulkhead | 21.597 |
| ．7．17 | Cable Feed－Thiu | －－ |
| SUBMINAX－SCREW－ON |  |  |
| 27.7 | Plug | 174． 21.596 |
| 77.8 | Jach | 174．21－596 |
| 27.9 | Receptacle | －－ |
| ：7．10 | Jack，Bulkhead | 174．21．596 |
| 27．11 | Cable free－Thru | － |
| 27．12 | Receptacle， Hermetic | －－ |
| 27.19 | Plug | 21.597 |
| 27.20 | Jack | 21.597 |
| 27.21 | Receptacle | －－ |
| 27．22 | Jack，Bulkhead | 21.597 |
| 27.23 | Cable，Feed－Thru | －－ |
| 27.24 | Receptacle， Hermetic | －－ |


| SERIES BN |  |  |  |
| :---: | :---: | :---: | :---: |
| Military Number | AMPHENOL Number | Description | For RG－／U Cables |
| UG．85 U | 82.21 | Plug | 5，58，59，62，71 |
| UG－87／U | 82.42 | Receptacle | －－ |
| UG－114 U | 82.25 | Panel Jack | 55．58．59．62．71 |
| UG－115 U | 82.26 | Jack | 5，58，59．62．71 |
| UG－206 U | 31.101 | Receptacte． Bulkhead． Gold Plated | －－ |
| －－ | 31.759 | Shield Grounding Lug | －－ |
| SERIES N |  |  |  |
| UG－188／U | 82.86 | Plug | 5，6， 21 |
| UG－18C U | 82－203 | Plug | 5，6．21 |
| UG．198 U | 82.87 | Panel Jack | 5．6．21 |
| UG－19C U | 82－207 | Panet Jack | 5，6， 21 |
| UG－208 U | 82.88 | Jack | 5．6．21 |
| UG－20C U | 82.210 | Jack | 5，6， 21 |
| UG－218 U | 82.61 | Plug | 8，9， 10 |
| UG－21C U | 82.96 | Plug | 8．9．10 |
| UG－210 U | 82．202 | Plug | 8，9， 10 |
| UG－228 U | 82－62 | Panel Jack | 8，9， 10 |
| UG－22C U | 82.95 | Panel Jack | 8，9，10 |
| UG－22D U | 82－208 | Panel Jack | 8，9， 10 |
| UG－238 U | 82－63 | Jach | 8，9， 10 |
| UG－23C U | 82.94 | Jack | 8．9．10 |
| UG－23D U | 82．209 | Jack | 8．9．10 |
| UG－27A／U | 82.64 | Adapter， Right－Angle | －－ |
| UG－278 U | 82.98 | Adapter． Right－Angle | －－ |
| U6．27C／U | 82.213 | Adapter． Right－Angle | －－ |
| UG－28A U | 82.99 | Adapter，Tee | －－ |
| UG－29A／U | 82.65 | Adapter，Stratght | －－ |
| UG－298／U | 82－101 | Adapter，Straight | －－ |
| UG－30／U | 82－66 | Adapter， Buthhead． Piessurized | － |
| UG－30C／U | 82－201 | Adapter． Bulkhead， Pressurized | －－ |
| UG－578／U | 82．100 | Adapter，Straight | －－ |
| UG．58／U | 82－24 | Receptacle | －－ |
| UG－58A／U | 82－97 | Receptacle | －－ |
| UG．94A／U | 82－84 | Plug | 11．12， 13 |
| UG．95A／U | 82.89 | Jack | 11，12．13 |
| UG．96A／U | 82.90 | Panel Jack | 11．12． 13 |
| UG．106／U | 83．1H | Hood | 8，9，10，11，12， 1 |
| UG．107A／U | 82.36 | Adapter．Tee | －－ |
| UG 1078／U | 82－102 | Adapter，Tee | －－ |
| UG－160A／U | 82.67 | Jack．Bulkhead | 8． 9.10 |
| UG－1608／U | 82.93 | Jack，Bulkhead | 8.910 |
| UG－167A／U | 82．104 | Plug | 17． 18 |
| UG－167C U | 82－206 | Plug | 17． 18 |
| UG－204A／U | 82－105 | Plug | 14.74 |
| UG．2048／U | 82－205 | Plug | 14，74 |
| MX．564／U | 82.48 | Armor Clamp | 10， 12 |
| MX－564A／U | 82．109 | Armor Clamp | 10．12 |
| MX．913／U | 82．106 | Cap and Chain | －－ |
| UG．935A／U | 82.211 | Panel Jack | 10.12 |
| UG．940A／U | 82－212 | Jack | 10．12 |
| UG．941A／U | 82－204 | Plug | 10，12 |
| －－ | 82.835 | Angle Plug | 8．9．10 |
| －－ | 83－18C | Cap ind Chain | －－ |
| SERIES C |  |  |  |
| UG．566A／U | 82－536 | Adapter．Tee | －－ |
| UG－567A／U | 82－535 | Adapter． Right－Angle | －－ |
| UG．568／U | 82．504 | Receptacle | － |
| UG．569／U | 82.505 | Recepiacle． Bulkhead | －－ |
| UG．570，U | 82－502 | Jack，Bulkhead | 8，9， 10 |
| UG－571／U | 82－501 | Panel Jack | 8．9．10 |
| UG－572／U | 82－503 | Jack | 8．9．10 |
| UG－573A／U | 82.530 | Plug | 8．9． 10 |
| UG－628A，U | 82.532 | Plug．Migh－Vellage | 8．9A |
| UG－632／U | 82－521 | Jack．Bulkhead． High－Voltage | 8．9A |
| UG－634／U | 82－515 | Receptacle． Bulkhead， High－Voltage | －－ |
| UG－643／U | 82－514 | Adapter，Straight | －－ |
| UG．705／U | 82.511 | Receptacle， Bulkhead． Pressurized | － |


| Military <br> Number | $\left\|\begin{array}{c} \text { AMPHENOL } \\ \text { Number } \end{array}\right\|$ | Description | For RG/U Cables |
| :---: | :---: | :---: | :---: |
| UG-707A/U | 82-533 | Plug | 14,74 |
| UG.709A/U | 82.534 | Plug | 55, 58 |
| UG-710A/U | 82.531 | Plug, Right-Angle | 8.9 |
| UG-937/U | 82-522 | Jack, Bulkhead | 10, 12 |
| UG-938/U | 82.523 | Panel Jack | 10. 12 |
| UG-939/U | 82.524 | Jack, Bulkhead, High-Voltage | 10, 12 |
| UG-942A/U | 82-539 | Plug, High-Voltage | 10. 12 |
| UG-943A/U | 82-538 | Plug | 10.12 |
| UG-944/U | 82-526 | Jack | 10.12 |
| UG-945A/U | 82-537 | Plug, Right-Angle | 10, 12 |
| MX-1142/U | 82.512 | Cap and Chain for Jacks | -- |
| MX-1143/U | 82.513 | Cap and Chain for Plugs | -- |
| MX-1286/U | 82-517 | Armor Clamp | 10. 12 |
| SERIES HN |  |  |  |
| UG-59A U | 82-38 | Plug | 8.9.10 |
| UG-598.U | 82-804 | Plug | 8.9.10 |
| UG-60A U | 82-39 | Jack | 8.9. 10 |
| UG.60 B U | 82-814 | Jack | 8.9. 10 |
| UG-61A/U | 82-40 | Panel Jack | 8.9 .10 |
| UG-618 U | 82-815 | Panel Jack | 8.9. 10 |
| MX. 103 U | 103.301 | Tapering Tool | 8.9.10 |
| UG-212A/U | 82.91 | Adaptes Right-Angle | -- |
| UG-212C, U | 82-115 | Adapter. Right-Angle | - |
| UG-333 U | 82-56 | Jack | 17. 18 |
| UG-333A U | 82-107 | Jack | 17. 18 |
| UG-334 U | 82.57 | Panel lack | 17.18 |
| UG-334A U | 82-108 | Panel Jack | 17.18 |
| UG-495A/U | 82-111 | Plug | 17. 18 |
| UG-496 U | 82-92 | Receptacle | -- |
| UG-560 U | 82-805 | Receptacle | -- |
| MX. 564 U | 82.48 | Armor Clamp | 10 |
| MX-564A U | 82-109 | Asmor Clamp | 10 |
| -- | 82.816 | Plug | 54A |
| -- | 82-833 | Angle Plug | 8, 9. 10 |
| PUSH-ON |  |  |  |
|  | 82-830 | Plug | 58 |
|  | 82-831 | Receptacle, Bulkhead | -- |
|  | 82-832 | Plug | 59,62,71 |
| SERIES UHF <br> Small Single Contact Connectors |  |  |  |
| UG-106/U | 83-1H | Hood | $\begin{aligned} & 8,9,10,11 \\ & 12,13,63,65 \end{aligned}$ |
| UG-111/U | 83.750 | Plug | 59.62 .71 |
| UG-175/U | 83-185 | Adapter, Reducing | 58 |
| UG-176/U | 83-168 | Adapter, Reducing | 59, 62, 71 |
| UG-177/U | 83.765 | Hood | 29, 55, 58 |
| UG-203/U | 83.776 | Plug | 55, 59, 62, 71 |
| S0-239 | 83-1R | Receptacle | -- |
| S0.239A | 83.798 | Receptacle | -- |
| PL-258 | 83.15 | Adapter, Straight | -- |
| PL-259 | 83-15P | Plug | $\begin{aligned} & 8,9,10,11 \\ & 12,13,63,65 \end{aligned}$ |
| PL-259A | 83-1SPN | Plug (Mica- Filled Bakelite) | $\begin{array}{r} 8,9,10,11, \\ 12,13,63,65 \end{array}$ |
| PL-259A | 83-756 | Plug (Teflon) | 8.9.10.11.12 |
| PL-274 | 83-1F | Adapter. Bulkhead | -- |
| M. 358 | 83-11 | Adapter, Tee | - - |
| M. 359 | 83-1AP | Adapter, Right-Angle | -- |
| M-359A | 83-58 | Adapter, Right-Angle | -- |
| M-360 | 83-1H | Hood | $\begin{aligned} & 8.9 .10 .11 \\ & 12.13,63.65 \end{aligned}$ |
| UG-363 U | 83-1F | Adapter, Bulkhead | -- |
| UG-372/U | 83-1HP | Hood | $\begin{aligned} & 8,9,10,11, \\ & 12,13,63,65 \end{aligned}$ |
| UG-646, U | 83-1AP | Adapter, Right-Angle | -- |
| 49190 | 83-15P | Plug | $\begin{gathered} 8,9.10,11, \\ 12,13,63.65 \end{gathered}$ |
| 49191 | 83-11 | Adapter, Straight | - |
| 49192 | 83-1AP | Adapter, Right-Angle | -- |
| 49192A | 83-58 | Adapter, Right-Angle | - |


| Mititary Number | $\left\|\begin{array}{c} \text { AMPHENOL } \\ \text { Number } \end{array}\right\|$ | Description | For RG-/U Cablea |
| :---: | :---: | :---: | :---: |
| 49193 | 83-1H | Hood | $\begin{gathered} 8,9,10,11 . \\ 12,13,63,65 \end{gathered}$ |
| 49194 | 83-1R | Receptacle | -- |
| 49195 | 83-1 SPN | Plug (Mica-filled Bakelite) | $\begin{gathered} 8,9,10,11 . \\ 12.13,63,65 \end{gathered}$ |
| 49195 | 83-756 | Plug (Teflon) | 8,9,10,11,12 |
| 49199 | 83-17 | Adapter, Tee | -- |
| 49482 | 83.776 | Plus | 55 59,62.71 |
| 491049 | 83-1F | Adapter, Bulkhead | -- |
| -- | 83.1AC | Cap and Chain | - - |
| - - | 83.18C | Cap and Chain | -- |
| - | 83-1R1Y | Receptacle | -- |
| - | 83.59 | Plug, Right-Angle | $\begin{aligned} & 8,9,10,11, \\ & 12.13 .63,65 \end{aligned}$ |
| - - | 83.716 | Recep:acle, Pressure Proof | - - |
| Small Twin Contact Connectors |  |  |  |


series n

series 6

stries hm


SERIES LC
"Building to the future of Electronics"

© MODERN DESIGN QWIKS
Newest, most efficient, most attractive connectors ever offfered for microphone use. Gold-plated contacts, 1-501 Blue dielectric, satin-nickel finish contribute to the beauty, the efficient performance of the new QWIKs. Instant connect, disconnect-just click them in!


CCSERIES 80 One and two contact connectors designed for microphone applications; assure positive connections free from noise, leaks or shorts.


| One Contact <br> AMPHENOL Number | Description | Two Contact <br> AMPHENOL Number |
| :---: | :--- | :--- |
| $80-\mathrm{M}$ | Male plug | $80-\mathrm{MC2M}$ |
| $80-\mathrm{F}$ | Female jack | $80-\mathrm{MC2F}$ |
| $80-\mathrm{C}$ | Female receptacle | $80 \cdot$ PC2F |
| $80-\mathrm{Fl}$ | Female plug | $80-\mathrm{MC2FI}$ |
| $80-\mathrm{Ml}$ | Male jack | $80 \cdot \mathrm{MC2MI}$ |
| $80-\mathrm{Cl}$ | Male receplacie | $\mathbf{8 0 - P C 2 M}$ |

## (D)SERIES 91

Three and four contact connectors for audio or any type of portable sound equipment. Screw-on connection. Connectors polarized.

| Three Contacts <br> AMPHENOL Number |
| :---: |
| $91-M C 3 M$ |
| $91-M C 3 F$ |
| $91-$ PC3F |
| $91-M C 3 F 1$ |
| $91-$ MC3MI |
| $91-P C 3 M$ |


|  | Description |
| :---: | :---: |
|  | Male olug |
|  | Female jack |
| Female receptacle |  |
|  | Female plug |
|  | Male jack |
|  | Male receptacle |


| Four Contacts |
| :---: | :---: |
| AMPHENOL Number |$|$| $91-M C 4 M$ |
| :--- |

(A) SINGLE PRONG PLUGS

Bakelite plugs, black or red; for use with Tip Jacks.

| AMPHENOL | Description |
| :---: | :---: |
| 71-1S | For $3 / y^{\prime \prime}$ socket |
| 71.1M | For $1 / 1 /{ }^{\prime \prime}$ socket |
| 71-11 | For $s^{\prime \prime} \mathbf{z}^{\prime \prime}$ socket |

(B) TIP JACKS

Bakelite, black or red. Mount in $3 / 8^{\prime \prime}$ hole. AMPHENOL

| AMPHENOL Number | Description |
| :---: | :---: |
| 78.15 | For $3 / g^{\prime \prime}$ plug |
| 78.11 | For $3 / z^{\prime \prime}$ plug |
| 78.14 | For $1 / 9^{\prime \prime}$ plu 3 |
| 78-1P | For . $080^{\prime}$ phone tip |

(C)MAGIC EYE ASSEMBLIES
(B) $;$


Completely wired with escutcheon and hardware. Tube not included with either.

(D)UNIVERSAL GRID CAP

For use with tube grid caps from $1 / 4^{\prime \prime}$ to 3/8" diameter.

(E) TAP CHANGE SWITCH

8 -position single pole continuous switch with white markings clearly visible in window cap. Side set-screw for locking switch arm.

© CRYSTAL HOLDER SOCKET
Mica-filled "bakelite; for crystal holders having $21 / 8^{\prime \prime}$ prongs on $3 / 4^{\prime \prime}$ centers.

(G)COIL FORMS

Molded of amphenol 912-A polystyrene for use in receivers and low-powered transmitters.

| AMPHENOL <br> Number | Description |
| :--- | :--- |
| 24 | Minature, for self-1apping screw |
| $24-4 \mathrm{P}$ | Plug-in, 4 prong |
| $24-5 \mathrm{P}$ | Plug-in, 5 prong |
| $24-6 \mathrm{P}$ | Plug-in, 6 prong |
| 24.5 H | Plug-in, miniature, 5 prong |
| 24.6 H | Plug-in, miniature, 6 prong |

## POLYWELD \& ACRYWELD <br> CEMENTS \& THINNERS

Polyweld 912 and Acryweld 901 are perfect cements for their respective materials -provide an actual weld.

| $\begin{gathered} \text { AMPHE } \\ \text { Polyweld } \\ 912 \end{gathered}$ | $\begin{gathered} \text { Number } \\ \text { Acryweld } \\ 901 \end{gathered}$ | Description |
| :---: | :---: | :---: |
| 53-912-2 | 53-901-2 | 2 ounce bottle |
| 53-912-4 | 53-901-4 | 4 ounce botle |
| 53-912-P | 53.901.P | Pint container |
| 53-912-Q | 53-901-Q | Quart container |
| 53-912-G | 53-901-G | 1 gallon can |
| 53-912-5G | 53-901-5G | 5 galon can |
| AMPH Polyweld <br> Thinner | Number Acryweld Thinner | Description |
| 53-916-2T | 53-901-2T | 2 ounce bottle |
| 53-916.4T | 53-901-4T | 4 ounce bottle |
| 53.916.PT | 53-901-PT | Pint container |
| 53.916-Q1 | 53-901-QT | Quart container |
| 53-916-GT | 53.901-GT | 1 gallon can |
| 53-916-5G T | 53-901-5G T | 5 gallon can |

(A)HIGH-VOLTAGE SOCKETS

Above or below mounting. Provide finest performance under high-voltage contact-to-chassis conditions.

| AMPHENOL <br> Number | Description |
| :---: | :---: |
| $77 \mathrm{~A}+4 \mathrm{~T}$ | 4 contacts, mica-filled bakelite |
| 146.101 | 8 contacts, melamine |

(B)STEATITE TRANSMITTING TUBE SOCKETS
Low-loss steatite, Clover Leaf contactspermanently secured mounting plate.

| AMPHENOL <br> NuInber | Description |
| :---: | :---: |
| 148.101 | Sniall and medium 4 pin |
| 148.111 | Octal |

## MISCELLANEOUS ELEMTRONIC COMPONENTS

For upright panel mounting. Available in combinations as follows:

| AMPHENOL Number | With Retaining Clip | With <br> Terminal Block | with Bottom Cover | With Underwriters" Shield | $\begin{aligned} & \text { For Super } \\ & \text { Jumbo } \\ & \text { 4-pin Tubes } \end{aligned}$ | $\begin{gathered} \text { For } \\ \text { UX4-pin } \\ \text { Tuhes } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 146.105 | X |  | X |  | X |  |
| 146-106 | X |  |  |  | $x$ |  |
| 126.107 | X | X | X |  | X |  |
| 146.109 |  |  |  | X |  | $x$ |
| 146-110 |  |  |  |  |  | X |

(D)ADAPTER SOCKETS

For miniature tubes; modernize tube checkers and analyzers!

| AMPHENOL <br> Number | Description |
| :---: | :---: |
| $78 \cdot \mathrm{~A} P \mathrm{P}$ | 7 pin |
| $78 . \mathrm{A9P}$ | 9 pin |

(E) MAGNAL \& DUODECAL SOCKETS For cathode ray and television tubes.

| AMPHENOL <br> Numher | Descrintion |
| :--- | :--- |
| 49. SSIIL | 11 contact, magnal |
| 59.402 | 12 contact |

© ETHYLON "A" SOCKETS
Miniature 7 and 9 pin sockets, molded of amphenol Ethylon-A with exceptionally high "Q" factor and low-loss properties.

| AMPHENOL Number | Description |
| :---: | :---: |
| 59-305 | 8 pin octal, Zıp-in |
| 59-307 | 7 pin miniature, Zip.in |
| 59.309 | 9 pin miniature. Zıp-In |
| 59-355 | 8 pin octal, with mounting plate |
| 59.351 | 7 pin minialure with mounting plate |
| 59.359 | 9 pin miniature with mounting plate |
| 59.367 | 7 pin miniature with lube shield base |
| 59-369 | 9 pin miniature with lube shield base |

©(GINIATURE RETAINER RING SOCKETS
Requiring a minimum of space, these sockets are especially designed for installation in compact electronic equipment. AMPHENOL

## (1)BARRIER TYPE SOCKETS

Long creepage paths, Patented CloverLeaf contacts. melamine bodies-above or below chassis mountings; top quality throughout.

| AMPHENOL | Description |
| :---: | :---: |
| 146-103 | Octal top mounted |
| 146.104 | Octal, threaded inserts. top mounted |
| 146-111 | 7 pin. miniature |
| 146.203 | 146.103 bottom mounted |
| 146-204 | 146.104, botton mounted |
| (D) "S' TYP | REPLACEMENT SOCKETS |

Convenient and versatile; assembled with retainer rings to chassis of sturdy mounting plate with slotted holes.

| AMPHENOL Number With Mig. Plt. | Black Bakelite Without | Description |
| :---: | :---: | :---: |
| 78-RS4 | 78.54 | 4 contact |
| 78-RS5 | 78.55 | 5 contact |
| 78-RS6 | 78. S6 | 6 contact |
| 78-RS7L | 78.S7L | 7 large |
| 78-RS7S | 78.57S | 7 smalf |
| 78-RS8 | 78.58 | 8 octal |
| 78-RS8L | 78.S8L | 8 lokial |
| 78-RS9 | 78.S9 | 9 octal |
| 78-RS 11 | 78.SI! | 11 octal |
|  | Steatite |  |
| 49-RSS4 | 49.SS4 | 4 contact |
| 49.RSS5 | 49-SS5 | 5 contact |
| 49.RSS6 | 49.SS6 | 6 contact |
| 49-RSS7L | 49-SS7L | 7 large |
| 49-RSS7S | 49-SS7S | 7 small |
| 49-RSS8 | 49-SS8 | 8 octal |

(®)SADDLE TYPE OCTAL SOCKETS
Economical below-chassis mounting sockets. Black bakelite.

(A)

(F)

(G)

C

(L)MINIATURE $7 \& 9$ PIN SOCKETS

For tv, fm and radio use-sockets available for any miniature application. All have $.095^{\prime \prime}$ rivet holes unless marked.
Famous amphenor. "Mips", molded of high strength black bakelite with sturdy steel mounting plate molded-in. Contacts grip tube prongs firmly-retain their resilience indefinitely.

| AMPHENOL <br> Number | Description |
| :--- | :--- |
| $77-$ MIP-4 | 4 contact |
| $77-$ MIP-5 | 5 c atact |
| $77-$ MIP-6 | 6 contact |
| $77-$ MIP-7L | 7 Iarge |
| $77-$ MIP-7S | 7 small |
| $77-$ MIP-8 | 8 octal |
| $77-$ MIP-9 | 9 octal style |
| $77-$ MIP 11 | 11 octal style |
| $77-$ MIP-12 | 12 octal style |
| $88-8$ | 8 octal compact |
| $88-8 X$ | 8 loktal compact |
| $77-$ MIP-8FK | 8 octal. with $11-3 \mathrm{~K}$ floating socket kit |
| $11-3 \mathrm{~K}$ | Kit for converting any <br> ing socket |


*Rubber mounted $\dagger 125$ diar rivet holes.

## "Building to the future of Electronics"

(A)TUBE SHIELDS FOR MINIATURE SOCKETS

Protects tubes from damage, promotes circuit stability, integral spiral spring.

| AMPHENOL Number | Description |
| :---: | :---: |
| 5.401 | For 7 pin-13/4* |
| 5.402 | For 7 pin- $14^{\circ}$ |
| 5.405 | For 9 Pin-11/2" |
| 5.408 | For 9 pin- $11 / /^{*}$ |
| 5.409 | For 9 pin-21/8" |

(B) "CP' TYPE PLUGS

Black bakelite plugs, extremely compact and useful for multi-wire applications. Quickly, easily installed. Mate with "S" type sockets.

| AMPHEN <br> With Mig. Plate | umber Without | Description |
| :---: | :---: | :---: |
| 86.RCP4 | $86 . \mathrm{CP4}$ | 4 contact |
| 86-RCP5 | 86.CP5 | 5 conlact |
| 86-RCP6 | 86-CP6 | 6 contacl |
| 86-RCP7 | 86.CP7 | 7 large |
| 86-RCP7S | $86 . C$ P75 | 7 small |
| 86-RCP8 | 86-CP8 | 8 octal |
| 86-RCP9 | $86 . \mathrm{CP9}$ | 9 octal style |
| 86-RCPII | 86.CP11 | 11 octal style |

©SHIELDED MULTI-WIRE CABLE CONNECTORS
Consist of "S" type sockets and "CP" plugs. Accommodates cable up to $3 / 8$ " diameter.

| With Grommet Cap 3-13 |  |  |
| :---: | :---: | :---: |
| AMPHENOL Number |  | Description |
| Female | Male |  |
| 78.PF4 | 86. PM 4 | 4 contact |
| 78.PF5 | 80 PM5 | 5 conlact |
| 78.PF6 | 86 PM6 | 6 contact |
| 78.PF8 | 86 PM8 | 8 octat |
| 78-PF9 | 86. PM9 | 9 octal style |
| 78.Pf11 | 86-PM1! | 11 octal styie |
| With Cable Clamp 3-24 |  |  |
| AMPHENOL Number |  |  |
| Femate | Male | Description |
| 78-PFA-11 | 86. PM4-11 | 4 contact |
| 78-PF5-11 | 86. PM5.11 | 5 contact |
| 78.P56 11 | 80.PM6.11 | 6 contact |
| 18.PITS.11 | 86.PM7S-11 | 7 small |
| $18 . \mathrm{Pl} 8 \mathrm{II}$ | 86.PM8-11 | 8 octal |
| 78.PF9.11 | 86.PM9.11 | 9 octal style |
| $78 . \mathrm{PF} 11.11$ | 86. PM 11.11 | 11 octal style |

(D) RECEPTACLE SHELLS

For "S" type sockets or "CP" type plugs. 61-61 lowers below surface; others extend above or below surface.

| AMPHENOL <br> Number | Description |
| :---: | :---: |
| 2315 | Shell only, smali |
| 231 I | Shell only, large |
| 61.61 | Shell only |

©(EUNSHIELDED SPEAKER PLUGS
Molded-in-prongs that cannot work loose. For test panels, inter-communication systems, etc.

| AMPHENOL Nuntber | Deseription |
| :---: | :---: |
| 71.4 | 4 contact, finger grip |
| 71.5 | 5 contact, finger grip |
| 71.6 | 6 contact finger grip |
| 71.1 | 7 contact. finger grip |
| 70.8 | 8 conlact |
| 70.9 | 9 contact |
| 70.12 | 12 contact |
| 70.20 | 20 conlact |
| 71.3 S | 3 contact, minıature cable plug |
| 71.45 | 4 contact, miniature cable plug |
| 71.5 S | 5 contact. miniature cable plug |
| 71.6 S | 6 contact. miniature cable plug |
| 86-CP.3S | 3 contact miniature chassis plug |
| 86-CP.4S | 4 contact, minalure chassis plug |


(A)

(F) MINIATURE CABLE CONNECTORS

Black bakelite bodies, cad. plated brass shells. Polarized.

| SHORT SHELL |  |  |
| :---: | :---: | :---: |
| AMPHENOL Number Male | Description | AMPHENOL Number Female |
| 91-MPM3S | 3 contact | 91.MPF3S |
| 91-MPM4S | 4 contact | 91-MPF4S |
| 91.MPM3L | LONG SHELL 3 contact | 91.MPF3L |
| 91.MPM4L | 4 contact | 91-MPF4L |
| 91.MPM5L | 5 contact | - - |
| 91. MPM6L | 6 contact | -- |
| --- | FLARED SHELL 3 contact | 91-MPF3 |
| -- | 4 contact | 91-MPF4 |
| 91.MPM5 | 5 contact | 91-MPF5 |
| 91-MPM6 | 6 contact | 91.MPF6 |

## (G)SHIELDED CHASSIS UNITS

Economical chassis receptacles for connecting shielded or unshielded cables. Mourts on surface or behind chassis or panel. Female only.

| AMPHENOL <br> Number | Description |
| :---: | :---: |
| $78 \cdot P C G 3$ | 3 contact |
| $78 \cdot P C G 4$ | 4 contact |
| $78 \cdot$ PCG5 | 5 contact |
| $78 \cdot P C G 6$ | 6 contact |

(H) 110 -VOLT PLUG \&

RECEPTACLE INSERTS
UL approved; black bakelite bodies. Rated at 15 amps.


## MISCELLANEOUS Electronic COMPONENTS


(I)

- chicago 50, illinois


## TEFLON DIELECTRIC

RG-/U coaxial cables with teffon dielectric operate without difficulty at temperatures from $-73^{\circ} \mathrm{C}$. to $-260^{\circ} \mathrm{C}$. Teflon is outstanding not only because of its efficiency at high temperatures but also because of its extreniely low loss and high voltage breakdown.

## RG TYPE COAXIAL CABLE



| Military Number RG- U | AMPHENOL Number | Noni. Imp. Ohms | $\begin{aligned} & \text { Armor } \\ & 0.0 . \end{aligned}$ | $\left\lvert\, \begin{aligned} & \text { Jacket } \\ & \text { O.D. } \end{aligned}\right.$ | Jacket Type | $\underset{\text { t }{ }_{\text {st }}}{\text { Shi }}$ | $\begin{aligned} & \text { elds } \\ & \text { 2nd } \end{aligned}$ | Dielectric O.D. | Inner Conductor | V.P. | $\begin{gathered} \text { Cap. } \\ \text { Mmfo. } \\ \text { Ft. } \end{gathered}$ | Max. Oper. Volts |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 87A | 21.250 | 50 |  | 425 | FSI | ; | 5 | 280 | 7 20S | 695 | 295 | 4000 |
| 116 | 21-378 | 50 | 475 | 425 | FらI | s | ; | 280 | 720 S | 69.5 | 29.5 | 4000 |
| 117 | 21-377 | 50 |  | 730 | Fil | $\therefore$ |  | . 610 | .188C | 69.5 | 29 | 5000 |
| 118 | 21-374 | 50 | 780 | . 730 | FSI | $\stackrel{0}{ }$ |  | . 610 | .188C | 69.5 | 29 | 5000 |
| 119 | 21.398 | 50 |  | . 470 | FSI | 6 | し | 328 | 10C | 695 | 29 | $500 \%$ |
| 120 | 21-399 | 50 | . 515 | 470 | FSI | $\because$ | c | . 328 | 10C | 695 | 29 | 5000 |
| 126 | 21.443 | 50 |  | . 290 | FSI | K |  | 180 | 724 K | 69.5 | 29 | 2000 |
| 140 | 21.379 | 73 |  | 242 | F3l | j |  | 146 | 21 SCW | 695 | 21 | 1700 |
| 141 | 21.382 | 50 |  | . 195 | FSI | j |  | 116 | 19SCW | 695 | 29 | 1500 |
| 142 | 21-385 | 50 |  | 206 | FSI | 5 | 5 | 116 | 19SCW | 69.5 | 29 | 1500 |
| 143 | 21-388 | 50 |  | 325 | FSI | 3 | 5 | 185 | 15SCW | 69.5 | 29 | 2000 |
| 144 | 21.391 | 72 |  | . 395 | FSI | S |  | . 280 | 725 SCW | 69.5 | 21 | 3000 |
| K-Karma W |  | FSI - Fibreglass Silicone Impregnated |  |  | S-Sitver-coated Coppei SCW - Silver-coated Cupperweld |  |  |  | C-Coppeı |  |  |  |

(A) NOISE-FREE COAXIAL CABLE Cable that remains electrical! neutral under conditions of shoek and vibration. Does not generate spurious signals cue to flexins or distorting cable lines.

| Similarsio <br> RG- U | AMPHENOL <br> Number | Impedanc: <br> in Onmi |
| :---: | :---: | :---: |
| 8 | $21-539$ | 52 |
| 11 | $21-467$ | 75 |
| 54 A | $21-553$ | 58 |
| 58 A | $21-537$ | 50 |
| 59 | 21.541 | 73 |

## (B) SUBMINIATURE COAXIAL CABLE

Identical in construction to full size coaxial cable. new Submint ature cables are intended for us in new miniaturization pro granis. Assembled with SUB MINAX RF comnectors describe i. on page 7 of this catalos.

| Polyethylene Dielectric |  |  |
| :--- | :---: | :---: |
| Mititary <br> Number <br> RG- U | AMPHENOL <br> Number | Lmpedinc; <br> in Ohrm; |
| 174 | $21-538$ | 50 |
|  | $21-597$ <br> Kel-F Dielectric | 75 |
|  | 21.596 | 50 |

(C) MICROPHONE CABLE

Amphenol Microphone Cabl: with polyethylenedielectric jacket is designell for use in P..t. systems or any sort of sound equipment.


(D) ALJAK COAXIAL CABLE

Similar to their RG-/U counterparts except that instead of a vinyl jacket ALJAK has a seamless extruded aluninum jacket swaged over a polyethylene or Telion core. Completely waterproof, ALJAK features low attenuation, smaller od's than standard cable.

| Regular <br> Rolyethytene Dietectric <br> RG-U Core | AMPHENOL <br> Number | Impedance <br> in Ohms |
| :---: | :---: | :---: |
| 8 | $21-606$ | 50 |
| 11 | $21-607$ <br> Tefion Dielectric | 75 |
| 87 A | $21-608$ | 50 |
| $\mathbf{1 4 4}$ | $21-609$ | 75 |

## (E) TRIAXIAL CABLE

Triaxial type double shielded cable for reduction of signal radiations in community tv and other commercial applications.

| Similar to <br> RG- U U | AMPHENOL <br> Number | Impedance <br> in Ohms |
| :---: | :---: | :---: |
| 8 | 21.583 | 52 |
| 11 | 21.529 | 75 |
| 58 A | 21.204 | 50 |
| 59 | 21.527 | 73 |

RG TYPE COAXIAL CABLE (continued)
POLYETHYLENE DIELECTRIC

Standard RG-/U coaxial cable, produced to government specifications. Low temperature black jacket is non-contaminating, operates at $-40^{\circ} \mathrm{C}$. All cables manufactured to highest quality standards.

| Standard Jacket |  | Low Temp. Black Jackel |  | $\begin{aligned} & \text { Impedance } \\ & \text { in } \\ & \text { Ohms } \end{aligned}$ | $\begin{aligned} & 0 . \mathrm{D} \\ & \text { of } \\ & \text { Armor } \end{aligned}$ | Jacket Diameter | Vinyl Jacket | Shields <br> 1st 2nd |  | O. D. of Dielectric | Inner Conductor | V. P. <br> Per <br> Cent | Cap. Mmid /Ft. | Max. Opar Volts Rms |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Military <br> Number <br> RG-/U | AMPHENOL Number | Signal Corps Number RG-/U | AMPHENOL Number |  |  |  |  |  |  |  |  |  |  |  |
| 5 | 21.001 |  |  | 52.5 |  | . 332 | Black |  | C C | . 185 | 16 | 65.9 | 28.5 | 3000 |
| 5A | 21.271 | 58 | 21.294 | 50 |  | . 328 | Grey |  | $\mathrm{S} \quad \mathrm{S}$ | . 181 | 16 S | 65.9 | 29 | 3000 |
| 6 | 21.002 | 6A | 21.330 | 76 |  | . 332 | Grey |  | $\mathrm{S} \quad \mathrm{C}$ | . 185 | 21CW | 65.9 | 20 | 2700 |
| 7 | 21.003 |  |  | 97 |  | . 370 | Black |  | C - | . $250{ }^{*}$ | 19 | 84 | 12.5 | 1000 |
| 8 | 21.004 | 8 A | 21.290 | 52 |  | . 405 | Black | C | C $\quad-$ | . 285 | 7/21 | 65.9 | 29.5 | 4000 |
| 9 | 21.005 |  |  | 51 |  | . 420 | Grey | S | S C | . 280 | 7/21S | 65.9 | 30 | 4000 |
| 9A | 21.231 | 9B | 21.332 | 51 |  | . 420 | Grey |  | S S | . 280 | 7/21S | 65.9 | 30 | 4000 |
| 10 | 21.006 | 10 A | 21.338 | 52 | . 475 | . 405 | Grey | C | c - | . 285 | 7/21 | 65.9 | 29.5 | 4000 |
| 11 | 21.007 | 11 A | 21.296 | 75 |  | . 405 | Black | C | c - | . 285 | 7/26T | 65.9 | 20.5 | 4000 |
| 12 | 21.008 | 12A | 21.340 | 75 | . 475 | . 405 | Grey | C | $C \quad-$ | . 285 | 7,26T | 65.9 | 20.5 | 4000 |
| 13 | 21.009 | 13 A | 21.334 | 74 |  | . 420 | Black |  | C C | . 280 | 7,26T | 65.9 | 20.5 | 4000 |
| 14 | 21-010 | 14 A | 21.336 | 52 |  | . 545 | Giey | C | c C | . 370 | 10 | 65.9 | 29.5 | 5500 |
| 15 | 21.011 |  |  | 76 |  | . 545 | Black | C | c C | . 370 | 15CW | 65.9 | 20 | 5000 |
| 17 | 21.013 | 17A | 21-298 | 52 |  | . 870 | Grey | C | c - | . 680 | . 188 | 65.9 | 29.5 | 11000 |
| 18 | 21.014 | 18A | 21.300 | 52 | . 945 | . 870 | Grey | c | C - | . 680 | . 188 | 65.9 | 29.5 | 11000 |
| 19 | 21.015 | 19A | 21.303 | 52 |  | 1.120 | Grey | C | C - | . 910 | . 250 | 65.9 | 29.5 | 14000 |
| 20 | 21.016 | 20A | 21-305 | 52 | 1.195 | 1.120 | Grey | C | C $\quad-$ | . 910 | . 250 | 65.9 | 29.5 | 14000 |
| 21 | 21.017 | 21A | 21-308 | 53 |  | . 332 | Grey | S | 5 S | . 185 | 16 N | 65.9 | 29 | 2700 |
| 22 | 21.038 |  |  | 95 |  | . 405 | Black | 1 | - | . 285 | Two 7/.0152 | 65.9 | 16 | 1000 |
| 22A | 21.148 | 228 | 21.310 | 95 |  | . 420 | Grey | I | 1 | . 285 | Two 7/.0152 | 65.9 | 16 | 1000 |
| 23 | 21-094 | 23A | 21.516 | 125 |  | $\begin{aligned} & .650 x \\ & .945 \\ & \hline \end{aligned}$ | Black | c | c C | . 380 | Two 7/21 | 65.9 | 12 | 3000 |
| 24 | 21-096 | 24A | 21-518 | 125 | $\begin{aligned} & .735 x \\ & 1.034 \\ & \hline \end{aligned}$ | $\begin{aligned} & .650 x \\ & .945 \\ & \hline \end{aligned}$ | Black | c | C | . 380 | Two 7/21 | 65.9 | 12 | 3000 |
| 29 | 21-018 |  |  | 53.5 |  | . 184 | Poly | I | - | . 116 | 20 | 65.9 | 28.5 | 1900 |
| 34 | 21.019 | 34A | 21-429 | 71 |  | . 625 | Black | C | - | . 455 | 7/21 | 65.9 | 21.5 | 5200 |
| 35 | 21.020 | 35A | 21.311 | 71 | . 945 | . 870 | Grey | C | - | . 680 | 9 | 65.9 | 21.5 | 10000 |
| 42 | 21-021 |  |  | 78 |  | . 342 | Grey | S | S | . 196 | 21 N | 65.9 | 20 | 2700 |
| 54 A | 21.022 |  |  | 58 |  | . 250 | Poly | T | - | . 178 | 7. 0152 | 65.9 | 26.5 | 3000 |
| 55 | 21.023 |  |  | 53.5 |  | . 206 | Poly | T | T | . 116 | 20 | 65.9 | 28.5 | 1900 |
| 57 | 21.039 | 57A | 21-313 | 95 |  | . 625 | Black | T | - - | . 472 | Two 721 | 65.9 | 17 | 3000 |
| 58 | 21.024 | 58B | $21-315$ | $5 \ .5$ |  | . 195 | Black | T | - | . 116 | 20 | 65.9 | 28.5 | 1900 |
| 58A | 21-199 | 58 C | 21-316 | 50 |  | . 195 | Black | I | - | . 116 | $19^{\prime} .0071$ | 65.9 | 28.5 | 1900 |
| 59 | 21.025 | 59A | 21.291 | 13 |  | . 242 | Black | C | - | . 146 | 22CW | 65.9 | 21 | 2300 |
| 62 | 21.026 | 62A | 21.318 | 93 |  | . 242 | Black | C | - | .146* | 22CW | 84 | 13.5 | 750 |
| 63 | 21-027 | 63B | 21.320 | 125 |  | . 405 | Black | C | - | .285* | 22CW | 84 | 10 | 1000 |
| 11 | 21.029 |  |  | 93 |  | . 250 | Poly | T | T | .146* | 22CW | 84 | 13.5 | 750 |
| 74 | 21-041 | 74A | 21.321 | 52 | . 615 | . 545 | Grey | C | C | . 370 | 10 | 65.9 | 29.5 | 5500 |
| 79 | 21-070 | 798 | 21.325 | 125 | . 475 | . 405 | Black | C | - | .285* | 22CW | 84 | 10 | 1000 |
| 83 | 21.180 |  |  | 35 |  | . 405 | Black | C | - | . 240 | 10 | 65.9 | 44 | 2000 |
| 89 | 21.253 |  |  | 125 |  | . 632 | Black | C | - | .285* | 22CW | 84 | 10 | 1000 |
| 108 | 21.261 | 108A | 21.327 | 76 |  | . 245 | Black | I | - | . 079 Ea . | Two 7/28 |  | 25 | 1000 |
| 111 | 21.255 | 111 A | 21.329 | 95 | . 490 | . 420 | Grey | I | T | . 285 | Two 7.0152 | 65,9 | 16 | 1000 |
| 114 | 21-440 | 114 A | 21.520 | 185 |  | . 405 | Black | C | - | .285* | 33 CW |  | 6.5 | 1000 |
|  |  | 122 | 21-441 | 50 |  | . 160 | Black | I | - | . 096 | 2736 T | 65.9 | 29.3 | 1900 |
|  |  | 125 | 2i-442 | 150 |  | . 600 | Black | C | - | .460* | 26CW | 84 | 7.8 | 1000 |
| 130 | 21.436 |  |  | 95 |  | . 625 | Black | T | - | . 472 | Two 721 | 659 | 17 | 3000 |
| 131 | 21.437 |  |  | 95 | . 710 | . 625 | Black | 1 | - | . 472 | Two 721 | 65.9 | 17 | 3000 |
| 133 | 21-525 |  |  | 95 |  | . 405 | Black | C | - | . 285 | 21 | 65.9 | 16.2 | 1000 |
| 164 | 21-125 |  |  | 71 |  | . 870 | Grey | C | - | . 680 | 9 | 65.9 | 21.5 | 10000 |

*Semi-solid dielectric $C$-Copper $S$-Sitvered copper $N$-Nichrome $C W$-Copperweld T-Tinned copper
chicago 50, illinois

# CANNON PLUGS CANNON ELECTRIC CO. 

## 3209 Humboldt Street, Los Angeles, Calif. - Telephone CApitol 5-1251



TYPE "XK-12" STRAIGHT CORD PLUG (With Pin Insert
For use in conjunction with straight com phag liocket insert) or wall receptacte (socke! insert) with coupling nut. Shell is made of dio-rast zine bright nickel platert finish. "Fakes to ${ }^{\circ} 2$ " cable.

| Contacts | Capacity | Wt. Lbs. | Cap. No. | List Pr |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 15 -amp. | 0.081 | XK-1-12 | $\$ 3.15$ |
| 3 | 15 -amp. | 0.083 | XK-3-12 | 3.15 |
| 4 | $\{3-10$-amp. | 0.085 | XK-4-12 | 4.75 |

TYPE "XK-14" WALL RECEPTACLE (With Pin Insert)
Body fits in a" $3 / \mathrm{t}^{\prime \prime}$ hole and extends " hedind a $\mathrm{l}^{1}$ " flange. Flange is $11 / 2{ }^{\prime \prime}$ in diameter. drilled for four No. $4-40$ mounting screws on a $3 / 4$ radius. $90^{\circ}$ agart. She is made of bright nickel plated brass. Solder poots extond $1 /{ }^{\prime \prime}$ bevond booly Has external Acme thread on shell and mates with straight cord plug XK-11.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 15-amp. | 0.045 | XK-1-14 | \$3.15 |
| 3 | 15-amp. | 0.047 | XK-3-14 | 3.15 |
| 4 | $\left\{\begin{array}{l}3-10-\mathrm{mmp} . \\ 1-15 \text {-amp. }\end{array}\right\}$ | 0.049 | XK-4-14 | 4.75 |

TYPE "XK-13L" WALL RECEPTACLE (With Socket Insert)
Body fits in $1^{\prime \prime} "$ hole and extends 1 ". hehind flange. Flange is $11 / 2^{\prime \prime}$ in diameter and drilled for four No. 4-40 flathead mounting sorews on a $5 / 8^{\prime \prime}$ radius. $0^{\circ}$ apart. Shell is made of brass, nickel finish. Solder pots on contacts extend $1 / 8$ " beyond body. Mates with corresponding straight cord plug (pin insert) XK-12.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | ListPr. |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 15 -amp. | 0.144 | XK-1-13L | $\$ 5.90$ |
| 3 | $15-a m p$. | 0.146 | XK-3-13L | 6.05 |
| 4 | $\{3-10$-amp. | 0.148 | XK-4-13L | 7.60 |

TYPE "XL-11' STRAIGHT CORD PLUG (Socket Insert)
Type XI,-11 is equipped with latchlock device and has a raised polarizing loss. No. 1 contact engages lefore Nos. 2 and 3, and mav be used for grounding purposes. if desired.解" cable accommodation. Overall dimensions: length $2_{3}{ }^{3} "$ "; with relief spring. $2 z_{2}^{\prime 2}$ approx. Isright nickel finish.

| Contacts | Capacipy | Wi. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 15-amp. | . 099 | XL-3-11 | \$1.55 |
| 4 | 10-amp. | . 099 | XL-4-11 | 2.15 |



## TYPE "XL-13" RECEPTACLE (Socket Insert)



A wall mounting receptacle similar to XI 14 except that it has socket insert assembly and latch locking device. Overall dimensions: flange diameter, $1_{3^{7}}{ }^{7}$ ": Hange thickness $3_{3}^{3} "$ :
 three $0.136^{\prime \prime}$ dia. mounting holes.

| Contacts | Capacity | Wi. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 15 -amp. | .132 | XL-3.13 | $\$ 1.55$ |
| 4 | $10-a m p$. | .132 | XL-4-13 | 2.15 |

## TYPE "XL-14" RECEPTACLE (Pin Insert)



This wall mounting receptacle has three mounting holes having $0.136^{\prime \prime}$ dianteter. Overall dimensions: flange diameter, $1^{7}{ }^{7} "$; flange thickness. $3^{3} "$ : length behind flange to solder pot extension, $11^{1} "$ "; barrel diameter, $3 / 4^{\prime \prime}$. Bright nickel plated zinc shell.
Contacts
3
4
Capacity
15-amp.
10-amp.
Wt. $\mathbf{L b s}$.
.059
.059
Cat. No
XL-3-1
XL-4-1
List Pr
$\$ 1.20$
1.70

Note: All illustrations are not shown in same scale' reduction.


CANNON "TYYE XK" PLUGS , NND IRECEPINCLIAK-A quality line of Comnectors, sanue inserts and similar in design to the "Type X" Series, but equipped with the fast-acting, sturdy Acme threaded coup)ling ring and therefore, ideal for use on equipnent which is subjected to consid erabte vibration and tension on cables, sueh as on sound trucks and other portable units.



EXPLODED VIEW XK-4-11


The Cannon Electric Type "XL" Connec tor combines various features found in other Cannon types into a small fitting comparable only in size to the Type "X" for low level sound transmission circuits. Among the leading features are the following: (1) convenient latchlock device to hold connertor tight; (2) lightweight; (3) polarizins tor tight; (2) lightweight; (3) polarizins means; (4) compression gland with relief
spring or integral clanıp, if desired; (5) spring or integral clamp. if desireri; (6)
streamlined design; ( 6 ) tapped nietal for streamlined design; (6) tapped netal for insert retaining screw; (7) provision for special grounding contact and grounding to shell. Contacts are 15 -amp. for No. 14 ISKS stranded wire in 3 contact insert; 10-anmp. in 4 contact insert, Various finishes are available, bright nickel being standard Steel shell types are available with satin chrome finish. Flashover Voltage 1400-160()v.
(XL Series continued on next page)

* XLR SHOWN ON FOLLOWING PAGES


## CANNON PLUGS CANNON ELECTRIC CO.

## 3209 Humboldt Street, Los Angeles, Calif. - Telephone CApitol 5-125

## (XI Series confinued)

XL DUST CAPS


TYPE XL-13N-RC FOR SOCKET ASSEMBLIES

List Pr. 2.55


TYPE XL-14N-PC FOR PIN ASSEMBLIES


TWO GANG WALL RECEPTACLES
List Pr.
(See opposite column)
XL-3-35-2G ( 2 socket inserts)
.59 .35
XL-4-35-2G ( 2 socket inserts) 10.55

XL-3-36-2G (2 pin inserts)
9.30

XL-4-36-2G (2 pin inserts) . . . . . . . . . . . . 10.25
$\qquad$

(P Series continued on next page)

# CANNON PLUGS <br> 5 <br> CANNON ELECTRIC CO. 

3209 Humboldt Street, Los Angeles, Calif. - Telephone CApitol 5-1251

TYPE "PP-23" STRAIGHT CORD PIUG (with Socket Insert), HEAVY DUTY-Shell i- die-cast aine for severe service, but eniplovs features such as the latch rype locking device which is stambard on "Type I'" It hats interral clamp for 3,4 " cable. Nlso made for " " and "s" cable if specitied. Satin chrome finish.


| ontacts | Capacity | Wr. Lbs. | Cat. No. | Lisp Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | $30-$ amp. | 0.166 | P2-23 | $\$ 8.90$ |
| 3 | $30-a m p$. | 0.170 | P3-23 | 9.20 |
| 4 | $30-a m p$. | 0.174 | P4-23 | 9.65 |
| 5 | 30 -amp. | 0.178 | P5-23 | 10.10 |
| 6 | $30-a m p$. | 0.182 | P6-23 | 10.40 |
| 8 | $15-a m p$. | 0.178 | P8-23 | 11.05 |

TYPE "P-24" STRAIGHT CORD PLUG (with Pin Insert), HEAVY DUTY-Corresponds wirh "Type 1'-2:3" plug (socket insert). Built for hard service. The skirt is steel. body is die-cast zinc. Has integrat clamp, for ${ }^{3} 4^{\prime \prime}, 5^{5} \mathrm{~s}^{\prime \prime}$ or ${ }^{\circ}$ " cable, if specified. Satin chrome finish.

| Contacts | Capacity | Wi. Lbs. | Cat. No. | Lisp Pr. |
| :---: | :---: | :---: | :---: | ---: |
| 2 | $30-$ omp. | 0.170 | P2-24 | 59.00 |
| 3 | $30-$ amp. | 0.173 | P3-24 | 9.20 |
| 4 | $30-o m p$. | 0.176 | P4-24 | 9.35 |
| 5 | $30-$ amp. | 0.179 | P5-24 | 9.55 |
| 6 | $30-$ amp. | 0.182 | P6-24 | 9.95 |
| 8 | $15-a m p$. | 0.179 | P8-24 | 10.40 |

TYPE "P-CG-15" $90^{\circ}$ CORD PIUG (with Socket Insert)
Has split shell and all other "II"voe J" features found in Trpe $P-15$. $0^{\circ}$ plug exceps calle commection. which is an integral clamp for cable $17.32^{\prime \prime}$ or smaller. Satin chrone plated zinc shell. New. heavier clamp.
Contocts

| Capacity | Wt. Lbs. | Cap. No. | 1 |
| :---: | :---: | :---: | :---: |
| 30-omp. | 0.220 | P 2-CG-15 | \$6.90 |
| 30-0mp. | 0.224 | P3-CG-15 | 7.15 |
| 30-qmp. | 0.228 | P4-CG-15 | 7.50 |
| 30-amp. | 0.232 | P5-CG-15 | 7.80 |
| 30-omp. | 0.236 | P6-CG-15 | 8.00 |
| 15-amp. | 0.232 | P8-CG-15 | 8.50 |

TYPE "P.CG-16" $90^{\circ}$ CORD PLUG (with Pin Insert)
Corresponds to Type P-CG-15 $90^{\circ}$ plug (Socket insert), having integral clamp for 17/32" or smaller cable. Barrel is of steel and shell of cast aluninum alloy. satin chrome finish. Removable cap for easy access to contacts for wiring or inspection. New heavier clamp.

| Contocts | Copacipy | Wi.lbs. | Cop. Na. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 30 -amp. | 0.195 | P2-CG-16 | \$6.45 |
| 3 | 30 -amp. | 0.198 | P3-CG-16 | 6.55 |
| 4 | $30-\mathrm{mmp}$. | 0.201 | P4-CG-16 | 6.65 |
| 5 | 30-amp. | 0.204 | P5-CG-16 | 6.80 |
| 6 | 30-amp. | 0.207 | P6-CG-16 | 7.10 |
| 8 | 15-amp. | 0.204 | P8-CG-16 | 7.40 |

TYPE "P-17" PANEL RECEPTACLE (with Socket Insert) Surface Mounting - P- 17 has latch locking device and all other "Type $\mathrm{P}^{\prime \prime}$ features. Made of die-cast zinc. Satin chrome finish. Flange is $2^{\prime \prime}$ in diameter. drilled and countersunk at four points $90^{\circ}$ apart on ${ }^{\circ}$ radius for four No. $4-40$ machine points. Body apart on ${ }^{\circ}{ }^{\circ}$ " in front of $1 / 8 "$ mounting flange. Contacts Capacity Wt. Lbs, Cat. No. List Pr.

| 30-amp. | 0.125 | P2-17 | $\$ 7.70$ |
| :--- | :--- | :--- | ---: |
| 30-amp. | 0.129 | P3-17 | 8.00 |
| 30-amp. | 0.133 | P4-17 | 8.40 |
| 30-amp. | 0.137 | P5 -17 | 8.90 |
| 30-amp. | 0.141 | P6-17 | 9.20 |
| 15-omp. | 0.137 | P8-17 | 9.85 |

TYPE 'P-18"' PANEL RECEPTACLE (with Pin Insert) Surface Mounting-Corresponds 10 "Type P-17," ['anel IReceptacle. Shell is made of zinc. with satin chome finish. Flange is $2^{\prime \prime}$ in diameler. drilled and countersunk at four points on $\left\{\frac{8}{8}\right.$ radius for lour No. 4-41) machine screws
Contacts Capacity Wi.Lbs.

| Copacity | Wi. Lbs. | Cop. No. | List Pr |
| :---: | :---: | :---: | :---: |
| 30 -amp. | 0.156 | P2-18 | $\$ 4.15$ |
| 30 -omp. | 0.159 | P3-18 | 4.35 |
| $30-$ omp. | 0.162 | P4-18 | 4.50 |
| $30-$ omp. | 0.165 | P5-18 | 4.70 |
| $30-$ omp. | 0.168 | P6-18 | 5.05 |
| 15 -omp. | 0.165 | P8-18 | 5.55 |

TYPE "P-13" PANEL RECEPTACLE (with Sockep Insert) Flush Mounting-Has latch locking device which operates from front of panel. Made of die-cist zinc with satin chrome finish. Flange is $2^{2}$ " in diameter. drilled and countersunk at four points on is radius for four No. 4.40 machine screws.
Contacts
Capacity

| Contacts | Capacity | Wr. Lbs. | Cap. No. | Lisp Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 30-amp. | 0.202 | P2-13 | \$5.15 |
| 3 | 30 -amp. | 0.206 | P3-13 | 5.35 |
| 4 | 30 -omp. | 0.210 | P4-13 | 5.65 |
| 5 | 30-amp. | 0.214 | P5-13 | 6.00 |
| 6 | $30-\mathrm{mmp}$. | 0.218 | P6-13 | 6.20 |
| 8 | 15-amp. | 0.214 | P8.13 | 6.65 |

## TYPE CONNECTOR SERIES

CANNON "IY'IE P" FITYINGS. Universally used in sound and allied applications. "Type I"' Fittings include a sice and type for every requirement, with a high stiandard of quality. All $90^{\circ}$ Plugs have split-shell construction for quick, easy access for wiring or inspection. Splash-proof but not weather-proof. Plug and receptacle dust caps are available. I aiboratory tents show an average voltage-drop of not more than 10 millivolts, with current flowing a the rated capacity. Insulating material is black phenolic which has a $0.7 \%$ absorption in 24 hours of immersion in water and a dielectric strength of 550 volts per mil at 60 cycles. Two to 6 contact incerts accommodate No. 10 B\&S stranded wire; 8 contact insert No. 14 wire. Shell designs of the P-CG-11S and ${ }^{2}$-CG-12S, cord plugs have such improvements as shorter length, new rubber bushing, improved latch and spring, integral clamp. Shell of plug material is steel, integral clamp zinc.


NEW TYPES WILL MATE WITH SAME CORRESPONDING FITTINGS AS OLD DESIGN

## APPLICATION


"P" series connectors used on 16 mm . sound recorder, Mfg. by Reeves Sound Studios Inc.
( $P$ Series continued on next page)

## CANNON PLUGS CANNON ELECTRIC CO.

3209 Humboldt Street, Los Angeles, Calif. - Telephone CApitol 5-1251


## SEE AUDIO BULLETIN FOR COMPLETE DETAILS

ACCESSORY ITEMS
DUST CAPS
Fits all "rype p"
fittings with pin in. serts. Made of brass, cadmium plated, with
 nickel silverlread chain.

| Lbs. | Cat. Na | List |
| :--- | :--- | ---: |
| 0.081 | PPC | $\$ 2.80$ |
| 0.082 | PCI* | 3.30 |

*Type PCI is insulated inside for application where coniacts are "hot"

TYPE PRC DUST CAP
Fits all "'Type ${ }^{\prime}$ " fittings with socket inserts. Made of brass. cadmium plated with
nickelsilverbead chain.



MINIMUM FLASHOVER VOLTAGES ON P INSERTS
P2-1600v, P3-1600v P4-1900v, P5-1600v P6-1600v, P8-1300v


TYPE "XL"' AND "P'" CONNECTORS SHOWN ON 16 MM. SOUND MOTION PICTURE PROJECTOR MFG. $8 Y$ DeVRY CORPORATION.


TYPE '"P-14"' RECEPTACLE (Pin Insert), FLUSH MOUNTING Flange is $2^{\prime \prime}$ in diameter. drilled with four 0.120" diameter holes to take four No. 4-40 mounting screws, arranged 9$)^{\circ}$ apart on a

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 30-amp. | 0.104 | P2-14 | \$2.70 |
| 3 | 30-amp. | 0.107 | P3-14 | 2.80 |
| 4 | 30 -amp. | 0.110 | P4-14 | 3.00 |
| 5 | $30-\mathrm{mp}$. | 0.113 | P5.14 | 3.10 |
| 6 | $30 . \mathrm{mp}$. | 0.116 | P6.14 | 3.35 |
| 8 | 15-amp. | 0.113 | P8-14 | 3.70 |



TYPE "P-35" SINGLE GANG WALL RECEPTACLE (with Socket Insert)-Furnisherl with brackets for standard switeh lox. Shell has satin chrome finish on hrass plate. Plate is 41 " high and $2^{3}$,
front of panel,

| Contacts | Capacity | Wi. Lbs. | Cat. Na. | List Pr |
| :---: | :---: | :---: | :---: | ---: |
| 2 | $30-a \mathrm{mp}$. | 0.341 | P2-35 | $\$ 8.95$ |
| 3 | $30 . \mathrm{mp}$. | 0.345 | P3-35 | 9.15 |
| 4 | $30-a \mathrm{mp}$. | 0.349 | P4-35 | 9.45 |
| 5 | $30-a \mathrm{mp}$. | 0.353 | P5-35 | 9.80 |
| 6 | $30-\mathrm{mp}$ | 0.357 | P6-35 | 10.00 |
| 8 | $15-a \mathrm{mp}$. | 0.353 | P8-35 | 10.45 |

TYPE "P-35-2G" TWO-GANG WALL RECEPTACLE (With Sacket Inserts)-Furnished with brackels for standard switch lowx. Plate is $41 / 2^{\prime \prime}$ high and $43^{\prime \prime}$ " wide. Both receptacles have latch locking device. operated from front of panel. Plate has satin chrome finish on brass plate

| Contacts | Capacity | Wt. Lbs. | Cat. Na. | List Pr |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 30-amp. | 0.448 | P2-35-2G | \$18.00 |
| 3 | $30-\mathrm{mp}$. | 0.456 | P3-35-2G | 18.55 |
| 4 | $30-\mathrm{mp}$. | 0.464 | P4-35-2G | 19.50 |
| 5 | $30-\mathrm{mp}$. | 0.472 | P5-35-2G | 20.40 |
| 6 | 30-amp. | 0.480 | P6-35-2G | 20.95 |
| 8 | 15-amp. | 0.472 | P8-35-2G | 22.25 |



TYPE "P-36" SINGLE GANG WALL RECEPTACLE (With Pin Insert)-Plate is $41 / 2^{\prime \prime}$ high and $23 / 4$ " wide. Furnisherl with hrackets for standard switch box. Satin chrome finish on hrass plate.
Contacts
Capacity
$30-\mathrm{mp}$.
$30-\mathrm{mmp}$.
$30-\mathrm{mpp}$.
$30-\mathrm{mp}$.
$30-\mathrm{mmp}$.
$15-\mathrm{mpp}$.
Wt. 16 s.
0.277
0.280
0.283
0.286
0.289
0.286
$\ldots .$.

| Cat. No. | List Pr. |
| :---: | ---: |
| P2-36 | $\$ 6.95$ |
| P3-36 | 7.10 |
| P4-36 | 7.20 |
| P5-36 | 7.40 |
| P6-36 | 7.60 |
| P8-36 | 7.90 |
| . | ... |


|  | TYPE "P-36-2G" TWO-GANG WALL RECEPTACLE (With Pin Insert)-P'late is $41 / 2^{\prime \prime}$ high and $4_{1 n}{ }^{\prime \prime}$ " wide. Furnished with brackets for standard switch box. Satin chrome finish on brass plate. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Contacts | Capacity | Wt. Lbs. | Cat. No. P2-36-2 | List Pr. |
|  | 3 | 30 -amp | 0.563 | P3-36-2G | \$14.25 |
|  | 4 | 30 -amp. | 0.572 | P4-36-2G | 14.95 |
|  | 5 | 30-amp. | 0.579 | P5-36-2G | 15.35 |
|  | 6 | $30-\mathrm{cmp}$. | 0.588 | P6-36-2G | 16.10 |
|  |  | 15-amp. | 0.579 | P8-36-2G | 17.05 |

TYPE "P-41" $90^{\circ}$ MICROPHONE OR PANEL RECEPTACLE (With Socket Insert)-Can le mounted in equipment or instrument panel. Equipped with latch locking device. Cap is removable for easy wiring. Shell is die-cast zinc, finished in black wrinkle enamel.

| Contacts | Capacity | Wi. Lbs. | Cal. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 30-amp. | 0.249 | P2-41 | \$11.55 |
| 3 | $30-\mathrm{amp}$. | 0.253 | P3-41 | 11.80 |
| 4 | $30-\mathrm{amp}$. | 0.257 | P4-41 | 12.25 |
| 5 | $30-\mathrm{mp}$. | 0.261 | P5-41 | 12.75 |
| 6 | $30-\mathrm{mp}$. | 0.265 | P6-41 | 13.05 |
| 8 | 15 -amp. | 0.261 | P8-41 | 13.70 |

TYPE "P-42" $90^{\circ}$ MICROPHONE OR PANEL RECEPTACLE (With Pin Insert)-For mounting on equipment or instrument panel. Cap is removable for easy wiring. Shell is made of die-cast zinc with black wrinkle enamel finish.

| Contacts | Capacity | Wt. Lbs. | Col. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 30-amp. | 0.176 | P2.42 | \$8.40 |
| 3 | $30-\mathrm{mp}$. | 0.179 | P3-42 | 8.65 |
| 4 | 30-amp. | 0.182 | P4-42 | 8.80 |
| 5 | 30-amp. | 0.185 | P5-42 | 9.00 |
| 6 | 30-amp. | 0.188 | P6-42 | 9.35 |
| 8 | 15-amp. | 0.185 | P8-42 | 9.85 |



# CANHON PLUGS 3 CANNON ELECTRIC CO. 

3209 Humboldt Street, Los Angeles, Calif. - Telephone CApitol 5-1251
(Continued from previous page)

APPLICATION

$X$ connectors used on 60 -cycle servo amplifier for laboratory and general use, manufactured by Servo Corp. of America.


The UA Series of audio connectors, designed in co-operation with the RLE'MA Comnittee, has all the features of Type $P$. O, and XI, plus the following: (1) goldplated contacts for long life and "no noise" (2) double protection rubber relief collar and rubber bushings (3) flat-top polarization for finger-touch action (4) stronger and better latch lock (5) steel plug shells and insert barrel (6) spring-action insert removal - no screws.

Insulators are high dielectric, molded general-purpose phenolic, 15 a . contacts with 2400 v minimun flashover; for No. 14 stranded wire. Max. cable entry is $1 / 2^{\prime \prime}$. Shown in Audio Bulletin.


## SEMI-EXPLODED VIEW UA-3-11

showing rubber cushion that fits over pin contacts to avoid shocks, provide protection from moisture, improve insulation factors.
(UA Series continued next page)

TYPE "X-14" WALL RECEPTACLE (With Pin Insert)
Body fits in $3 / 4^{\prime \prime}$ hole and extends $23 / 32^{\prime \prime}$ behind the flange, which is $1-3 / 8^{\prime \prime}$ in diameter and drilled for three No. 4-40 machine screws. $120^{\circ}$ apart. Shell is zinc, nickel plated finish. Mates with X-11. Solder pots extend 1/4" leyond rear skirt.

| Contacts | Capacity | W. Lbs. | Cat. No. | List Pr |
| :---: | ---: | :---: | :---: | :---: |
| $\mathbf{1}$ | 15-amp. | 0.040 | X-1-14 | $\$ 1.65$ |
| 3 | 15-amp. | 0.042 | X-3-14 | 1.65 |
| 4 | $\{3-10-a \mathrm{mp} .1$ | 0.044 | X-4-14 | 3.00 |

TYPE "X-42" MICROPHONE RECEPTACLE (With Pin Insert) Has all the features of "Type X" straight cord plugs and wall receptacles but it is mounted on a flat base. Shell is die cast zinc, nickel finish. Mates with X-11. Mounting holes are $0.144^{\prime \prime}$ in diameter and $1^{\prime \prime}$ apart.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 15-amp. | 0.063 | X-3-42 | $\$ 1.65$ |

TYPE UA-3-11 PLUG (Socket Insert)
The UA-11 plug is approximately $3-1 / 2^{\prime \prime}$ long (including rubber bushing); 1-3/1 $6^{\prime \prime}$ wide and 1-1/32" thick. Steel shell and barrel. Mates with UA-12, UA-32, and UA-42.

| Contacts | Capacity | W. Lbs. | Car. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 15-amp. | 0.15 | UA-3-11 | $\$ 5.35$ |

TYPE UA-3-12 PLUG (Pin Insert)
The UA- 12 plug is approximately 3-1/4" long, including rubber relief collar. Steel shell. Mates with UA-3-11, UA-313. and UA-3-31.

| Contacts | Capacity | Wi. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 15-amp. | 0.11 | UA-3-12 | $\$ 4.40$ |

TYPE UA-3-13 RECEPTACLE (Socket Inser)
The UA-13 receptacle has a round flange compared to the rectangular flange of the $\mathbf{U A}$-31. Three mounting holes are provided. $0.120^{\prime \prime}$ diameter countersunk for No. 4 machine screws. Mates with UA-3-12.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 15-amp. | 0.14 | UA-3-13 | $\$ 4.10$ |

## TYPE UA-3-14 RECEPTACLE (Pin Insert)

The UA- 14 receptacle, like the UA-13, has a round flange. l larrel extends $25 / 32^{\prime \prime}$ behind flange with $15 / 64^{\prime \prime \prime}$ solder pot extension. A $1^{\prime \prime}$ hole is required to mount. Mates with UA-3-11.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| $\mathbf{3}$ | $15-a m p$. | 0.08 | UA-3-14 | $\$ 2.50$ |

TYPE UA-3-31 RECEPTACLE (Socket Inseri)
The UA-31 receptacle has a rectangular flange construction, extends $1-3 / 32^{\prime \prime}$ behind flange plus $3 / 16^{\prime \prime}$ max. solder pot extension, and requires a $1^{\prime \prime}$ clearance hole. Mates with UA-3-12.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | $15-a m p$. | 0.13 | UA-3-31 | $\$ 4.10$ |



TYPE UA-3-32 RECEPTACLE (Pin Insert)
The UA-3-32 Receptacle is similar to UA-31. Barrel extends $25 / 32^{\prime \prime}$ plus $15 / 64^{\prime \prime}$ max. solder pot extension behind flange, and requires a $1^{\prime \prime}$ clearance hole. Mates with XL-3-11.

| Contacts | Capacity | Wr. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | 15-amp. | 0.07 | UA-3-32 | $\$ 2.50$ |

## CANNON PLUGS CANNON ELECTRIC CO.

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TYPE UA-3-42 RECEPTACLE (Pin Insert)


The UA-42 is a special mounting receptacle adaptable to microphones and other applications where it is advisable to mount receptacle parallel to the equipment, etc. Similar to $\mathrm{XI}_{\mathrm{r}} 42$ and $\mathrm{X}-42$ types.

| Contacts | Capacity | Wt. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | $15-a m p$. | 0.08 | UA-3-42 | $\$ 4.95$ |



UA-3-14 EXPLODED VIEW tYpE XLR CONNECTOR SERIES
XLR-*-12C PLUG (Pin Insert)


Type XLR-12C has polarizing groove. Insert is removable for wiring, soldering, and inspection. Insulation material is phenolic. Shells are diecast zinc, with bright nickel finish. Integral clamp and bushings. Cable accommodation is $7 / 32^{\prime \prime}$. Overall dimensions: Length: (with bushing) 2-21/32"; Max. ) iameter: 0.750 . Mates with XLIR-11C, XITR-31 and other corresponding XI, types.

| $\begin{gathered} \text { Contacts } \\ 3 \end{gathered}$ | Capacity 10 -amp. | Wi. Lbs. 0.088 | Cat. No. XLR-3-12C | List $\mathrm{Pr}_{\mathrm{r}}$ $\$ 1.60$ |
| :---: | :---: | :---: | :---: | :---: |
| 4 | 15-amp. | 0.088 | XIR-4-12C | 1.80 |

## XLR-*- RECEPTACLE (Socket Insert)

Type XLR-31 New narrow llange and Push-Iever Release. Insulation is resilient polychloroprene. Overall climensions: Flange: $1-7 / 16^{\prime \prime}$ X $1-1 / 16^{\prime \prime}$; Flange Thickness: 3/32"; Length Skirt: 31/32". Shell is zinc, with bright nickel finish. Mates with XLR-32, XLR-12C and other corresponding XI. types.

| Contacts | Capacity | Wi. Lbs. | Cal. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | $10-\mathrm{mp}$. | 0.154 | XLR-3-31 | $\$ 2.10$ |
| 4 | $15-\mathrm{cmp}$. | 0.154 | XLR-4-31 | 2.40 |

## XLR-*-32 RECEPTACLE (Pin Insert)

Type XLRR-32 New narrow flange. Insulation is phenolic. Insert is removable for inspection and soldering. Shell is "liecast zinc with bright nickel finish. Overall dimensions: Flange: $1-1 / 16^{\prime \prime} \times 7 / 8^{\prime \prime \prime}$; Flange Thickness: $3 / 32^{\prime \prime}$; Skirt: $3 / 4^{\prime \prime} \dot{\text { M }}$ Mates with XIR-31. XIR-11C and other corresponding XIL types.

| Contacts | Capacity | We. Lbs. | Cat. No. | List Pr. |
| :---: | :---: | :---: | :---: | :---: |
| 3 | $10-\mathrm{amp}$ | 0.065 | XLR-3-32 | $\$ 1.30$ |
| 4 | $15-a \mathrm{mp}$ | 0.065 | XLR-4-32 | 1.50 |



Type SK -M7-32S RECEPTACLE (With Pin Insert)
Mounting receptacle for 1PP-M7-21C-1/2" plug shown above. Center lime to center line mounting holes $1.0 .38^{\prime \prime}$. Clearance hole, 1-5/16"

| Contacts | Capacity <br> 7 | $\left.\begin{array}{c}\text { Wt. Lbs. } \\ \text { 3-10-amp. } \\ 4-30 \text {-amp. }\end{array}\right\}$ | 0.04 | Cat. No. |
| :---: | :---: | :---: | :---: | :---: |$\quad$ List Pr.

## TEST POINT JACKS

High quality phone tip jack to accommodate standard IRETMA 0.081" dia. phone tip for laboratory use. Rugged construction, nylon insulatiton for maximum life under hard usage. In 7 colors. See Ilulletin TJ-2 for details.
$\begin{array}{cccc}\text { Contacts } & \text { Capacitance } \\ 5.7 \text { Wifd } \\ 0.006 & \text { Lbs. No. List Pr. }\end{array}$



For telephone recording connectors made by large suppliers of telephone equipment.

## 45-E <br> TEST POINT JACK

# CANNON PLUGS <br> (9) 

3209 Humboldt Street, Los Angeles, Calif. - Telephone CApitol 5-1251


The I.K \& J.KT (TV) connectors are used on television cameras and related equipment, and are a part of the Cannon "K'" series. The assemblies with the "I.K", prefix are standard " $K$," those prefixes with "IKTI" have special shells or cable entry construction.

The R24C insert has the following arrangement of 24 contacts: 3 No. 16 coaxials, 21 No. 14 contacts. Shells are aluminum alloy cadmium plated; insulators are melamine, contacts-are silver-plated brass.

## LKT DUST CAPS



For pin insert assemllies. Chain $63 / 4^{\prime \prime}$ long, Hyelet $11 / 2$ " dia.

| Cat. No. | Wi. Lbs. | List Price |
| :--- | :---: | ---: |
| LKT-60A-2 | 0.113 | $\$ 3.80$ |
| For socket insert | a.ssemblies. |  |
| Cor. No. | Wi. Lbs. | List Price |
| LKT-59A-2 | 0.147 | $\$ 3.03$ |


hermetically sealed receptacles
The sul-miniature " $U$ " series is hermetic:llly sealed on the receptacle side with vilreous insulation. The plug side has res!lient insuiation. Steel shelis, cadmium wale, bleached iridite finish. Contacts 1, 3 . 6, and 12; 5 a. Flashover: 1700 v dc, 1000 v ac rms. Solder pot terminals standard, evelet optional.
(U Series continued next page)


TYPE LKT-R24C-21-7/8 PLUG, (With Socket Insert)
Special long end bell and coupling means include gland nut, friction washer, bushing, gland washer and packing ring to support cable.

| Contacts | Cat. No. | Wi. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 24 | LKT.R24C-2 $7 / 8$ | 1.01 | $\$ 19.75$ |



TYPE LKT-R24C-22-7/8 PIUG (With Pin Insert)
Same basic construction as LKT-R24C-21-7/8, except for: pin insert, exterior thread, rubber bumper ring.
Contacts Cat. No.
W. Lbs
List Pr.
$\$ 19.90$


Wall- or box-mouting receptacle with four 0.169 dia. mounting holes $2.077^{\prime \prime}$ center to center, $2-9 / 16^{\prime \prime}$ square flange.
Contacts Cat. No. Wi. Lbs. List Pr.
$\qquad$


TYPE LK-R24C-32S RECEPTACLE (With Pin Insert)
Similar to alove receptacle except for exterior thread

| Contacts | Cat. No. | W. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
|  | LK-R24C-325 | 0.183 | $\$ 8.00$ |



TYPE U-11 PLUGS (Socket Insert)
Silcan (silicone) resilient insulation. Mates with corresponding UC-50-002, UC-50N-302, UC-12-002.

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 3 | UC-3-11 | 0.01 | $\$ 2.67$ |
| 6 | UD-6-11 | 0.019 | 3.57 |
| 12 | UE-12-11 | 0.026 | 5.05 |

$\qquad$


TYPE U-50-002 RECEPTACLES (Pin Insert) responding UC-1I Plug

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 3 | UC-3-50-002 | 0.007 | $\$ 1.57$ |
| 6 | UD-6-50-002 | 0.012 | 1.97 |
| 12 | UE $-12-50-002$ | 0.015 | 2.67 |

$\qquad$

TYPE U-50N-302 RECEPTACLES (Pin Insert)
Iocknut for mechanical application including a lockwasher. Mates with corresponding U-11.

| Contacts | Cat. No. |
| :---: | :---: |
| 3 | UC-3-50N-302 |
| 6 | UD-6-50N-302 |
| 12 | UE-12-50N-302 |

Wt. Lbs
0.008
0.014

| List $P r$ |
| :--- |
| $\$ 2.55$ |


| 0.008 | $\$ 2.55$ |
| :--- | ---: |
| 0.014 | 3.02 |
| 0.030 |  | 0.030

3.89

# CANNON PLUGS <br> © <br> firitive CANHON ELECTRIC CO. 

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TYPE DA-15P CONNECTOR (Pin Insert)
(approx. actual size)

| Contacts | Cat. No. | Wt. Lbs. | ListPr. |
| :---: | :---: | :---: | :---: |
| 15 | DA-15P | 0.013 | $\$ 2.57$ |

TYPE DA-15S CONNECTOR (Socket Insert)

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 15 | DA-15S | 0.014 | $\$ 3.10$ |

TYPE DB-25P CONNECTOR (Pin Insert)

| Contacts | Cal. No. | Wi. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 25 | DB-25P | 0.023 | $\$ 3.67$ |



TYPE DP-25S CONNECTOR (Socket Insert)

| Contacts | Cat. No. | Wi. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 25 | DP-25S | 0.031 | $\$ 4.57$ |



TYPE DC-37S CONNECTOR (Socket Insert)

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 37 | DC-37S | 0.035 | $\$ 6.53$ |



TYPE DD-50P CONNECTOR (Pin Insert)

| Contacts | Cat. No. | Wt. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 50 | DD. 50 P | 0.035 | $\$ 6.77$ |

TYPE DD-50S CONNECTOR (Socket Insert)

| Contacts | Cat. No. | W\&. Lbs. | List Pr. |
| :---: | :---: | :---: | :---: |
| 50 | DD-50S | 0.040 | $\$ 8.60$ |



## TYPE D

## subminiature CONNECTOR SERIES

Type " $D$ " subminiatures are small, compact. lightweight connectors in 4 sizes having $15,25,37$, or 50 gold-plated contacts with 5 a current rating; flashover; 1700 v dc, 1200 v ac rms. Wire size No. 20; Cadmium plated steel shell. Rack type can he used to connect and make a movable plug with addition of junction shell. Insulation is high dielectric Nylon FM 10001, keystone polarization. Average contact resistance 4.56 ( 8 max.) milliohms ner ampere. See "D" Bulletin for complete data.


UC.3-11 Plug with UC-3-50 Receptacle


DA-15P with mating DA-15S

## EBY SALES CO. of NEW YORK

## INSULATED BINDING POSTS

Knob and base are molded bakelite, with brass inserts and have nonremovable tops. Following have knurled base to prevent post twisting.

|  | Spee's. | $\begin{aligned} & \hline \begin{array}{l} \text { No. } 30 \\ \text { Junior } \end{array} \end{aligned}$ | $\begin{aligned} & \text { No. } 37 \\ & \text { Ensign } \end{aligned}$ | $\begin{gathered} \text { No. } 40 \\ \text { Commander } \end{gathered}$ | $\begin{gathered} \text { No. } 43 \\ \text { Admiral } \\ \hline \end{gathered}$ | No. 51 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Knob Diam. | 1/2" $\times 7 / 16^{\prime \prime} \mathrm{H}$. | 3/2" $\times 7 / 16^{\prime \prime} \mathrm{H}$. | $9 / 16^{\prime \prime} \times 1 / 2^{\prime \prime} \mathrm{H}$. | $5 / 6^{\prime \prime} \times 17 / 32^{\prime \prime} \mathrm{H}_{\text {c }}$ |  |
|  | Base Diam. | $1 / 2^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$. | $1 / 2^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$. | $5 / 8^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$. | $23 / 32^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$. |  |
|  | Stem | 6-32, $5 / 8^{\prime \prime}$ | 6-32, $5 / 8^{\prime \prime}$ | 8-32, $7 / \mathrm{m}^{\prime \prime}$ | 8-32, 3/4" ${ }^{\prime \prime}$ |  |
|  | Neck Diam. | $3 / 16^{\prime \prime}$ | $3 / 16^{\prime \prime}$ | 13/64" | 13/64" |  |
|  | Neck Hole | 3/32" | 3/32" | 3/32 ${ }^{\prime \prime}$ | None |  |
|  | List Prite | S.35 Ea. | S.40 Ea. | 5.55 Ea. | \$.70 Ea. |  |
| Following have boss on base to insulate stem from metal panel. Boss is flat on two sides. Stem length is from bottom of boss. |  |  |  |  |  |  |
|  | Spee's. | $\begin{aligned} & \hline \text { No. } 38 \\ & \text { Ensign } \end{aligned}$ | $\begin{gathered} \text { No. } 41 \\ \text { Commander } \end{gathered}$ | No. 44 Admiral | No. 46 Admiral |  |
|  | Knob Diam. | ${ }^{1 / 2^{\prime \prime} \times 7 / 16^{\prime \prime} \mathrm{H} .}$ | $9 / 16^{\prime \prime} \times 1 / 2^{\prime \prime} \mathrm{H}$. | $5^{8 \prime \prime} \times 17 / 32^{\prime \prime} \mathrm{H}$ | 11/16 ${ }^{\prime \prime} \times 19 / 32^{\prime \prime} \mathrm{H}_{-}$ |  |
|  | Base Diam. | 17/32 ${ }^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$. | 3/819 $\times 1 / 4^{\prime \prime} \mathrm{H}$. | $2332^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$ | $2332^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$. |  |
|  | Stem | $6-32,1 z^{\prime \prime}$ | 8-32, $588^{\prime \prime}$ | 8-32, $9^{\prime} 16^{\prime \prime}$ | 8-32, $9 / 16^{\prime \prime}$ | UNIVERSAL TYPE |
|  | Neck Diam. | 3/16" | 13/64" | $136^{\prime \prime}$ | 13/64'1 | Model No. 51 New convenient |
|  | Neck Hole | $32^{\prime \prime}$ | $332^{\prime \prime}$ | None | None | multi-type binding post for |
|  | List Price | 5.45 Ea . | 5.50 Ea . | \$.60 Ea. | S. 75 Ea . | nanca plug can be mseited at |
|  |  | Followi | ave dowel | on base. |  | top. Rated at 30 am s at 1000 volts. Simitar to Superior bind- |
|  | Spec's. | $\begin{aligned} & \hline \text { No. } 39 \\ & \text { Ensign } \\ & \hline \end{aligned}$ | No. 42 Commander | $\text { No. } 45$ <br> Admiral | No. 47 <br> Admiral | ing post DF30C. Available in <br> red or black........................ $\mathbf{8 0 . 6 7}$ |
|  | Knob Diaim. | $12^{\prime \prime} \times 7 / 16^{\prime \prime} \mathrm{H}$. | $9^{\prime} 126^{\prime \prime} \times 1 / 2^{\prime \prime} \mathrm{H}$. | $5^{5} 8^{\prime \prime} \times 1732^{\prime \prime} \mathrm{H}$. | 11/16 1 "19/32 ${ }^{\prime \prime} \mathrm{H}$. | Model No. 55 Srime as the 51 |
|  | Base Diam. | ${ }^{1} 2^{\prime \prime} \times 1 / 4^{\prime \prime \prime} \mathrm{H}$. | ${ }^{5} \mathrm{~s}^{\prime \prime} \times 11 / 4^{\prime \prime} \mathrm{H}$. | $2332^{\prime \prime} \times 1 / 4^{\prime \prime} \mathrm{H}$ | $23 / 32^{\prime \prime} \times 1 / 4^{\prime \prime} H^{\prime}$ | binding post with the exception that it is desianed to accommo- |
|  | Stem | $6-32,96^{11}$ | 8-32, 3/4 ${ }^{\prime \prime}$ | 8-32, $3,44^{\prime \prime}$ | 8-32, $3^{4}{ }^{\prime \prime}$ | date the standard .080 phono- |
|  | Neck Diam. | 3/16' | $1364^{\prime \prime}$ | $1364{ }^{\prime \prime}$ | 13 64" | tip ...-x) |
|  | Neck Hole | 3/32'1 | 3 32" | None | None |  |
|  | List Price | 5.45 Ea. | 5.60 Ea. | \$.60 Ea. | 5.75 Ea. | \$. 67 Ea. |
| TR | SISTO | OCKET |  | SM-5. Saine | as above but | ith 5 contacts. List, ea. \$0.47 |
|  |  |  |  | SM-6. Same | as above but with | with 6 contacts. List, ea. . 54 |
|  | ic casting |  |  | SM-7. Same | as above but w | th 7 contacts. List, ea. . 56 |
| MTS-E-4 per Jan $P$ | three con | ts cf |  | SM-8. Round | subminiature so he rectangular | ket made of the same low loss scckets. Nickel plated saddle |
| berylium ccpper si to facilitate sclde | Suppl |  | 7 | for mounting. |  | List, ea. \$0.65 |
| push on mcunting | et. List. | $0.46$ |  | SH-1. Brass I | ckel plated rou | metal shield for SM-8 socket. <br> List, ea, \$0.18 |



Designed for use in combining radio and phoncgraph sections of instrument, made of general purpose bakelite. Female is supplied with separate conticis, for use with 2,3 or 4 prong male.



Above with wire leads available on request.

## ALL-PURPOSE CONNECTOR



A new, compact connector made of general purpose bakelite for use where space is an important fuctor. Female, for use with 2, 3. 4 or 5 prong male, has sadde mount.


TERMINAL STRIPS \& SCREW TERMINALS
A complete selection of terminal lug strips and screw terminals are available on request. Write for our complete catalog.


## STANDARD MINIATURE SOCKETS \& SHIELDS



SHOCK SHIELD TYPE
Cat. No.
8322
8329
$8329{ }^{7}$ Pin, mica-tilled, $7 \mathrm{P}^{\prime \prime}$ M.C.
List eac!

83287 Pin, ceramic, $/ 8^{\prime \prime}$ M.C.
97239 Pin, black bake. $12 / 8^{\prime \prime} \mathrm{M} . \mathrm{C}$
9716 9 Pin, mica-4illed, $11,8^{\prime \prime}$ M.C
8757 Shield for 7 pin, $1^{3 / 44^{\prime \prime}}$ high.
8758 Adaptor for above...


SADDLE TYPE, TOP MOUNT Cat. No. 83237 Pin back bake. - M. 8327 7 4 in mica-filied, 7/8," M.C. 20 .- . 20 8326 7 Pin, ceranıc, ${ }^{7} \mathrm{is}^{\prime \prime}$ M.C.......... . 45 0001 9 Pin, black bake., 12/8" M.C..... 20 9430 O Pin, mica-filled, $1^{1 / 8^{\prime \prime}}$ M.C..... 25 9735 - P n ceramic, $1^{18^{\prime \prime}}$ M.C.......... 75


SADDLE TYPE. BOTTOM MOUNT Cat. No.

List each 85787 Pin, black bake., 7/8" M.C....... S0.15 90647 Pin, mica filled, 7/8" M.C........ . 20 9012 9 Pin, black bake., $118^{\prime \prime}$ M.C..... . 20 9401 9 Pin, mica filled, $1^{2,9^{\prime \prime}}$ M.C..... . 25 9713 9 Pin, ceranic, 12 " $^{\prime \prime}$ M.C.

SHIELDS FOR SADDLE TYPE SOCKET
SHELDS FOR SADDLE TMPE SOCKET $\begin{array}{lll}0.10 & 8759 & \text { Shield for } 9 \text { pin, } \\ .05 & 8760 & \text { Adaptor for above. }\end{array}$

2-1/16" high.............. Lis*. Price, ea. S0. 15 ets.


OCTAL SADDLE SOCKETS
? ivo. 0067-Black bshe. calmium pated stee
 No. 8451 -Loctal :ype sare specifcaions as above ..............-ist, ea. . 17

OCTAL ALL-MOLDED SOCKETS tho. 8490-Black bake., cadmium plated brass on"acts. $1_{T_{6}^{5} "}$ mounting centers...... List, ea. $\$ 0.15$ Vo. 8191-Loctal type, same specifications as foove


## ERIE RESISTOR CORPORATION-ERIE, PA.

ERIE TEFLON*STAND-OFF INSULATORS
te-400 SERIES


These Insulators are designed for low-loss, high frequency service in radar, television and other electronic equipment, as completely insulated tie-points in circuit wiring - unaffected by a wide range in ambient temperatures, pressure, altitudes, humidity, and mechanical shock and vibration.
*duPont Tradermark

TE-405 SERIES


These Miniature Stand-Off Insulators are compressed into mounting holes, are self-fastening, requiring no additional hardware. Hand tool for mounting available.
High heat resistance permits soldering without damage to insulators.
Excellent electrical characteristics adapt them to miniaturization and high frequency, high temperature, high voltage circuits.

Order by Catalog Number from Table Below

$\dagger$ Readings taken at Seo Level, Short Time Test.

|  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Insulator Number | Flash Over Point $\dagger$ | Capacitance | A | B | C | D | E | $F$ |  |
| TE. 405 | 500 VAC | .35 mmfd . | . 350 | . 040 | . 148 | . 040 | . 172 | 100 | . 136 |
| TE.408 | 1500 VAC | . 30 mmfd . | . 431 | . 125 | . 165 | 1/82 | 3/4 | 150 | . 152 |
| TE-407 | 3000 VAC | .20 mmfd . | . 493 | . 187 | . 165 | 312 | $3 / 16$ | . 150 | . 152 |
| TE-408 | 4000 VaC | . 20 mmfd . | . 556 | . 250 | . 165 | 3/20 | \%/6 | . 150 | . 152 |
| TE-409 | 5000 VaC | . 20 mmfd . | . 831 | . 400 | . 165 | 1/1 | \% $/ 1$ | . 150 | . 152 |
| TE.410 | 6000 VaC | . 20 mmfd . | . 968 | . 500 | . 215 | 1/6 | $1 / 4$ | . 187 | . 202 |
| TE-411 | 9000 VAC | . 20 mmfd . | 1.268 | . 800 | . 215 | 1/0 | $1 / 4$ | . 187 | . 202 |

$\dagger$ Reodings taken of Seo Level, Short Time Test.

# ERIE TEFLON FEED-THRU INSULATORS <br> CF-405 SERIES <br> CF. 408 SERIES 

CF-407

Series CF-405 Feed-Thru Insulators have a hollow threaded metal body which fits through the bed plate and is secured by a hex nut.
The terminal, which passes through the hollow body, is spaced by a force-fitted Teflon plug.
These Feed-Thru Insulators combine the unsurpassed insulating properties of Teflon for high frequency, high temperature, high properties of teflon tor high irequency, high temperature, high
vollage service with mechanical ruggedness unusual in miniature insulator design.


Teflon Miniature Feed-Thru Insulators, compression type, are force.fitted into mounting holes, are self-fastening and selfare force.fitted into mounting holes, are selitas assembly. The resiliency of the Teflon bodies insures against breakage in assembly and transit, and offers shock-proof and vibration-proof assembly and transit, and ond tool for mounting available. durability in service. Hand tool hor mounling available. high temperature and high voltage use, unaffected by a wide range in ambient femperatures, pressure, altitudes and humidity,
recommend them for critical circuits.

Order by Catalog Number from Table Below

|  | RATING <br> DIMENSIONS |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Insulator Number | Flash Over Point $\dagger$ | Capacitance | A | B | C | D | E | F |
| CF. 405 | $\begin{aligned} & 1500 \\ & V A C \\ & 3000 \end{aligned}$ | $\begin{gathered} 1.8 \\ \mathrm{mmfd} \\ 1.9 \end{gathered}$ | . 690 | . 135 | . 203 | . 052 | . 163 | . 337 |
| CF. 406 | $\begin{aligned} & V A C \\ & 4000 \end{aligned}$ | mmfd. 2.4 | . 876 | . 162 | . 250 | . 055 | . 188 | . 500 |
| CF-407 | VAC | mmfd. | 1.316 | . 256 | . 375 | . 085 | . 283 | . 750 |

[^27]
tReadings taken at Sea level, Shorl Time Test.

## ERIE RESISTOR CORPORATION-ERIE, PA.

## ERIE TEFLON TUBE SOCKETS



ADVANTAGES. Teflon tube sockets offer ultra superior electrical advantages. Its extremely low dielectric constant and dissipation factor result in a capacity, between pins, only twice that of air, and a circuit $Q$ better than 5,000 . Contributing to circuit

## ENGINEERING DATA.



Surface Resistance.......................... $10^{13}$ OHMS
Dielectric Strength, 60 cps., ............... 6500 V , RMS
Flashaver Voltage, between exposed metal
surfaces, $60 \mathrm{cps} . . . . . . .$. ...at Sea level 2500 V , RMS at $60,000 \mathrm{ft}$. 650 V , RMS
stability is the fact that the capacity and $Q$ remain constant; the actual change is negligible, over a irequency range of 60 cps to 30,000 Megacycles and a temperature range of minus $110^{\circ} \mathrm{F}$ to plus $500^{\circ} \mathrm{F}$. Sockets meet all RMA and JAN Specifications.
HOW TO OROER Tefion minioture tube sockets by typa number.

| T.Pin Type No. | Mounting | P.Pin Type No. |
| :---: | :--- | :---: |
| SO.427-1 | Con | SO.429.1 |
| SO.427-2 | Saddle | SO-429-2 |
| SO.427.3 | Saddle with lugs | SO-429-3 |

## ERIE KEL-F* TUBE SOCKETS



low of $-320^{\circ} \mathrm{F}$ to $+390^{\circ} \mathrm{F}$. and there is no appre. ciable change in its electrical and physical properties. Water absorption is zero by ASTM Test - hence it is unaffected by extreme humidity.
All metal parts of sockets are precision made and olated to JAN Specifications. Contacts exceed all JAN Specifications for tube retention, tab flexing and pin contact resistance.
HOW TO ORDER Kel-F miniature fube sockets by type

| 7.Pin Type No. | number. <br> Mounling | 9.Pin Type No. |
| :---: | :--- | :---: |
| SO-437-1 | Can | SO.439.1 |
| SO.437.2 | Saddle | SO.439.2 |
| SO.437.3 | Saddle with lugs | SO.439.3 |

## ERIE TEFLON SPAGHETTI

| SPECIFICAIIONS |  |  |  |
| :--- | :---: | :---: | :---: |
| DIELECTRIC STRENGTH - 500 vaits per mil. |  |  |  |
| COLORS - Notural, Red, 8lock. |  |  |  |
| HOW TO ORDER Specify size, color and fength |  |  |  |
|  |  |  |  |
|  |  |  |  |

## ERIE TEFLON CONNECTORS

## 9-PIN CONNECTOR



CN-409M

USE. Teflon 9-Pin Connectors are designed to mate with 9 -Pin Miniature Tube Sockets, to mate with 9-Pin Mi
Catalog No. SO-429-3.
ADVANTAGES. Teflon 9-Pin Connectors provide exceptionally low loss between pins and between pins and ground. The Teflon insulation offers a loss factor of less than 0.0002 ; surface resistivity of $3.5 \times 10^{13} \mathrm{hms}$; dielectric constant of 2.0 ( 60 cycies to 30,000 megacycles). It will not DC plate or carbonize under arcing.
Pins are silver-plated brass and insulating body is designed with "windows" for making easy solder connections.
HOW TO ORDER. Specify Teflon 9-Pin Connector No. CN-409.M for mating with Miniature Tube Socket No. SO-429-3.

15- and 18.PIN CONNECTORS
CN-4 15 M


USES. Erie Teflon Connectors are designed for low-loss, high frequency service in interconnection of radio, radar and other electronic equipment - where connectors must be unaffected by wide range in ambient tempera. tures, pressure altitudes, humidity, and mechanical shock and vibration.
ADVANTAGES. The principal characterstics of these Teflon connectors are outlined in the tabulation below.
Material of terminals in male connectors is Brass, silver-plated, gold-flashed; female connectors, Beryllium Copper, silver-plated, goldflashed.
HOW TO ORDER. Specify Erie Teflon Connector Type CN-415 or CN-418 for 15 or lopin connectors, with subscript $M$ or $F$ for
male or female types, or both for mating pairs.

CRYSTAL SOCKETS


USES. Teflon Crystal Sockets are designed for use wherever low loss and frequency stability are desired and mechanical shock and vibration are problems.
ADVANTAGES. Made of Teflon, these Crystal Sockets are unusually sturdy and due to the inherent resiliency of the plastic they aid in absorbing shock and vibration in severe service. Teflon Crystal Sockets have a loss factor of less than 00002 and a dielectric constant of only 2.0 from 60 cycles to 30,000 megacycles.
Teflon Crystal Sockets mount by means of a ingle hole and can be either screw or rive mounted. Assembly is facilitated as there is no danger of breakage as with ceramics.
HOW TO ORDER.
Specify Teflon CS-441 Crystal Sockets for 0.050 pins spaced 0.486 inches.

Specify Teflon CS-442 Crystal Sockets for 0.095 pins spaced 0.486 inches.

CONNECTOR CHARACTERISTICS

| CATALOG NO. | NUMBER OF TERMINALS | OIAMETER OF TERMINALS | VOLTAGE RATING (Volts RMS) | BREAKDOWN VOLTAGES (OC) (Affer $95 \%$ Humidily af $70^{\circ} \mathrm{C}$ ) |  |  |  | CURRENT RATING (Amperes) | CONTACT RESISTANCE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Between Terminals |  | Between Terminals and Gnd. |  |  |  |
|  |  |  |  | At Sea Level | $\begin{gathered} A t \\ 60,000 \\ \mathrm{Ft} \end{gathered}$ | At Sea Level | $\begin{aligned} & \text { At } \\ & 60,000 \\ & \mathrm{Ft} . \end{aligned}$ |  |  |
| $\begin{aligned} & C N-418-M \\ & C N-418-F \\ & C N-415-M \\ & C N-415-F \end{aligned}$ | 18 18 15 15 | $\begin{aligned} & 0.064 \\ & 0.064 \\ & 0.064 \\ & 0.064 \end{aligned}$ | $\begin{aligned} & 900 \\ & 900 \\ & 900 \\ & 900 \\ & \hline \end{aligned}$ | $\begin{aligned} & 3500 \\ & 3500 \\ & 4000 \\ & 4000 \end{aligned}$ | $\begin{array}{r} 800 \\ 800 \\ 1000 \\ 1000 \end{array}$ | $\begin{aligned} & 3500 \\ & 3500 \\ & 4000 \\ & 4000 \\ & \hline \end{aligned}$ | $\begin{array}{r} 800 \\ 800 \\ 1000 \\ 1000 \end{array}$ | $\begin{aligned} & 7.5 \\ & 7.5 \\ & 7.5 \\ & 7.5 \end{aligned}$ | $\begin{aligned} & 0.003 \\ & 0.003 \\ & 0.003 \\ & 0.003 \end{aligned}$ |

## WALTHAM HOROLOGICAL CORPORATION

 TELEPHONE and MICROPHONE PLUGS and JACKS




Manufactured in strict accordance with JAN-P-642 Specifications and tested in our Government approved laboratory.

## PLUGS



| Type | Mil. Type No. | Type Nis.uphun |
| :---: | :---: | :---: |
| Telcplyme | PJ-068 |  |
| Firlephuma | PJ-155 | Wicrophene |
| Telephoms | PJ-54CR |  |
| Microphore |  |  |
| Extrosion | PJ-540B | Microplant |
| Microphotw |  | E: W1-MISiot |
| Fixtrision | PJ-291 | Vicrophow |
| Virrabhめ, | PJ-292 |  |
|  | Style D | T,-10.plor |

Mil. Type No
JJ-022
JJ-024
JJ-026
JJ-033

JACKS

| Type | Mil. Type No. |
| :---: | :---: |
| 1.014 Framu. | JJ-034 |
| Switchmar |  |
| 1.ane Pramb | JJ.042 |
| Switchlualy |  |
| Fxternion | JJ-048 |
| Shart Fratu. | JJ-055 |
|  | JJ-086 |

Type Short Frame Mi.rophome Lantrema switchlam: Miniature Siniature

## WALTHAM CONNECTORS

REMEMBER. WALTHAM MANUFACTURES THE COMPLETE CONNECTOR, INCLUDING ALL COMPONENT PARTS. IN A MODERN FACTORY WHERE "QUALITY CONTROL" RESULTS IN PRODUCTS OF THE HIGHEST ENGINEERING CALIBRE.

ALL CONNECTORS MANUFACTURED TO J.A.N. SPECIFICATIONS



## POMONA ELECTRONICS CO., INC.

## TEST SOCKET ADAPTERS



MODEL TVS-7 For seven pin miniafure tubes.... \$1.65 net


MODEL TVS-B
For eight pin octal tubes ............ $\$ 1.55$ nep

Peco Test Socket Adapters are ideal for making measurements of voltage, resistance, audio and video without tracing complicated circuits from the botfom of the chassis. They Feature: Extended test tabs for easy use with either alligator


MODEL TVS-9
For nine pin miniature fubes ........... 51.85 net


MODEL TVS-I DUO-DECAL TEST SOCKET ADAPTER
For television picture fubes $\$ 1.95$ net


MODEL TVS-14 DIHEPTAL TEST SOCKET ADAPTER
For radar, cathode ray and industrial oscilloscope...... $\$ 14.90$ net
clips or test prods; Low R.F. loss with a power factor less than 0.010 at 10 Mc ; Mica-filled sturdy phenolic construction; High insulation resistance, the I.R. exceeds 500,000 megohms at $40 \%$ R.H., at $24^{\circ} \mathrm{C}$; Distributed capacity, low inter-
element capacity, approximately 1 micromicro farad; High voltage operation, voltage breakdown between elements exceeds 1700 volts $A C$ or $D C$; On model TVS-14 voltage breakdown exceeds 7500 volts.

SPECIAL ADAPTERS DESIGNED TO YOUR SPECIFICATIONS. INQUIRIES INVITED.


## BREADBOARD SOCKETS



MODEL XS-7
Seven pin miniature $\$ .49$ net


MODEL XS-9
Nine pin miniafure $\$ .57$ net

Write for prices on Model X5-8, eight pin octal Breadboard Socket.
Breadboard Sockets are designed to be used for elec. tronic experimental and development work in laboratories, schools and by electronic technicians in industry. Mounting of the Breadboard Sockets is a simplified installation requiring only a 3/32" diameter hole for mounting on the surface of the breadboard chassis, thus the chassis can be used over and over again. Circuits are wired on top of the chassis culting the cost considerably on experimental projects. Each socket is equipped with a ground lug and features silver plated phosphor bronze contacts numbered for easy identification.

METER REVERSING POLARITY SWITCH

MODEL MS-1
For use with Simpson 260 Tester .................... 55.75 net

The MS-1 is designed to reverse polarify when making circuit lest without removing lest leads to meter. It is instantly attached by plugging into test lead holes on Simpson Tester Model 260. Saves valuable time in circuit

testing, is of compact durable phenolic construction, reduces shock hazard, and may be left on meter for all measurements. The loggle switch position indicates the polarity of circuit under test.

PECO CR ADAPTER


The CR Adapters are designed for easy connection of Cathode Ray Tubes to Tube Checkers without removing the Cathode Ray Tubes from the cabinel and chassis. it checks them for shorts, relative emission, slow heater, and filament continuity. This time saving compact piece of equipment is easy to use and prevents guesswork. thus readily convincing set owner when tube is faulty.

# 10 eram TURRETS 

## BACKGROUND FOR CIRCUITRY

Vector Socket-Turrets and Plug-In units provide a unique method for mounting electronic circuit components, saving space and increasing efficiency. Catalog numbers shown in bold face type are the most popular types.

## OCTAL, MINIATURE and NOVAL SOCKET-TURRETS

Sockets are standard bottor mounting with steel saddles carrying 4 ground lugs. Body is mica-filled phenolic carrying wrap-around brass contacts, cadmium plated. Terminal posts are $1 / 2^{\prime \prime}$ O.D. with $1 / 16^{\prime \prime}$ wall. made of Crade XXXP laminated tan phenolic joined to socket. Six plated brass terminals at far end of turret plus three. six or none near socket. Mounting holes required are: for Octal 1"ctr. hole, side holes spaced 1-5/16" for 0.134" saddle holes (a larger type is also available-See A' below) : for 7 pin miniature, $5 / 8^{\prime \prime} \mathrm{ctr}$. hole, side holes spaced $7 / 8^{\prime \prime}$ for $1 / 8^{\prime \prime}$ saddle holes; for 9 Pin Noval, $3 / 4^{\prime \prime}$ ctr. holes, side holes spaced $11 / 8^{\prime \prime}$ for $1 / 8^{\prime \prime}$ saddle holes.

| 10.0.12T | Capalog Numbers $10 \cdot \mathrm{MB}-12 \mathrm{~T}$ | 10-N8-12T | * Helght <br> $21 / 2$ " |  |
| :---: | :---: | :---: | :---: | :---: |
| 10.0.9T |  |  | $21 / 2^{\prime \prime}$ | 9 term. in 2 rings spaced $13 / 8{ }^{\prime \prime}$ |
| 8.0.12T | $8 \cdot M-12 T$ | 8-N.12T | $2^{*}$ | 12 term. in 2 rings spaced 1" |
| 8-0.9T | 8-M-9T | 8-N-9T | 2 " | 9 term. in 2 rings spaced $1^{\prime \prime}$ |
| 6.0.6T | 6-M-6T | 6-N-6T | $11 / 2^{\prime \prime}$ | 6 term. in 1 ring only |
|  | S7 | 59 |  | Shield Base for atraching shields |

Hi.................. from chassis to far end of Burret
For variations not always available from distributors but obtainable at the factory:

Add 'A' to No. for large octal socket ( $1 / 2$ Mtg. Ctrs., $11 / 8$ " hole)
Add 'J' to No. for 'MFE' socket casting, beryllium contacts, silver plated, hot tin dipped.
Add 'U' to No. for 4.40 U nuts which slip on saddle for easy mount. ing.
Add ' C ' to No. for impregnation of turret for moisture and fungus protection.
Substitute ' $L$ ' for ' $O$ ' in No. if loctal socket required, (1.1/16' hole. 1-5/16" mtg, ctrs.).
Note: Letters are printed on all above turrets to indicate terminal positions. A-F inclusive appear on remote end. G-L inclusive on row near socket (H, J. L for 3 terminal rows). " $A$ " and " $C$ " over "l" of socket.

Socket-Turrets are covered by Patent Nos. 2.604.584 \& 2,624.775.
SADDLE NUTS: A 'U' rype nut which slips over standard socket saddles has been especially designed to promote easy mounting on the chassis. For \#4-40 machine screws. Order as \#440-U nut or simply add ' $U$ ' to number of socket ordered.

## TEST ADAPTERS

Vector Test Adapters are ideal for making measurements from the tube side of electronic equipment, where it is inconvenient to reach into the wiring compartment. The adapter is simply inserted between tube and socket completing the circuit and providing test tabs connecting with tube elements.

The T-789 set combines the 7 -pin and 9-pin miniatures and octal in a plastic case. Or adapters may be obtained separately as follows:

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T-7-M |  | $\begin{aligned} & \text { Body Pia. } \\ & 0.74^{\prime \prime} \end{aligned}$ | Skirt Dia. | less Pron $1.47^{\prime \prime}$ | shielding <br> None |
| T.8.0 | 8 Pin Octal | 1.26" | 1.56" | 1.50 " | Non |
| T-9.N | 9 Pin Noval | 0.87" | $1.16^{\prime \prime}$ | 1.47" | None |
| $T$ |  |  | 11.75 | . |  |

## TUBE BASE PLUGS

These plugs fit the 7 and 9 pin miniature sockets and are useful for many experimental or plug-in purposes.

$$
\begin{aligned}
& 9 \text { Pin Min. } 1 / 8^{\prime \prime} 17 / 32^{\prime \prime} 5 / 15^{\prime \prime} .2913 / 16^{\prime \prime} .621 .568 .126 \text { None }
\end{aligned}
$$

## Dectoi ElectronicCompany



[^28]Copyright by [. C. P., Inc.
Page F-44

## 1 ecort $=$

## FOR UNITIZED CIRCUITS

Amplifiers, counters, oscillators and the like can be readily assembled completely on Plug-Ins, permitting quick changes of circuits. Naking a Plug-In unit involves little more than soldering in a few capacitors and resistors.

## ECONOMICAL AND CONVENIENT

Pluss are standard mica-filled, ring mounted octal style with 8 prongs as standard. ( 9 or 11 prong plugs also available-see below). Sockets are standard mica-filled phenolic in octal, 7 Pin miniature or 9 Pin noval as ordered. Contacts are cadmium plated brass. Terminal turrets are Grade XXXP phenolic tubing $1 / 2^{\prime \prime}$ O.D. with $1 / 16^{\prime \prime}$ wall, carrying 12 plated brass terminals. Alumiaum covers may be quickly detached by removing screws at base, making in ide completely accessible. Miniature and noval types carry military type tube shield base. Main tube shield not furnished. Types in bold face are most widely used and generally preferred for distributor stock.

SINGLE TUBE TYPES

| SINGLE TUBE TYPES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CATALOG NUMBERS |  |  | CAN SIZE |  | TERM. SPACE |
| Octal | 7 Fin | 9 Prin | A | B | $\bigcirc$ |
|  | $83 . \mathrm{M}$ | B8.N | $1.37^{\prime \prime}$ | 2.0 | $087^{7 \prime}$ |
| 810.0 | 10-M | $810 . \mathrm{N}$ | $1.37{ }^{\circ}$ | $2.5{ }^{\text {* }}$ | $137{ }^{\circ}$ |
| 812.0 | B12.M | B12.N | $1.37{ }^{*}$ | $3.0{ }^{\circ}$ | $1.87^{\circ}$ |
| C8. 0 | C8 - M | C8. N | $2.0{ }^{\prime \prime}$ | $2.0{ }^{\circ}$ | $087^{*}$ |
| C10.0 | C10.M | CIO.N | 2.0 " | 2.5 " | $137{ }^{\prime \prime}$ |
| C12.0 | C12-M | CI2.N | $2.0{ }^{\circ}$ | 3.0 " | $187^{\prime \prime}$ |
| A8. 0 | A8 - M | A8. N | No Can |  | $087{ }^{\prime \prime}$ |
| A10.0 | A $10 . \mathrm{M}$ | AlO.N | No Can |  | 1 37** |
| A12.0 | A12.M | Al2.N | No Can |  | $187^{\circ}$ |

TWO TUBE TYPES

|  | $\begin{aligned} & C 8-M M \\ & C 10 . M M \\ & C-12 . M M \end{aligned}$ | $\begin{aligned} & \text { C8.NN } \\ & \text { CIO.NN } \\ & \text { CI2.NN } \end{aligned}$ | $\begin{aligned} & 2.0^{\circ} \\ & 2.0^{\prime} \\ & 2.0^{\circ} \end{aligned}$ | $\begin{aligned} & 2.0 \\ & 2.5 \\ & 3.0 \end{aligned}$ | $\begin{aligned} & 062^{\prime \prime} \\ & 0.87^{\prime \prime} \\ & 1.37^{\prime \prime} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |

## TYPES WITHOUT SOCKETS

Any of the types tabulated may be obtained less sockets kut with terminal turrets and plugs. These are useful for a multitude of PLUG.IN applications where tubes are not involved.

| CAT. NO. | CAN SIZE |  | CAT. NO. | CFN SIZE |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { B. } 8 \mathrm{P} \\ & \text { B- } 10 \mathrm{~T} \\ & \text { B. } 12 \mathrm{~T} \end{aligned}$ | $\begin{gathered} \text { A } \\ 1.38 \\ 1.38 \\ 1.3 . \\ \hline \end{gathered}$ | $\begin{aligned} & 8 \\ & 2 \\ & 2 \cdot 1 / 2 \\ & 3 \end{aligned}$ | $\begin{aligned} & \text { C. } 8 T \\ & \text { C. } 10 T \\ & \text { C. } 12 T \end{aligned}$ | $\begin{aligned} & A \\ & 2 \\ & 2 \\ & 2 \end{aligned}$ | $\begin{gathered} 8 \\ 2^{\prime} \\ 2.1 / 2^{\prime \prime} \\ 3^{\prime} \end{gathered}$ |


| TYPES WITH CAN AND PLUG ONLY |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CAT. NO. | CAN SIZE |  | CAT. NO. | CAN SIZE |  |
|  | A | B |  | A | 8 |
| B. 8 | 1.3.8. ${ }^{\text {a }}$ | $2{ }^{\text {" }}$ | C. 8 | 2 |  |
| 8.10 | 1.3/8: | $2.1 / 2^{\prime \prime}$ | C. 12 | 2 | $2 \cdot 1 / 2^{\prime \prime}$ |
| B.12 | 1.3\% ${ }^{\text {\% }}$ " | 3.. | C-12 | $2 \cdot$ | 3 " |

SPECIAL FEATURES. Variations obtainable at the factory:
Add "H" to No. for 9 prong octal type plug.
Add "K" to No. for 11 prong octal style plug.
Add "J" to No. for "MFE" socket casting, beryllium contacks, silver plated, tin dipped.
Add "G" to No. for impregnation of turret for moisture and fungus protection.
Add " P " to No. for perforation of covers for ventilation.
Anodized finishos, notural or in color to order.
Studs to lock 2" sq. units firmly in sockets ase available.
NOTE: Letters are printed on turrets to indicate terminal positions. A-F inclusive appear on 6 terminols of plug end, $G-L$ inclusive on socket end. " $A$ " \& " $G$ " in line wit', " $f$ " of sozket and "1" of plug. Key of 8 prona plug points toward corner of can but key of 7 \& 11 prong plug points to side of can.

## OTHER TYPES

Special round can Plug-Ins are available as follows: Type C2, $11 / 4^{\prime \prime}$ O.D. with Octal 8 or 11 pin plug; Type G2.1, $3 / 4^{\prime \prime}$ O.D. with 9 pin min. plug; Type C2.2, 5/8" O.D. with 7 pin min. plug, Larger rectangular units are also available with following cross-sectional dimensions: Type $D$, $2^{\prime \prime} \times 3^{\prime \prime}$; Type E, $11 / 2^{\prime \prime} \times 33 / 4^{\prime \prime}$; Type F, $2-5 / 16^{\prime \prime} \times 43 / 8^{\prime \prime}$. Height of all units, $3^{\prime \prime}$ or less. Terminal strip mountings can be supplied instead of turrets if preferred.

## Declor Electronic Company



Patent Nos. 2,604,584 6 2,624,775

IMMEDIATE DELIVERIES
This is only a partial listing of our many electronic products. Immediate deliveries from the world's largest warehouse stock. For free samples, send request on business letterhead. Please address Dept. 12.

STANDARDIZED ELECTRONIC HARDWARE

## U. S. ENGINEERING CO.



USECO Terminal lugs are made in these size ranges: SHANK DIAMETERS FROM . 062 to . 203 SHOULDER DIAMETERS FROM . 093 to .250 SHANK LENGTHS FROM . 037 to . 230
LENGTHS ABOVE SHOULDERS . 095 to .468
Special designs by request. Write for catalog with complete specifications. Please address Dept. 12.

STAND OFFS


1541


1550


1551AG

1540


## TAPER PIN TERMINALS



2750 0-
Cut Away


## REPRESENTATIVES

Representatives in all principal cities. For name and address of representa. tive in your locality, write Dept. 12.



Quality etched and printed circuits require specially trained personnel. USECO's Staff offers you unsurpassed experience, creative imagination and technical skill. Circuit samples of your design are supplied at cost or less. Your prototype inquiries are invited. Furnished in standard copper or any plated finish as specified.

(Above) An enlarged view showing how circuit "wraps around" the edge.

## "WRAP-AROUND" CIRCUITS

Made by an exclusive USECO process, our new "WRAP-AROUND" or "PLATED-THRU" circuits provide improved performance, better contact and easier unplugging. They eliminate the possibility of peeling, resulting in circuits with longer service life.

Write for catalog which tells how to prepare master drawings and gives complete information on how to order. Please address Dept. 12.

## TERMINAL BOARDS

USECO manufactures Terminal Boards to customer specificafions. In addition we maintain a large stock of Standard Terminal Boards. See catalog for complete line. Made to meet all approved MIL and JAN specs.


2200BC

BINDING POSTS


CAPTIVE SCREW SHAFT COUPLING

PLUGS


CHASSIS BEARINGS
1560

HANDIES


1020

# U. S. ENGINERING CO. 

 A Division of Litton Industries, Inc. Glendale 3, California
## JAN SOCKETS AND SHIELDS

Designation


|  | SNAP-ON |  |
| :---: | :---: | :---: |
|  | JAN TYPE |  |
|  | Top Mounting |  |
| insulatar Material | Model No. | List Price Eo. |
| 7 PIN |  |  |
| Gen. Purp. | 250 | . 16 |
| Mico Filled | 251 | . 20 |
| Ceramic | 252 | . 47 |
| 9 PIN |  |  |
| Gen. Purp. | 450 | . 24 |
| Mica filled | 451 | . 29 |
| Ceramic | 452 | . 69 |

Cantact Material - Brass, Cad. Plated


Bottom Solder
PRINTED
CIRCUIT
SOCKETS
with Ground Contact

| Insulator |  | List Price |
| :--- | :---: | :---: |
| Moterial | Model No. | Eo. |
|  | 7 PIN |  |
| Gen. Purp. | 545 | .19 |
| Mico Filled | 546 | .20 |

Contact Material - Brass, Tin Lead. Also available in all subminiature sizes.

JAN
SADDLE TYPE
Top Mounting

| Insulator |  | List Price |
| :--- | :---: | :---: |
| Material | Madel No. |  |
|  | 7 PIN |  |
| Gen. Purp. | 240 | .14 |
| Mica Filled | 241 | .17 |
| Ceramic | 113 | .45 |
|  | 9 PIN |  |
| Gen. Purp. | 196 | .20 |
| Mico Filled | 197 | .24 |
| Ceromic | 170 | .63 |

Contact Material - Brass, Cad. Plated


JAN TYPE SHIELDS
Per Jan/S. 28

Material
Steel, Cad. Plated
Model No.
127
126
148

192
190
194

with Ground Contact

| Insulotor Material | Model No. 7 PIN | List Price Eo. |
| :---: | :---: | :---: |
| Gen. Purp. Mieo Filled | $\begin{aligned} & 645 \\ & 646 \end{aligned}$ | .19 .20 |
|  | 9 PIN |  |
| Gen. Purp. Mico Filled | $\begin{aligned} & 653 \\ & 654 \end{aligned}$ | . 26 |



RTMA
SADDLE TYPE
Boltom Mounting

| Insulotor |  | List Pricя |
| :--- | :---: | :---: |
| Moterial | Model No. | Eo. |
|  | 7 PIN |  |
| Gen. Purp. | 100 | .14 |
| Mica Filled | 105 | .17 |
| Ceramic | 220 | .45 |
|  | 9 PIN |  |
| Gen. Purp. | 270 | .20 |
| Miea Filled | 271 | .24 |
| Ceramic | 272 | .63 |
| Contact Material | - | Brass, Cad. Plated |




JAN BASE SHIELD TYPE

Top Mounting

| Insulatar |  | List Price |
| :--- | :---: | :---: |
| Moterial | Model No. | Eo. |
|  | 7 PIN |  |
| Gen. Purp. | ST 234 | .30 |
| Mica Filled | ST 235 | .35 |
| Ceromic | ST 238 | .56 |
|  | 9 PIN |  |
| Gen. Purp. | ST 167 | .41 |
| Mica Filled | ST 169 | .47 |
| Ceromic | ST 176 | .95 |

Contact Material - Brass, Cad. Plated


|  | Model No. | Desc. 7 PM | Height | List Price Eo. |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 200 |  | 1-53/64 ${ }^{\prime \prime}$ | . 08 |
| 2 | 224 | Slit | 1.53/64" | . 12 |
| 3 | 225 | Slit 8 Leod | 1.53/64' | . 49 |
|  |  | 9 PIN |  |  |
| 1 | 227 |  | $2.1 / 16^{\prime \prime}$ | . 10 |
| 2 | 228 | Slit | 2-1/16" | . 14 |
| 3 | 229 | Slit \& Lead | 2-1/16" | . 57 |

Bottom Solder PRINTED CIRCUIT SOCKETS with Shield Contact

| Insulotor | Model No. | List Price |
| :--- | :---: | :---: |
| Materiol | 7 PIN |  |
| Gen. Purp. | 647 | .20 |
| Mica Filled | 648 | .21 |
|  | 9 PIN |  |
| Gen. Purp. | $65 S$ | .27 |
| Miea Filled | 656 | .28 |
| Contact Material - | Brass, Tin Lead. |  |
| Also available in all subminiature sizes. |  |  |

## AMERICA'S QUALITY LINE • RADIO, TELEVISION, ELECTRONIC COMPONENTS




Elco Varicon Miniature-Connectors provide the simplest, quickest, most positive means for connecting electronic or electric circuits. Varicons introduce "Keying Control", making it impossible to connect unmatched parts. Contact combinations in any number demanded by your specific needs are possible with Varicons; and any connector may be assembled by you or us from stock parts.

Prices below are for Varicons in General Purpose Phenolic. Varicons are also available in Low-Loss Mica Phenolic, Alkyd, and General Purpose Phenolic in assorted colors, prices for which will be furnished upon request. For general specifications of All Varicons, refer to description beneath Connector Kit at lower right hand corner of this page. For any other information regarding these "Miniature Connectors that work like Giants", your inquiry will meet with our immediate reply.

## 



MALE

| Male |  | FEMALE |  |
| :---: | :---: | :---: | :---: |
|  |  |  | List Price |
| Model No. | Price | Model No. | Ea. |
| M1022 | . 26 | F1022 | . 24 |
| M1042 | . 36 | F1042 | . 34 |
| M1062 | . 47 | F1062 | . 43 |
| M1082 | . 57 | F1082 | . 53 |
| M1102 | . 68 | F1102 | .62 |
| Mili2 | . 78 | F1122 | . 72 |
| Mil42 | . 94 | F1142 | . 86 |
| Milis2 | 1.09 | F1162 | 1.01 |
| Mil82 | 1.25 | F1182 | 1.15 |



With bracket
Substitute the numerol " 2 " instead of the numeral " 1 " in the first digit of the
Model Number if a double tier is desired. List price con be computed by doubling the list Price of the oppropriote Single Tier VARICON with Brocket and odding . 03 eo.

| MALE |  | FEMALE |  |
| :---: | :---: | :---: | :---: |
|  |  |  | List Price |
| Model No. | Price | Model No . | Ea. |
| M10220 | . 31 | F10220 | . 29 |
| M10420 | . 41 | F10420 | . 39 |
| M10620 | . 52 | F10620 | . 48 |
| M10820 | . 62 | F10820 | . 58 |
| Milo20 | . 73 | F11020 | . 67 |
| Mil220 | . 83 | F11220 | . 77 |
| M11420 | . 99 | F11420 | . 91 |
| M11620 | 1.14 | F11620 | 1.06 |
| M11820 | 1.30 | F11820 | 1.20 |

## VARICOMS

With recessed covers
With cover top clamp Hole con be located on End insteod of Top by chonging final digit from 4 to 5 .

| male |  | FEMALE |  |
| :---: | :---: | :---: | :---: |
| Model No. | Price | Model No. | List Price Ed. |
| M 10424 | . 78 | F10424 | . 76 |
| M10624 | . 89 | F10624 | . 85 |
| M10824 | . 99 | F10824 | . 95 |
| M11024 | 1.10 | F11024 | 1.04 |
| M11224 | 1.25 | F11224 | 1.19 |
| M11424 | 1.46 | F11424 | 1.38 |
| Mil 1624 | 1.66 | F11624 | 1.58 |
| M11824 | 1.87 | F11824 | 1.77 |
| M22024 | 2.18 | F22024 | 2.08 |
| M22424 | 2.69 | F22424 | 2.57 |
| M22824 | 3.19 | F22824 | 3.07 |
| M23224 | 3.70 | F23224 | 3.56 |
| M23624 | 4.25 | F23624 | 4.11 |

## VARICOMS

With covers - top hole
Hole con be situoted on End instead of top by changing finol digit from 2 to 3.

| MALE |  |
| :---: | ---: |
| Model No. | Price |
| M10422 | .61 |
| M10622 | .72 |
| M10822 | .82 |
| M11022 | .93 |
| M11222 | 1.08 |
| M11422 | 1.29 |
| M11622 | 1.49 |
| M11822 | 1.70 |
| M22022 | 1.95 |
| M22422 | 2.46 |
| M22822 | 2.96 |
| M23222 | 3.47 |
| M23622 | 4.02 |


| FEMALE |  |
| :---: | :---: |
| Model No. | List Price |
| F10422 | Ea. |
| F10622 | .58 |
| F10822 | .78 |
| F11022 | .87 |
| F11222 | 1.02 |
| FF1422 | 1.21 |
| F11622 | 1.41 |
| F1822 | 1.60 |
| F22022 | 1.85 |
| F22422 | 2.34 |
| F22822 | 2.84 |
| F23222 | 3.33 |
| F23622 | 3.88 |


| Price | Model No. | List Price <br> Ea. |
| :---: | :---: | :---: |
| .84 | F10626 | .80 |
| .97 | F10826 | .93 |
| 1.10 | F11026 | 1.04 |
| 1.26 | $F 11226$ | 1.20 |
| 1.47 | $F 11426$ | 1.39 |
| 1.67 | $F 11626$ | 1.59 |
| 1.88 | F11826 | 1.78 |
| 2.15 | $F 22026$ | 2.05 |
| 2.66 | $F 22426$ | 2.54 |
| 3.16 | F22826 | 3.04 |
| 3.67 | $F 23226$ | 3.53 |
| 4.22 | F23626 | 4.08 |

## KITS

VARICON MINIATURECONNECTOR KITS now make it possible to ossemble your own con. nectors when you want them! In General Purpose Phenolic, Low-Loss Mico Phenolic, Alkyd, Mica Phenolic, Alkyd,
Colors. Wpite for prices. GENERAL SPECIFICATIONS

Current Roting 15 Amps, 115 voirs (in cover); 30 Amps (in free air) (withstanding valtage between closest terminals 4000 valis); Contac Resistance .0001 ohm. Low Capacitance. All Male \& Female components are identical. 300 ohm line spocing. Contacts in use ore olwoys under pressure, cannot be overstressed or overstrained.


## RCA RCA TEST EQUIPMENT

for SERVICE INDUSTRY SCHOOLS•LABORATORIES

COLOR-BAR GENERATOR WR-6IA


The RC. ${ }^{2}$ WR-61A Color-liar Gencrator is a compact. lightweight instrument designeci for the in checking the overall operation of color television receivers, and for adjusting colur phasing and matrixing circuits in color receivers and monitors. The WR-61A generates the signals for producing 10 bars of different colors simultaneously (without mathal switching), including the bars corresponding the R-Y, li-Y. G-Y, I, and $Q$ signals. The bars are accurately spaced at .30-degree phase intervals.

The output signal from the WR-61.1. fixed at channel 3 , consists of an umodulated sound carricr, and a picture carrier modulated by a color sibb-carrier, and horizontal synchronizing pulses at $15,750 \mathrm{cps}$. The picture carrier, color subcarrier, sound carrier, bar frequency, and horizontal sync pulses are crystal controlled for accuracy and stability.
Separate vileo output, with reversible polarity, is available for checking studio monitors. Viden output at the HI terminal is approximately 8 volts peak-to-peak across 4700 ohms.
Luminance signals are provided at the edges of the color hars to check the "fit" or registration of the luminance and chrominance signals. Amp'itude of the color subcarrier and the bar signals is adjustable to facilitate checking color-sync lock action in the receiver.
The WR-61A is supplied with a shielded rf-output cable for connection to balanced 300 -ohes inputs, and a shielded video cable for comection to 75 -ohm video circuits.
\$247.50 (Suggested User I'rice).
Supplied with rf-output cable, video output cable, ground lead, TV-input adapter, instruction booklet.

1:hetrical:
R1: Output
Fretuencics..........61.25 Mc, 65.75 Mc . TV (Chaminel 3) Voltage.......................at least 0.01 wolt pak-to-paik (ombusite I'icture Signal.......61.25-Mc picture carrict, 15,750-cps horiz. sync pul-es, $3567.795-$ Mc color sulkearrier keycel at 189 Kc Sumbl Carrier Froutuency......... 65.75 Nc (mmondalateol) Impebance bat end rif ri-cutput cable)...apyrox. sat ohams

Video Output Poltow
Hf Terminal........ 8 volts peak-to-peak across 4700 olms J.0 Cimmector....... 0.25 rolt peak-to-peak across 75 ohms

「ower Redrirembents:
Supply-lime Voltige.............................. $1115-125$ volts
$\qquad$


Mechathical:
Dimensions:
Height ......................................................... . IIt inches
W゙ilth ..................................................... . . . $131 / 4$ inthe


Weight (aprox.):
$\qquad$ -•• 17 Min.
Unpacked . .................................................................. ths.
Finish.................................... Blue-gray hammeroid cane, brusled-aluminum pate]


The RCA WR-36. 1 Dot-Har Generator is designed for shop. field, or production-line use in making de- and dynamic convergence adjustments on color-TV receivers and monitors, and vertical and horizontal deflection linearity adjnstments on botl color and black-and-white TV receivers. The WR-36.A will provide a pattern of approximately 150 evenly spaced small-size dots on a 21 -incli color kinescope. The number of dots and bars is adjustable.
Lightweight and compact, the WR-36A is readily portable. making it especially useful for installation of both color and black-and-white receivers. The generator provides modulated ontput on any vhf TV channel from 2 through 6 , as well as vicleo output of either positive or negative polarity. A patternselector control is provided ta select the required type of modulation.

Amplitude of the rf-output signal is continuously adjustable. The output signal may be fed directly into the antenna terminals of the receiver. An important feature of the VR-36A Dot-Bar Generator is a "Standby" position on the selector switch to permit removal of all $1 \mathrm{~B}+$ voltages from the tubes.
The WR-36.1 is supplied with a shielded, rf-output cable terminated to work directly into $300-\mathrm{olmm}$ loads.
NOW - The latest production models of the WR-36A will produce small size dots on large-screen color kinescopes.
$\$ 147.50$ (Suggested User Price)

Elcetrical:

## RF (lu:put

Fremency Ranke.........................TV ehamels 2 thru 6 Max, Ontpur Voltage........................at least 0.08 volt Athmathor Range....................contimonsly adjnstable over 28 - 11 ) range Test latterns.......approx. 10-13 vertical bars, 8.15 horizontal bars. crosshatch, reetangular dots Ontput lmpedance (at end of output cable)...... 300 ohms

Video Cutput:
Output Voltage...at least $3,5 \mathrm{y}$ peak-to-peak (open circuit) Instument Sonree Impedance.............. 3900 ohms max. Polarity..................................................itive or negative

Symelizcnization:
Vertical Bars...................approx. 15,750 cps. external
llorizental liars........approx. 60 cus. internal or external
Tuhe Complement...1 RCA-6t-8. 1 RCA-6X4. 4 RCA-12AU7
Power kequirement:
Voltage..................................................105-125 volts
$\qquad$
Power (onsumption...................................... 30 watts
Mechanical:
Width
. $1.1 / 2$ inches
Heigh: .10 inehes


Finish....blue-gray hammeroid case, satin-aluminum panel

# RCA RCA TEST EQUIPMENT 

for SERVICE INDUSTRY SCHOOLS•LABORATORIES

TELEVISION SWEEP GENERATOR WR-59C

Featuring preset sweep positions from chancl 2 through channel 13, the WR-59C also provides a continuously adjustable video sweep signal from 50 Kc to 50 Mc . The WR.59C combines all the essential features required in a sweep generator for trouble-shooting and aligning both black-and-white and color receivers.
The WR-5C provides that output on all channels. The push-pull oscillator provides output on fundamental frequencies and output is free of harmonics and spurious components. Output voltage is more than adequate for all service and manufacturing applications.
An outstanding feature of the generator is the dual-piston attennator which provides smooth, even attenuation over a wide voltage range. Energy is capacitively coupled from the osciltator, and the attenuator may be set to sive Hat output from as low as 5 microvolts to as high as 109,000 microvolts.
Other features of this fine instrument include a blanking circtit. phasing control for use with ath oscilloscope sweep, and a separate attentutor control for adjusting the output level of the video-irequency ontput signal.



Horizontal Sweep for Oscillosconc Phase Adjustment Range Frequency Tube Complenent Power Supply Dimensions. Weight Finish

## CRYSTAL-CALIBRATED MARKER GENERATOR WR-89A



Variable-Frequency Oscillators Frequency Ranges (on Fimdamentals)......................19.55 Mc

Output Voltage:
$\mathrm{O}_{12}$ Vioo Ringes
$\mathrm{O}_{11} 4.5 \mathrm{Mc}$
Total Jength of Dial Scale.
Fine Tuning Drive Ratio..
RF Attenuator:
Range of Aitenuation.
Type..........................
2.5-31c Cr:stal Calibrator Accuracy
Total Number of Check Points TV receiver.
Total Number of Check Points
-
19.55 Mc
55.260 Mc
at least 0.1 rms volt
at least il i rums volt . 144 inches approx.
at least 60 dl
Single-piston capacitor
................ 90 oluns
$\pm 0.01 \%$

Featuring continnous tuning, the RCA WR-89A Crystal-Calibrated Marker Generator furmishes you with an if carrier of crystal accuracy for use in aligning and trouble shooting of TV and commanications receivers, transmitters, and other duipment in such services as fm , aeronatical, and marine, operating in the frequency range of 19-260 Mc. Calibration of the generator may be checked at 2.5 Mc intervals throughont its tuning range by means of a built-in harmonic crysta! oscillator of high accuracy.
In this one versatile instrument you not only get a nultiple-marker generator but alwo a very useful bar-pattern generator for checking both vertical and horizon!al deflection linearity of a TV receiver. When video and sync information from an operating TV receiver is fed into the WR-89.A, yout can use the generato as a rebroadcast transmiter to produce a TV picture on any channel of another

And when an external rf signal is fed into the WR-89A, you may also usc the generator as a hetcrodyne frequency meter for measuring the frequency of the external signal.
These and other important advantages retiect the expert engineering and functional design of the WR-89A-assuring you the dependability so essential for torlay's critical testing requirements.
4.5. Mc Crystal Oscillator:
$\pm 0.02 \%$


 Pover Supply.....................................105/125 volts. $50 / 60 \mathrm{cps}$ Jower Consumption............................................... 55 watt

 $\$ 242.50$ (Suggented User l'rice) complete with rf-outpul cable. tubes. and instruction booklet.

## VIDEO MULTIMARKER WG-295A



The RCA WG-295A Video MultiMarker provides five simultancons absorption-type markers accuratel preset at the following frequencies required in marking the video response curves in enlor receiver 0.5 Mc (for O filter) ; 1.5 Mc (for I filter) ; 2.5 Mc (for band-pass filter) ; 3.58 Mc (color sublicarfier frequency 4.5 Mc (sound-trap frequency).

Each of the marker frequencies in the $11 G-295$ A is definitely and quickly identified simply by touchin the corresponding contact on the MultiMarker; this has the effect of reducing the amplitude of particular marker notch. The $W \mathrm{G}-295 \mathrm{~A}$ is connected betwecn the $1 \mathrm{~F} / \mathrm{VF}$ output on the sucep gencrat and the regalar video output cable.

RCA TEST EQUIPMENT
for SERVICE INDUSTRY SCHOOLS -LABORATORIES

(Performance figures taken at line voltage of 117 volts, 60 cps ) R1. Characteristics:
Six Ranges:
"A".", Range................................................ 85 Kc to 200
"'13" Range. 210 Kc to 550 Kc
${ }^{-}{ }^{-1}$ Range

- ${ }^{-\quad-}$ Range. 50 Kc to 1600 K
 Range.................................................... 13 Mc to 30 Mc
Maximum RF Output Voltages* (all ranges) :
At RF OUT HT Connector

at least 0.05 rms volt
At RF OUT 10 Connector............................at least 0.01 rms volt Accuracy of Dial Calibration.
Attenuator Range.................. $\qquad$

Internal Alodulating Freprency..................................................... 400 cps Internal Percentage of Modnlationt.....................justithle up to $70 \%$
Andio-Fregucncy Audie-Frequency Uutput.....at least 8 rms voles actoss 15.100 -ohm load

RF SIGNAL GENERATOR WR-49A

You don't have to bother with the nuisance job of connecting ale blocking capacitors to the probe tip of the RCA IVR-49A RF Signal Generator, because it has built-in dc blocking capacitors. With it, you can inject rf signals into plate circuits and other points where de is present without placing a de load on the circuit under test-and with protection from burn-out in both the equipment and signal generator
The functional-clesign dial facilitates accurate and easy readings. And full-length shielding of the output cable minimizes radiation and hum pickup in the receiver under test or adjacent test equipment. And that's not all! The extremely stable cathode-follower output stage isolates the oscillator from effects of load reactance and resistance, thereby maintaining good output waveform, voltage regulation, and frequency stability.
Compact and lightweight, the WR-49A can be depended upon in such applications as alignment and signal tracing of ann and fin radio receivers, alignment of low-frequency if amplifiers in TV receivers, and signal tracing and trouble-shooting in TV reccivers.
External Modulation:
Modulating Frequency
Voltage Required for $30 \%$ modulation using 400 epst
Impedance at AF IN/OUT connector ( 400 cps )...
Tube Complenent.
lower Characteristics:
Supply Voltage...
$\qquad$ Consumption ...................................... 125 volts, $50 / 60 \mathrm{cps}$

 Finish........ Blue-graty hammeroid casc, satin-aluminum panel Opern-circuit ralne.
tWith WR-49: tuned to 1 Mc .
$\$ 59.50$ (Suggesterl User l'rice) complete with tubes, output cable, and instruction booklet.


Frequency Ranges:

[^29]
## AUDIO SIGNAL GENERATOR WA-44A

You'll find the W'A-44A excellent for: amplifier frequencyresponse checks; nse in measuring intermodulation distortion in amplifiers; frequency response checks of tone controls; ruming frequency response curves on phonograpll equalizers; checking input and output impedances of amplifiers; use in measuring resonance frequency of loudspeakers and speed of recorder/reproducer mechanisms.

And this compact, lightweight instrument is equally useful in: tming bass-reflex enclosures; determining unknown audio frequencies; determining inductance and capacitance; autio signal tracing; determining the resonance frequency of I.C circuits; and locating cabinet resonance and rattles. The RC. W W-44.A features a new RC-type oscillator having a wide freduency range, which facilitates checking response of high-fidelity amplifiers, and an age control circuit which insures stable performance. The output is flat within $\pm 1 \mathrm{~d})$ over the entire frequency range.

Tutal Harmonic Distortion........2 $2 \%$ or less from 30 cps to 15 kc Hum Level........................... $0.1 \%$ or less of rated output Power Characteristics:
Supply Voltage.......................... 105-125 volts, $50 / 60 \mathrm{cps}$
Consumption.................................................. 35 watts
 Mimensions.. ...................7" high x $101 / 2^{\prime \prime}$ wide x $6^{\prime \prime}$ deep

$\$ 87.50$ (Suggested User Price) complete with tubes, output eable, and instruction booklet.

 ather applicatimes reguifing an instramert oi high sensitivity and wide－band response．liandwidth is changed by meaths of a fornt－panel switch．
The $W$（ $)$－ 28.1 has excellent phase characteristic．phrenghout its $4.5-$ Mc band． pass range fush－pull mitput stages in both the rertical and horizontal amblifiers minimize＂line lutuce，＂＂crusstalk，＂and atigenationt．


 combince with liat frempency despunse ont to t．5 NC．make possible simmitaneons voltage measurement and wavenhame observation of wing critical wareforms as the color－syinc burst ath color－TV recorvors．
Other features of this tine instmment inchede a horizontal sweep oncillatom having frequency range from 10 cpss to 1 ml K C ．font－panel switch fositions ior locking in on TV－line and fielloscanming frequencies，antomatic syncesignal limiting．at feature which eliminates the need for in ceparate－ne－injection coutrol ind at flat－incel high－sensitivity cothote－tay thle

Virequency Response
ertical Anuplifier
Wide Band．．．．
Navow band．
Ilorizontal ．Implilier
3 cps to 4.5 Mc
Synchronization Iftemuators（fornmency coumbreited all positimens）
IV ind B：and
3 cps 10500 Kc withim 3 db cp to 1.0 Mc within－（1）
Dellection Sensitivit
ertical Anmbiter
Wide Bancl．．．． 100 ，my $p$－1 per inch Narow Ramel． 10 mvepper buch
Hosrizontab－Implifiet
200 1uv p－p per ifich
Sweep Frequencies：
10 cls to 10）K゙c
intiable
Submultiple oi 60 and

Nattrow liaur
aliburation

Dintensions．．．．．．．．．．．．31／4＂1． $9^{2 \prime}$ w，191／4＂
W゙eight（大hipping）．．．．．．．．．．．．．．．．．．．．． 58 bos．
Finish．．．．．．．．blue－graty hammeroid case sitin－alaminmom pancl

Ireset．．．．．．．．Submultiple of 60 and

$\$ 425.00^{*}$ includes WG－294 Direct Probe and Cable V＇G－293 Low－capacitance Probe，alligator clip，ground cable，insulator，green graph sereen，instruction booklet．

## UHF SWEEP GENERATOR WR－86A



Flectrical
sweep Oscillators
Frequcney Range（（intinuously variable）
Center irecuracica irom 30 040950 Mc
Swesp IVidtla（Comintuously variable）
$10^{\circ} \mathrm{t}$ of indicaterl dial frestuency wit to 750 ．Mc
75 Nc from $\times 511$ to 950
Output Bystem
Attenuator
Type
Piston
mpedance
－
 balnm at least 0.6 volts
Smplitude Variation of sweep envelope
at maximm sweet width＊＊

Iabonatory performance for the price of at service instrument＂best

 with a high antunt soltage of excellent amplitude linearity．I blanking crtait is meladed fo prowide a remernce base line on ath walloscone Ilorizontal swed frecurency for the scope can be obtanted from fromt
 a 50 －whon mbalanced load or．with the WG－296 padded bathen provided
 lator for visuat obsersation and measurement of stambing－wate ratim of termination G 1 ． 3 （月）ohm litts
 （o）to 10950 Wc
－Sweep width is $10 \%$ of imlicated dial frequency un to 751 Me： 75 Me whth froml 750 of 950 Ne
－Wlustalife pistom－1ype aftrontator give： 60 db rathgr of attomation
－It leant O．b－solt outnat acrons zither 50 ohms or Wre alims
－Amplitade variation at maximath sweed widaly rao greater plata 0.1 dl）Wc．
－J．ightweicht and portabic；attractively stybed．
lower Supply
$105 \cdot 125$ •ण11
Voltage
（i） cl
16＂－quenc
10wer
（ti）wall
Weclianical
Dimensions llight
 F゙inc゙に

I 50－to－300 olmu halun（KC．WG－296）fot matel ing the WR．80．1 io loads of 300 olims is sufplied with the instrivent
＂When connected acro－s roderly terminated loari of 50 ohms．
$\$ 275.00$（Suggested User Price）complete svith rí output cable（ 4 feet long）， 11 G－296 50－to－ 300 －olum Padded balun，WG－227 if ontput cable，and instruction book
for SERVICE INDUSTRY SCHOOLS•LABORATORIES

## 7" OSCILLOSCOPE WO-56A

 The identical amplifiers also permit the use of the $W\left(\begin{array}{l}\text { ( } \\ \text { Pat } \\ \text { in special applications. }\end{array}\right.$
Facl implifict consists of threc push-pull stages of amplification, if feature which prosides hish detlection sensitivity witl good stability. The frace can be expanded to apmoroxinatels thee times the diameter of the screen and centered o:t ang portion for examination of wate the details The use of push-pull stares also reduces astigmatic distortion. thas providing a uniformly sharp trace over the entire nsedill area of the sereen
The seven-inch cathorleray tale gives a large, clear disulay for accuracy in alignment applications. The metal shield which sur rounds this tube greatly minimizes lam pickup. thereby eliminating the necessity of carently arranging sets and efuipment on the service bench to avoid hum pickup. A retractable light shicld and a grectig graph screen reduce anhent-light reflections on the face withe tule
Althongh designed primarily for television servicing, the W゙O-56d can be used in imduatrial applications as well as in the usual oscilloscone apulications, such as waveshape amalysi*. atjustment of radio receivers and transmitters. determintion of peak-po-perak athd instantaneons voltages, and tracing vacutum-tube characteristics.

Frequency Response:
Fertical Amplifur
Fiat from 0 to 50 KC within -2 (l) Flat rom () to 1 Ne withan - h (d)
Inp:rt Kesistance and Capacitance
ertical Amplifier
With Direct Prohe and Cable WV-218
With Low-Capacitance Probe WG. $216 \beta$
Canegohms shunted be9.5
Ilorizontal Amplifiur
hm shunted by $35 \mu \mu \mathrm{f}$
Vertical Amplifier

-werp Frequencies:
lariable.
Preser ${ }^{\prime \prime T} \mathrm{TV}^{\prime} / V^{\prime \prime}$ position apprex. 30 cp F T, fosition approx. 7875 cps Power Supply.......... . 105/125 voles. $50 / 60 \mathrm{cps}$ Tube Complement.

Dintensions:
$133 / 8^{\prime \prime} h, 9^{\prime \prime}$ w. $165 / 8^{\prime \prime}$ d
lieight. $\qquad$
Finish............ Blue-gray hammeroid case
\$274.50 (Suggested ('ser Price) complete with matcled probes and cables, inclioding the WG-216I I I,ow Capacitance Irole.


## 5" OSCILLOSCOPE WO-88A

If your prescut 'scope is a temperamental perfarmer on the service befseh, or if your business is limited by "substitute" TV' servicing nethods, you owe it to yourself to find out about the "88."
Superlative in its price class" best descrilses this new 5" scope.
Tops on the list of quality features is the 88 's "picture-perfect" square-wave response and its rentarkably faithful reproduction of horizontal and vertical syne and hlithkink putses, sweep alignment traces, and other con:plex waveshapes encountered in $T$ A direct-coupled push-pull, two-stage vertical an plifier with fremuenc-compensated and voltage-calibrated attentators gives the " 88 " plenty of deflection sellsitivity with amiform fremuency response matitamed uver the entire range of the attentiators. And syuc action is exceptionally stable wer the entire ratuge of the sope.
fon will find such quality extras as - iront-patrel soterce of calibrating voltage, graph screcu scaled directly in peak-to-peick volts. "phus" and "minus" sync. Gi-cycle sweep cren wide aurle thasine control special mantenance control adjustments accessible from outside of cabinct, high-impedance input, ind many others in the sew RCA "88."

WG-388A Wide Band Modification Kit . . . to adapt the WO-88A Oscilloscope for Color TV
The $11 \mathrm{G}-38 * A$ Jodification Kit meludes all parts and a detailed instrnet on bulletia
 con from de to 4.5 Mc . With the morlitied Wi)- 聚. . it is possible thatserve and measure the color-burst signal and trumbe-shoot in the chrominatice vircuits of color television recenvers.
$\$ 5.95$ (Suggested liser Price: conmplete with instruction bulletin.
Input Resistance and Capacitance:
ertical Amplifier:
and Calule Direct Prolse
"ith W(3.216I: Iow
Capacitance Prube
Horizontal Smplimer:
At Input Terminals.
0 megohnis shunted by $9.5 \mu \mu f$ (
 $1.1 \mathrm{~V} 2,2-12 \mathrm{AT}, 1.5 \mathrm{LP} 1$
 Dimensions.
$139 / 2^{\prime \prime}$ h, $9^{\prime \prime}$ w. $16 \mathrm{y} 2^{\prime \prime} \mathrm{d}$
Finisl. . . . Bluc-gray hammerod case, frosted-aluminum panel $\$ 169.50$ (Sugge-qerl i'ser lorices anmplete with matehed probe and coble includine the th G-2leIf low-fapacitince I'relte. ath! instraction loonklet.
for SERVICE - INDUSTRY SCHOOLS•LABORATORIES

SENIOR VOLTOHMYST WV-97A


DC Vultmeter:
Seven Continuons Ranges. $50,150,500.1500$ volts including 1 ntegolin

All Ranges
1.5-volt Range. . . . . 7.3 megohms-per-volt Overall Accuracy....... $\pm 3 \%$ of full scale
AC Volmeter-Fourtcen Continuons Ranges eak-toreak Ranges..... $420.1400,4201$, vults aves).. 0 to $1.5,5.15$ RIIS Ranges (for sine $50,150.500,1500$ volts
Input Resistance and Canacitance with
, Direct Probe and Cable:
$1.5,5,15,50,150 \cdot v o l t$ Ranges. . $1,8.8$ megohm ....1.3 mocgulimes shanted by 61) $\mu \mu f$ shunterl by (f) upf
Frequency Respmose (with W'G.218
Direct Prohe and Cahle)
$1.5,5,15,50,150,500$-volt Ranges.....flat All Ranges............ $\pm 5 \%$ of full scale Ohnimeter

Seven Cuntinuous Ranges. O to 1000 memolums $\ldots, 10,100,1(000,10,001)$
ohms; $0.1,1,10$ megohans Tube and Sattery Complement. 1.12 A (iv. . 1. . S 036
Power Supply......... $105 / 125$ volts. $50 / 60 \mathrm{cps}$ Dimensions. . . . . . . . . . . $77 / 8^{\prime \prime} \mathrm{h}, 5 \frac{1 / 4^{\prime \prime} \mathrm{w}, 41 / 2^{\prime \prime} \mathrm{d}}{}$ ............ $51 / 2$ monnds
or impedance of 100 ohms

Especially useful as a television signal tracer, the WV-97A features a high-impedance, high-frequency, full-wave rectifier for direct readings of peak-to-peak voltages up to 4,200 volts. With this instrument, you can readily obtain quantitative measurements of practically all of the important complex-waveform voltages found in video, sync, and deflection circuits.

The WV-97A is a deluxe instrument having such refinements as seven nonskip ranges on all functions, uniform "3 to 1" ratio between scates, wide frequency range, and extended voltage range.

Like all RCA VoltOhmysts, it has high input resistance, electronic protection against burn-out, zero-center scale, molded plastic meter case, rugged 200 microampere meter movement, $\pm 1 \%$ multiplier resistors, and other outstanding VoltOhmyst extras.
$\$ 67.50$ (Suggested User Price) including Direct l'robe and Cable, DC/Direct Switch Prohe, Ohms Lead, and Ground Lead, and instruction booklet.

DC Voltneter:
Ranges. . ........ 0 to 3, 12, 60, 300,1200 volts Input Resistance (with' 1)C I'robe)

Al1 Ranges........................ 11 megohnis Accuracy

With function selector
set on "+10ITS". ...土 $+3 \%$ of full scale With function selector set on "-VOLTS". . . $\pm 5 \%$ of full scale AC Voltnteter:

Ranges (rms)... 0 to 3, 12, 60. 300, 1200 volts
Accuracy................ $\pm 5 \%$ of full scale
Input Characteristics.
3,12 , and $60 \cdot$ volt
Ranges. . 0.2 megolims shunted hy $75 \mu \mu f$ $300 \cdot v o l t .$. . . 1.0 megohms shanted hy $50 \mu \mu f$ 1200 -volt. . . 2.0 megohms shunted by $50 \mu \mu f$ Freguency Response*.... I lat within $\pm 1$ dh from 30 cps to 3 Nc
Ohmmeter:
Ranges. Five. . . . . . . . . . . 0 to 1,000 megolinis
Center-Scale Valies . . . io, $1000,10.000$ ohnms 1.0, 10 megohms Power Supply.......... $105 / 125$ volts, $50 / 60$ cps Tube and Battery Complement.... 1.12 .1 L.5. 1-12AU7, 1.1'50.36 Diniensions................ $8^{\prime \prime}$ h, $53 / 8^{\prime \prime}$ w, $4 \frac{1 / 2 "}{}$ d
 Finish............... Blue-gray hammernid chac
*On 3, 12 and 60 -volt ranges with sonrce impedance 100 olms.

## JUNIOR VOLTOHMYST WV-77A


for SERVICE INDUSTRY SCHOOLS -LABORATORIES

MASTER VOLTOHMYST* WV-87A



DC Voltineter:
kanges.
41.5, 5, 15, 50, 150, 500. 1501 volts

Input Resistance Ald Ranges......................... . . . 11 megohms
Sensitivity on 1.5-l Range. . . . . . . . . . . . . . . . . . . . . . . 7.3 megohms/v*ult
Overali Aceuracy........ $\pm .3$ megohms vorl
AC Voltineter:
Ranges:
RMS Values of Sine Waves.............. . 0 to 1.5, 5, 15. 51.
Peak-to-Peak Values of Sine Waves and Complex W'awes

50, 500, 15010 vult
verall Accuracy
0 to 4, 14, 42, 140
420. 1400.42110 roults
..$\pm 5 \%$ of full seale
Input Resistance and Capacitance (With Direct Probe and Cable

shunted by $\times 5 \mu \mu f$
Frequency Response (up to and including the 500 -volt range) for Source impedances of approximately
100 ohms or lower. ................................... 30 cus to 3 Me

Featuring a $71 / 2^{\prime \prime}$ meter, the new WV-87A Master VoltOhmyst is the deluxe member of the RCA VoltOhmyst family. Its peak-to-peak scales are particularly useful for television, radar, and other types of pulse work.
The WV-87. A measures de voltages accurately in highimpedance circuits, even with ac present. It also reads rms values of sine waves and the peak-to-peak values of complex waves or recurrent pulses, even in the presence of dc.
Like all RCA VoltOhmysts, the WV-87A features $\pm 1 \%$ multiplier and shunt resistors, a $\pm 2 \%$ meter movement, ligh-input resistance, zero-center scale adjustment for discriminator aligmment, de polarityreversing switch. and a sturdy metal case for good rf shielding.
The RCA WV-87A Master VoltOhmyst has the accuracy and stability necessary for many laboratory applications. Its large, easy-to-read meter also makes it especially desirable as a permanently mounted instrument in the factory and repair shop.

[^30]
## ULTRA-SENSITIVE DC MICROAMMETER WV-84A



C Microammeter
Ranges, Six. 0 to $0.01,0.1,1,10,100,1000 \mu e$ Overall Aceuracy:

On X.01 Range. ........ $\pm 5 \%$ of full scale
On all other ranges...... $\pm+\%$ of full seale
coltage drop on all ranges.
DC Voltmeter:
Ranges and Input Resistance:
9 to 1-lolt Range.
0) to 10 -Volt Range

1) to lon. Volt Range
(1). olt Kange......... 1000 megolnnis

A battery operated microammeter, the RCA WV-84A is capable of reading from 0.002 to 1000 microamperes in six ranges. The WV-84A can be used with an external battery to measure resistance values as high as 90,000 megolms or may be used with an external resistor as a voltmeter with an input resistance of at least 100 megolms per volt.
Circuit features of tife WV-84i in include negligible loading of the circuit under test, meter movement electronically protected against burn-out, and a self-contained battery power supply which makes the instrument completely portable
The WV-84A is finding increased use by research laboratories in many fields-chemistry, medicine, electro-mechanics, electronics, mucleonics-for conducting experiments involving feeble currents. Industrial users find it an excellent instrument for making current and voltage measurements in electrolysis and corrosion investigations. The WV-84A may also be used for checking currents in light meters. in ultra-violet and infra-red detectors, and in spectrophotometric devices.

## TV ISOTAP WP-25A

## Specd Up Your Servicing

use the RCA TV Isotap to avoid wasted time and uncertainty in TV trouble-shooting. Use the 500 voltampere antotransformer winding for testing power ransformer types of TV receivers. Usc the 275 VA solated secondary winding for testing transformerless types of TV and ac•de radio receivers.
Service sets at normal line voltage for quick check of ircuit voltages-break down intermittent components by operating set at extra-high line voltage-make sure set finctions satisfactorily at low-line voltage.
Prevent Damage to Four Test Equipment
. . use the RCA TV Isotap to avoid expensive damage o your valuable test equipment. Eliminate possibility of rossed line plugs on transformerless receivers and test equipment and prevent costly short circuits.

Minimize Shock Hazard
use the RC. TV Isotap to aveid the shock hazard in servicing transformerless types of radio and TV' re. ceivers. WP-25A provides complete isolation and greatly ntinimizes shock hazards.

Cut Down Costly Rcturns
by using the RCA TV Isotap to avoid service recalls which are often cansed hy a ditierence of line voltage in the customer's home. With the WH.25A you can check the set in the slom at high. medinm. and low-line voltages.

Supply Line:
Toltage Range.
Switch Positions.
....... . 105-130 volts $\ldots . .105,110,115$, $120,125,130, \mathrm{OFF}^{3}$
Frcquency ....
Output Voltages:
Direct Receptacles (with 500 max va load and selector set to value of supply. line voltage): LOV

105 volts IED …........................... 115 volts Isolated Receptacles (with resistive load of 275 max va and selector set to value of supply-line voltage):

MED …................... 105 volts HIGH …...................... 115 volts
Load Ratings ( $40^{\circ} \mathrm{C}$ Ambient)
Continuous Operation:
Direct Receptacles . . . . . 500 va max Isolated Receptacles .... . 275 va max Infermittent Operation:

Birect Receptacles . . . . . 750 va max
1 solated Receptacles .... 450 va max Rexulation (no load to full
continuons load)
Direct Receptacles .....approx. $1.5 \%$
Isolated Receptacles....approx. 6 \% Dimensions........5 $514^{\prime \prime}$ h. $5^{\prime \prime}$ w, $43 / 8 \mathrm{~m}^{\prime \prime}$ " Winight ......................................... 12 cobas
\$17.95 (Suggested User Price)

## RADIO BATTERY TESTER WV-37A

Now sou can test portable-radio hatterics under actual load or "turned-on" conditions withnt the ncecesity of placing batteries in the sect. The RCA $10 \backslash-37.1$ s built-in load circuits eliminate the time-consuming methur remirell to test batteries with the conventional voltmeter. And the RC. $\$ W' ${ }^{\prime}-37.1$ also gives you a mure accurate indication of true hattery voltage than does the conventimal voltmeter allane.
The sclector swith on the front panel has nine pretixed pusitions to accommodate popular portable-radio batteries ranging from 1.5 volts to on volts. Fight hlank te'st pusitions are provided to enable ymi to set 113 testing conditions uf your own choosing for testing alditional hattery types.
Red and black plastic test prods joined to 36 -inch fest eads are permanently attached to the tester. Weighing less than $31 / 2$ lbs. the WV:.37A measures a full $9 t$ long, ly $6^{\prime \prime}$ wide, hy $11 / 2^{\prime \prime}$ deep.
You'll find the new RCA W゙V-37A Radion Battery Tester a worthy addition to your service shop. 1 se it on the sales chmenter for checking used batterics or assuring the cnstomer that replacement stock is fresh . . . on the service beneh for accurate battery volage indication under normal laad conditions-on shelf stock to keep a "rumning-cheek" on the condition of your she lf hattery stock.
\$24.95 (Suggested U'ser Price)


Nine prefixed switch positions for testing popular portable-radio-type batteries

Rugged, easy-to-read,
$41 / 2^{\prime \prime}$ meter, all metal case, $\pm 2 \%$ meter movement

Built-in load circuits provide "in-use" testing conditions

Double meter-scale simultaneously indicates percentage of rated battery voltage and relative
"good" . . . "useable" . . . or "replace" condition

Extra positions for adaption of tester to new or different battery types prevents obsolescence

## DELUXE RACK WS-I7A

The WS-17A is a deluxe three position test equipment rack. Add beatity and convenience to gour test set-up with this streamlined rack. Sturdy all-stecl construction with attractive satin-aluminum and blue-gray hammeroid finish.
$\$ 59.50$ (Surgested User Price)


RCA High Voltage Probes WG-289 and WG-290 are identical except for their connectors. The WG-289 is provided with microphone-type connector for use with the VoltOhmysts and other voltmeters having microphone-type connectors. The WG-290 is equipped with phone-tip connectors for use with voltmeters having phone-tip jacks.

These High Voltage Probes are capable of extending the de voltage range of your meter to 50,000 volts. When used with a VoltOhmyst the input resistance is increased to 1000 megohms, an important feature when working in high-impedance circuits where loading seriously affects the stability of the circuit under test.

A choice of five multiplier resistors is available enabling these probes to be used with practically all popular electronic and non-electronic voltohmmeters.


## SPECIAL PURPOSE PROBES

LOW-CAPACITANCE PROBE WG-2168


The WG-216B is a "slip-on" type probe, designed for use with either the $W(9.218$ or WG-220 Direct Probe in conjunction with an oscilloscope. When the WG-216B is used with either the RCA WO-56A or Wo-88A oscilluscopes, the total input resistance is 10 megolums shunted by a capac ity of less than $10 \mu \mu$. $\$ 7.00$

DC/DIRECT PROBE WG-222


The WO-222 is a "slip-on" type probe with a built-in 1 -ncerohm jollating resistor and unique switching facilite: fis virtue of the switch arrangement, it is possible to musare de voltare or resistane, without changeing probes. The W(i-2ge slips on the front of aither the WC-218 or WG-220 and maly be used with Foltohnysts or other varum-tube voltmeters recuiring a $1 \cdot \mathrm{meg}$ olim isolating resistor. $\$ 3.50$ *
*(Suygested User Price)

DC PROBE WG-217


The WG-217 is a "slip-on" type probe designed for use with cither the W6-2lS or W(i-220 as a 1)C Prole for VoltOhmests or other types of wiltohmmeters. The W゙(i-217 contains a 1 -megohm isclating resiator, and has a shunt capacitance of 1 ess than $2 \mu \mu f$.
\$2.75*
DIRECT PROBE AND CABLE
WG-218, WG-220


The Wri-218 is a shielded imput cable for use with volt-ohmmeters and oseilloscopes. It is fitted with a probe tip at one end and a mierophone-type connector at the other end for connection to instruments having microphone-tyne cable conneetors. The Wi( $;$ ${ }_{220}$ is the same electrically as the WG-218 but is fitted with pin-plug tips for eonneetion to instruments having tip jacks or binding posts. Either Probe $\$ 3.75^{*}$

OEMODULATOR PROBE WG-291


The WG-291 Demodulator Probe has an input range of 500 Kic to 250 Mc with an input capacitance of only $2.25 \mu \mu f$. It separates the modulation from the RF carrier in an amplitude-modulated wave by means uf a rectifier and a filter having a short time constant and an output frequency range of 30 to 5.000 cps . The W(i-291 has a naximum input voltage of 20 rms volt and a maxinmum de voltage rating of 250 volts. maxam de $\$ 7.95$

## CRYSTAL-DIODE PROBE WG-264



The WG-264 Crystal-Diode Probe consists of a germanium rectifier and $R C$ network in a plastic housing ... which conveniently slips on the Direct Probe of Voltohmysts. such as the $W V^{-97 A}$. RF voltages at frequencies up to 250 Mc may be accurately measured with the W(i-264. The ac voltage range extends from 20 millivolts to 20 volt rms; de voltages up to 250 volts ean be present.
can $7.75^{*}$

## RACK-ADAPTER PANEL WS-18A



The WS-18A Rack Adapter Panel may be used for mounting any of the matched RCA Test Instruments in standard $19^{\prime \prime}$ relay racks Add convenience, standardization and the professional touch to your test bench set-up. Umber-gray finish, all steel construction.
$\$ 11.50$ (Suggested User Price)

# * <br> Si <br> Simpson 15 sator rop cuoper 

## I NSTRUMENTSTHATTSTAYACCURATE

WORLDFAMOUS<br>MODEL 260 Set Tester

World's Most Popular High Sensitivity Set Tester For RADIO and TELEVISION

There are more Simpson 260 high sensitivity volt-ohm-milliammeters in use today than all others combined. No other instrument of its kind has approached the world-wide popularity of the Simpson 260. In no other tester of its kind will you find the combination of useful ranges, accuracy, ruggedness, beauty and sensitivity developed to such a high degree of perfection.

Removal of the Model 260 from its heavy, handsome case of molded bakelite, will disclose how it differs from most set testers. You will see a sub-panel with a score of small recesses each holding a separate resistor or other component. You will notice complete absence of cable wiring. All connections are short and direct, thus offering a strength and firmness of assembly and the finest of insulation to reduce chances of shorts. All components are readily accessible. The front panel is a thing of beauty and long life. Pin jacks are recessed so no metal parts are exposed. All figures and symbols are molded into a heavy Bakelite panel and filled with durable white for long wear and legibility.

At 20,000 ohms per volt the 260 is highly dependable, rugged and accurate. Its practically negligible current consumption assures remarkably accurate voltage readings. It provides DC current readings as low as 2 microamperes and up to 10 amperes. Dependable resistance readings can be made up to 20 megohms and as low as $1 / 5$ ohm. With the 260 you can measure automatic frequency control, diode balancing circuits, grid currents of oscillator tubes and power tubes, bias of power detectors, automatic volume control diode currents, high-mu triode plate voltage, as well as a wide range of other measurements which cannot be checked with ordinary servicing instruments.
 weight: 807.

25,000 VOLT DC PROBE FOR TELEVISION TESTING Complete, nothing to add, for use with Model 260. Weight: 6 oz. Shipping

DEALER'S NET PRICE complete with Instructions $\$ 9.95$


## RANGES

Model 260 Volt-Ohm-Nilliammeter 20,000 Ohms per Volt DC, 1,000 Ohms per Volt AC
Volts, AC and DC: $2.5,10,50,250$, 1000, 5000
Output: 2.5, 10, 50, 250
Milliamperes, DC: $10,100,500$
Microamperes, DC: 100
Amperes, DC: 10
Decibels ( 5 ranges) : -12 to +55 DB .
Zero $D B=.006$ watt in 500 ohms.
Ohms: $0-2000$ ( 12 ohms center), $0-200,000$ ( 1200 ohms center), 0.20 megohms ( 120,000 ohins center).

## DEALER'S NET PRICES

Model 260, complete with test leads and Operator's Mannal(Size: $5 \frac{1}{4} 4^{\prime \prime} \times 7^{\prime \prime} \times 31 / \mathrm{s}^{\prime \prime}$. Weight: $31 / 2$ tbs. Shipping Wt.: 5 ibs.)1818 Leather Carrying Case6.75
4236 Ever-Redy Vinyl Carrying Case. ..... 8.754236 Ever-Redy Vinyl Carrying Case......iplete with test leads and Opera-tor's Manual46.90
(Size: $63: M^{\prime \prime} \times 43 / 4$ ". Weight: $61 / 2 \mathrm{ibs}$. Shipping Wt.: 9 liss.)
High Voltage Probe for 260 ( $25,000 \mathrm{~V}$ ) ..... 9.95 ..... 9.5
High Voltage Probe for 260 ( $50,000 \mathrm{~V}$ ) ..... 12.50

MODEL 260RT SET TESTER IN ROLL TOP SAFETY CASE
The Model 260, when placed inside our patented housing of heavy mold. ed bakelite and permanently fastened in position, offers the highest degree of eflicient, economical instrument protection. Now you can buy the famous 260 complete in this roll top safety carrying case widh its built-in lead compartment at less than the price of a 260 and an Ever-R.dy leatleer carrying case. A flick of the finger rolls the top up and the instrument is ready to use. A downward flick rolls the top down and your instrument is fully protected.

## INSTRUMENTSTHATSTAY ACCURATE

## THE NEW MODEL 269

THE WORLD'S FIRST
COMMERCIALLY AVAILABLE 100,000 OHMS PER VOLT VOLT.OHM MICROAMMETER
big 7 INCH METER 33 RANGES COMPACT 7 INCH CASE
The Simpson Model 269 AC.DC ultra sensitive volt-ohm MICROammeter is ideal for voltage measurements in high resistance circuits . . . TV receivers - laboratory research work other electronic equipment!

Use it in place of VTVM's for many voltage and resistance measurements in TV and other service work.

Eliminates line cord . . . drift . . tube replacement.

The new Simpson Model 269 Volt-Ohm-MICROammeter is the most compact ultra high sensitivity instrument you can buy.

Every one of its 33 ranges has been customized to meet the needs of the electronic and electrical industries.

33 ranges through one control - saves time and assures accuracy.

Big seven-inch meter features an extra long scale for reading ease.

Rugged construction . . . designed for actual service use.
Measurement accuracy is $3 \%$ DC and $5 \% \mathrm{AC}$ of full scale deflection.

Simpson Adjust-A.Vue handle may be used to instantly support the instrument at a convenient viewing angle on a bench top.

The 269 offers dependable accuracy in a lightweight completely portable and compact case.

## RANGES

DC Voltage
$0.1 .6, \quad 0.8, \quad 0.40, \quad 0.160,0.400$, $0-1600,0.4000$ volts . . . 100,000 ohms per volt sensitivity.
AC Voltage
$0-3, \begin{gathered}0.8, \\ 0.40,\end{gathered} 0.160,0.800$ volts . . 5,000 ohms per volt sensitivity. AF Output Voltage
$0.3,0.8,0.40,0.160$ volts . . . 0.1 microfarad internal series capacitor. Volume Level in Decibels

- 12 to +11 decibels Zero DB -3.5 to +19.5 decibels Power Level +10.5 to +33.5 decibels +22.5 to +45.5 decibels .001 watt DC Resistance
$0 \cdot 2,000$ ohms ( 18 ohms center)
$0-20,000$ ohms ( 180 ohms center)
$0-200,000$ ohms ( 1800 ohms center)
$0-2$ megohms ( 18,000 ohms center)
$0-20$ megohms ( 180,000 ohms ctr.)
$0-200$ megohms ( 1.8 megohms ctr.)


## DC Current

0.16 microamperes, 0.160 microam. peres, $0-1.6$ milliamperes, 0.16 milliam. peres, 0.160 milliamperes, $0-1.6 \mathrm{am}$ peres, 0.16 amperes. millivolts maximum drop.

## Self-Shielded!



MODEL 269 . . . DEALER'S NET PRICE Complete with test leads .... removable alligator
clips, 4000 volt $D C$ multiplier, operator's manual. clips, 4000 volt DC multiplier, operator's manual. Shipping weight 6 lbs.

PRICE SB8.00

## Self-Shielded!



BOTH MODELS 262 and 269
FEATURE BIG 7 INCH METERS and COMPACT 7 INCH CASES

## MODEL 262

## VOLT-OHM-MILLIAMMETER 20,000 OHMS PER VOLT SENSITIVITY

33 RANGES . . . BIG 7 INCH METER COMPACT 7 INCH CASE

The Simpson Model 262 Volt.Ohm. Milliammeter has a sensitivity of 20,000 ohms per volt DC and 5,000 ohers per volt AC . . . all in a 7 inch case!
Every one of its 33 ranges has been customized to meet the needs of the electronic and electrical industries.
Only one control is necessary - saves time and assures accuracy.
Big seven-inch meter features an extra long scale for reading ease.

Rugged construction . . . designed for actual service use.

Measurement accuracy is $3 \% \mathrm{DC}$ and $5 \%$ AC of full scale deflection.

Simpson Adjust-A.Vue handle may be used to instantly support the instrument at a convenient viewing angie on a bench top.

The 262 offers dependable accuracy in a lightweight completely portable and compact case.

MODEL 262 . . . Dealer's Net Price
Complete with test leads ...removable alligator clips, 4000 volt DC multiplier, operator's manual. Size: $7.15 / 16^{\prime \prime}$ $\times 6 " \times 2.15 / 16^{\prime \prime}$. Weight 4 lbs. Shipping
weight 6 lbs.
PRICE $\$ 59.50$

## RANGES

DC Voltage
$0.1 .6, \quad 0.8, \quad 0.40, \quad 0.160, \quad 0.400$, $0-1.6,0.8,0.40,0-160,0.400$,
$0.1600,0.4000$ volts . . 20,000 ohms $0-1600,0.4000$ volts
per volt sensitivity.
AC Voltage
$0.3,0.8,0.40,0.160,0.800$ voits . . 5,000 ohms per volt sensitivity.
AF Output Voltage
$0-3,0.8,0-40,0.160$ volts $\ldots 0.1$
microfarad internal series capacitor.
Volume Level in Decibels
-12 to +11 decibels Zero DB -3.5 to +19.5 decibels Power Level +10.5 to +33.5 decibels .001 watt +22.5 to +45.5 decibels ) in 600 ohms
DC Resistance
0.500 ohms ( 4.5 ohms center)
0.5000 ohms ( 45 ohms center)
$0.50,000$ ohms ( 450 ohms center)
$0.500,000$ ohtins ( 4,500 ohms center) 0.5 megohms ( 45,000 ohins center) 0.50 megohms ( 450,000 ohms center)

DC Current
0.80 microamperes, 0.160 microamperes, $0-1.6$ milliamperes, 16 milliamperes, 0.160 milliamperes . . . 267 millivolts maximum drop. 0-1.6 amperes, 0.16 amperes . . . 267 milivolta maximum drop.

5262 Ever-Redy Leather Carrying Case for Model $262 . . .$. . . . . . . $\$ 9.95$
High Voltage Probe for 262
( 16,000 V.) ............
High Voltage Probe for 262
(40,000 V.)
11.50
(40,000 . . . ............ 12.50
 to $250 \mathrm{Kc}$.400 cycle audio signal. F.M. GENERATOR FREQUENCIES: Band A, 2 to 120 Kc ; Band B, 140 to $2 \leqslant 0$ Kc. Sweep rate 60 cycles.
3" OSCILLOSCOPE: Vertical sensitivity 35 mv per inch; torizontal sensitivity 70 mv per inch. Sweeps: Linear, 3 rycles through 60 Kc . Sine wave, 60 cycles (Line Freq.).
 POWERR: $185-125$ volts, AC only, 60 cycles, 90 watts.
MODEI. 480 including 2 oscilloscope cables, 1 impedance matching ontout cable, 1 , high frequency crperai probe and
able. Operator's Manual, and UHF Instructions. $\$ 475.00$ - Operations.

TV-FM SIGNAL GENERATOR
 MODEL 479
MARKER GENER. ATOR FREQUENCIES: Fundamental and second harmonic. Band A, 3.3 to 15.6 megacycles; Band B, 15 to 76 megacycles; Band C., 75 to 250 megacycies. F.M. GENERATOR FREQUENCIES: Band A, 2 to 120 megacycles; Band B, 140 to 260 megacycles. (Dial marked for harmonic use for UHF.) Sweep rate 60 cycles (Line Frequency).
 POWER: 50 watts $1155-125$ volts, AC only. NOTE: Specify 50 or 60 cycles.
Accessories: Listed on page 5 of this bulletin.
MOIDEL 479 incladiryg 2 Oscillosrupe Cables, 1 Impedance Matching Output Cable, 1 Signal Input Cabie, Operator's \$325.00
Manual, UHF Instructions................... \$3.


No. 0186

## NEW! CHROMATIC AMPL!FIER and CHROMATIC PROBE (For 479 and 480)

In just 15 seconds-you can convert your Simpson Model 480 Genescope or Model 479 TV-FM Signal Generator for servicing color TV with these two new Simpson accessories. No internal changes or connections are necessary.
CHROMATIC AMPLIFIER, Model 406. completr wirh instructions....... $\$ 31.95$ CHROMATIC PROBE, No. i86, complete wist instructions. . .......... $\$ 0.95$ ACCESSORIES
High Frequencies Crystal Probe and Cable for 479 and $480 \ldots \$ 7.50$


## NE W! Self-Shielded!

## MODEL 355

MIDGETESTER AC-DCVOLT-OHMMETER

Fits in Your<br>Shirt Pocket!<br>10,000 Ohms per Volt AC and DC!

World's smallest! Ideal for appliance repair, radio-TV service, etc. Utilizes the rugged Core Magnet Meter Movement.
On your next trouble-shooting call, slip the Simpson MIDGETESTER into your pocket and you're ready for alnost any job. The Model 355 will do practically anything larger units will do.
The compactness and sensitivity of this tester are made possible by the new Simpson 100 nicroamp self-shielded core meter movement. This movement permits the MIDGETESTER to be used any place without adverse interference from magnetic metals or strong magnetic fields. All contacts are recessed slightly below the face of the instrument . . automatic circuit and range selection by inserting leads into desired contacts.
Leads are partially threaded . . . a slight turn and they simply can't fall out! Sharp contact tips help you reach the exact test location . . . easily . . . even in crowded areas.
Probes are provided with shoulders for convenience in attaching alligator clips.
A handy ohms zero-adjust thumb wheel is cradled out of the way . . . on the right side of the instrument.
ACCURACY - $3 \%$ DC : 5\% AC
The accuracy of this instrument is $3 \% \mathrm{DC}$ and $5 \% \mathrm{AC}$ of full scale voltages, and is within $3^{\circ}$ of arc from absolute value of resistance being measured.
10,000 Ohms per volt . . . AC and DC! The Simpson MIDGETESTER Model 355, therefore, offers less loading in high impedance circuits, resulting in more accurate $A C$ voltage measurements.
$1 \%$ Carbofilm resistors of the most stable type assure long life and rugged dependability.
The use of a full bridge rectifier completely eliminates all pointer vibrations.
DC VOLTAGE: 3, 12, 60, 300, 1200.
AC VOLTAGE: 3, 12, 60, 300, 1200,
DC RESISTANCES: $0-10 \mathrm{~K}$ ohms ( 120 ohms center); $0-100 \mathrm{~K}$ ohms ( 1200 ohms center); $0-1$ megohm ( 12 K ohms center) ; 0.10 megohms ( 120 K ohms center).
SIZE: $234^{\prime \prime}$ wide, $4 \frac{1}{2}^{\prime \prime}$ high, and $1^{\prime \prime}$ thick.
WEIGHT: 7 oz .
MODEL 355 with Leads, Operator's Manual.
\$29.95
Leather Zipper Carrying Case.
Replacement Leads for MIDGETESTER.

## * <br> Simpson is satar rop cuopes

## INSTRUMENTSTHAT STAY ACCURATE

## MODEL 303 VACUUM TUBE VOLT-OHMMETER

The Simpson 303 really is a versatile instrument. It can be used as an electronic DC volimeter, an ohmmeter, an AC volimeter, an AF volmeter, an RF voltmeter (with accessory probe), an output-meter, and an FM indicator.

The 303 truly is a worthy companion of the world famous Simpson Model 260 Volt-Ohm-Milliammeter. Simpson engineers spent months of painstaking位 the laboratory, working in clod buit insirunient bas volume facturers to produce the 303 . This ruggediy built insirmment has a volume of only 120 cubic inches, and is 60 to $70 \%$ more compact than any simila instrument. In achieving this compactness for greater portability Simpson did not sacrifice accuracy or functional value. Its large $41 / 2$-inch meter is easy to read

Features such as low current consumption and wide voltage and resistance ranges make the 303 an extremely versatile instrument.

Like all other instruments bearing the Simpson name, the 303 is of the highest quality construction throughout, but sells at an amazingly low price.

## SPECIFICATIONS

DC VOLTAGE: Ranges-1.2, 12, 60, 300, 1200 (30,000 with Accessory High Voltage Probe)
nout Resistance- 10 megohms for all ranges
DC Probe-with one megohm isolating resistor
Polarity reversing switch
Polarity reversing switch ( 10 ohnis center)
100,000 ( 1000 ohms center)
1 megohm ( 10,000 ohms center)
10 megohms ( $100,000 \mathrm{ohms}$ center)
10 megohms ( 100,000 megohms center)
AC VOLTAGE: Ranges-1.2. 12, 60, 300. 1200
mpedance (with cable) approx. 200 mmf shunted by 275,000 ohms AF VOLTAGE: Ranges-1.2, 12, 60
Frequency Response-Flat 25 to 100,000 cycles
Frequency Response-Flat 25 to 100.000 cycles
DECIBELS: Ranges- -20 to $+3-10$ to $+23,+4$ to +37 +18 to $+51,+30$ to +63
Deto DB 001 wats in 600 ohms
GALVANOMETER: Zero center for FM discriminator alienment and other galvanometer applications
R. F. VOTAGE: (Signal tracing with Accessory High Frequency Crystal Probe)
Range- 20 volts maximum
Frequency-Flat 20 KC to 100 M.C


Twenty-five separate meters at the turn of a switch. That is what you get in the Simpson Model 221 Roto Ranger. The necessity of reading numerous scales, so common in ordinary volt-ohm-milliammeters, is forever eliminated when you own a Roto Ranger. The chances for errors in making readings are reduced to a minimum. The Model 221 provides a separate direct reading scale for each range and does it automatically. Calibrations are not cramped. Each scale is full size, the same as it would be for a separate instrument. As the selector switch on the panel is moved to the range desired, an ingenious mechanism rotates the proper range into position behind the meter window.

NEW . . .
JUST OUT . . .
ADJUST-A.vUE HANDLE

On Every 303. Same
Physical
Appearance
as Model 260.

See Page G-27.
 LINE VOLTAGE: $105-125 \mathrm{~V} .50 .60$ cycles SIZE: $51 / 4^{\prime \prime} x^{-"} \times{ }^{31 / x^{\prime \prime}}$ (bakelite case). Weight: 4 lbs . Shipping Wit. $61 / 2$ 165.
DEALER'S NET PRICE: Model 303, including DCV Probe. ACV -Ohms probe and Ground Lead with Operator's Manual- $\mathbf{\$ 6 8 . 0 0}$ 4236 Eveready Vinyl Carrying Case, $\$ 8.75$
Accessory High Frequency Probe, $\$ 7.50$
Accessory High Voltage Probe ( $30,000 \mathrm{~V}$ ), $\$ 9.95$
Also availasle with roll top case, Model $303 \mathrm{RT}-\$ 76.00$
Three accessories-which are provided with every 303-are now also available as separate items:

AC Probe for Model 303 . . . . . . . . . . . . . . . . $\$ 3.00$
DC Probe for Model 303
3.50

## MODEL 221 ROTO RANGER

(High Sensitivity AC-DC Volt-Ohm-Milliammeter)

## RANGES

20,000 ohms per volt $D C, 1000$ ohms per volt $A C$. Volts, DC: 2.5, 10, 50, 300, 1000, 5000. Volts, AC: 2.5, 10, 50, 250, 1000, 5000. Microamperes, DC: 100.
Milliamperes, DC: $10,100,500$.
Amperes, DC: 10.
Output: 2.5, 10, 50, 250.
Ohms: 0.2000 ( 12 ohms center), $0.200,000$ ( 1200 ohms center), $\mathbf{0}-20$ megohms ( 120,000 ohms cente-).

## Size: $12 \frac{3 / 4}{}$ " $\times 10^{1 / 8}$ " $\times 53 / 8$ ".

Weight: 9 lbs. Shipping Weight: 13 lbs.
DEALER'S NET PRICE, complete with Test
Leads and Operator's Manual ................... \$75.00
HIGH VOLTAGE PROBE AVAILABLE FOR TELEVISION SERVICING
30,000 V. DC - 20,000 ohms per volt.
Weight: 6 oz . Shipping Weight: 8 oz .
DEALER'S NET PRICE, complete with
Instructions
$\$ 9.95$

Simpson smaroros casen

## INSTRUMENTSTHATSTAYACCURATE

## NEW!

## MODEL 458

COLORSCOPE

## $100 \%$ RESPONSE

## AT 3.58 MC COLOR BURST

## 2 SCOPES IN 1! DUAL BANDWITH - NARROW OR WIDE

## 7 INCH SCREEN

## $\underset{\substack{\text { DEALER'S } \\ \text { NET PRICE }}}{\$ 19995}$

New Simpson COLORSCOPE Model 458 is ideal for servicing BOTH black and white AND color TV shows "colorburst" and provides

1. Dual bandwidth
2. Properly compensated wide band vertical amplifier stages
3. High sensitivity - $25 \mathrm{mv} /$ inch wide band $\pm 1$ D.B. to $5 \mathrm{Mc} / \mathrm{sec} .10 \mathrm{mv} /$ inch narrow band $\pm 1$ D.B. to $5 \mathrm{CO} \mathrm{Kc} / \mathrm{sec}$.
4. Compensated step attenuator
5. Vernier vertical attenuator for continuous signal voltage control
6. CRT balanced deflection
7. Tight locking of patterns
8. Excellent square wave response
9. 6.3 V test voltage available on panel
10. Very small loading of circuit being checked. (Low capacitance probe available as accessory - Simpson Model 741 - provides input impedance of 10 meg. ohms shunted by only 14 mmf .) Price of 741 probe on request.
11. Wide range sweep

## SPECIFICATIONS

## FREQUENCY RESPONSE OF

VERTICAL AMPLIFIER:

## Wide Band Position

From 20 cycles $/ \mathrm{sec}$. to $4.5 \mathrm{mc} / \mathrm{sec}$. -flat within $\pm 1 \mathrm{db}$. From 10 cycles $/ \mathrm{sec}$. to $5.0 \mathrm{mc} / \mathrm{sec}$.-within $\pm 2 \mathrm{db}$.
Full response at the Burst Frequency ( $3.58 \mathrm{mc} / \mathrm{sec}$.)


Narron Band Posifion
From 20 cycles $/ \mathrm{sec}$. to $200 \mathrm{kc} / \mathrm{sec}$. -Hat within $\pm 1 \mathrm{db}$. From $10 \mathrm{cycles} / \mathrm{sec}$. to $300 \mathrm{kc} / \mathrm{sec}$. -within $\pm 2 \mathrm{db}$.
Rise Time (Wide Band Position)-less than 0.05 microseconds.
Maximum Vertical Deflection Sensitivity Wide Band Posivion- 25 Millivolts R.M.S./inch Narorw Band Position- 10 Millivolts R.M.S./inch
Frequency Response of Horizontal Amplifier From 10 cycles $/ \mathrm{sec}$. to $200 \mathrm{kc} / \mathrm{sec}$.-flat within $\pm 1 \mathrm{db}$. From $10 \mathrm{cycles} / \mathrm{sec}$. to $300 \mathrm{kc} / \mathrm{sec}$.-within $\pm 2 \mathrm{db}$.
Maximum Horizontal Deflection Sensitivity Horizontal Input " Hi "- 80 Millivolts R.M.S./inch Horizontal Input "Low"- 1.4 volts R.M.S./inch
$Z$-axis sensitivity (Voltage required to extinguish the beam) less than 4.0 volt R.M.S.
Calibrating Voltage (@ 117.5 VAC Input to colorscope) 18 P.P volts $\pm 10 \%$
Maximum Input Voltage- 600 volts peak
Input Resistance (Minimum)-3.3 Megohms $\pm \mathbf{1 0 \%}$
Input Capacitance @ $5.0 \mathrm{mc} / \mathrm{sec}$. $\mathbf{2 0}$ uuf $\pm \mathbf{1 0 \%}$
Sawtooth Sweep Range-14 cycles/sec. to $250 \mathrm{kc} / \mathrm{sec}$.
Power Consumption @ $11^{-1 / 2}$ volts A.C.-60 cycle/sec. 60 watts $\pm 10 \%$
Case Dimensions (Overall)-11" wide, $14 \frac{1}{2} 2^{\prime \prime}$ high, $1633^{\prime \prime}$ deep
Net Weight-29 lbs.

# INSTRUMENTSTHATSTAYACCURATE 

## SIMPSON MODEL 1000 PLATE CONDUCTANCE TUBE TESTER

The Simpson Model 1000 will test any receiving tube including 9 pin miniatures and subminiatures with base arrangements in a line or circle. The Model 1000 tests an extremely important factor in the tube which is plate conductance. The dial indicates percentage of rated plate conductance which is closely related to mutual conductance since amplification factor remains constant throughout the life of the tube. Testing by the Simpson plate conductance method makes testing methods simpler . . . more positive ... more accurate. These tests are made under conditions simulating actual use in radio, television, hearing aids and other electronic circuits.

Now, you can have reliable short tests because the Simp. son 1000 quickly and conveniently shows you exact ohms values for interelement leakage and tube shorts.

Handy multi-position toggle switches help you make quick adjustments to proper voltages for bias. screen and plate supply. Each tube element is individually connected to the proper potential . . . insures against ube damage during testing.

Practical Simpson Snap-Out-Snap-In transparent plastic windows are provided over the fast action roll chart. They're instantly removed. You may add information on new tubes at any time. You'll like the easy-to-read type on the roll chart . . . eliminates squinting.

Simpson's roll chart service makes a new roll chart available each year and complimentary roll chart supplements are provided at regular intervals.

Every detail-no matter how small-has been engineered to meet your satisfaction. The fuse socket is on the front panel . . . dial cover is one piece unbreakable clear plastic.
The panel of the Model 1000 is finished in non-glare grey hammerloid and youll like the rich burgundy carrying case, too. It looks like loggage. This is the tube tester you will be proud to own. See it at your parts jobber today.

Features Accurate Shorts and Leakage Tests with Indications in Ohms!


For $105-125$ volts, 50.60 cycle
SIZE: $15^{3 / 4} \times 11^{3 / 4} \times 6^{\prime \prime}$
WEIGHT: 15 lbs .
SHIIPPING: W'EIGIIT: 19 lbs.
DEALER'S NET PRICE, complete with
Operator's Manual
$\$ 135.00$

## MODEL 276 OSCILLOSCOPE CALIBRATOR

The Simpson Model 276 Oscilloscope Calibrator adapts your oscilloscope for quick and accurate voltage measurements by comparative methods.
A twelve position switch provides six ranges each of RMS, peak and Peak to Peak voltage with six alternate neutral positions for viewing the signal under observation.

Continuously variable calibrating voltage of power line frequency is supplied by the Model 276 and is indicated on a large $41 / 2$ inch meter which indicates RMS values from 0.06 volt to 90 volts, peak values from 0.1 volt to 125 volts and peak to peak values from 0.2 volt to 250 volts.

When the Model 276 Oscilloscope Calibrator is connected in series between a signal source and the Oscilloscope input, a convenient switching arrangement makes it possible to make quick comparative checks between the relative amplitude of the signal and of the measured voltage source, This system is most convenient because leads do not have to be shifted around in order to calibrate the signal on the oscilloscope.

Housed in a rich black molded bakelite case identical to Models 260 and 303 , this instrument will prove a worthy addition to the service dealer's equipment.

## RANGES

RMS:
1.INE VOLTAGE:
$105-125$ V. $50-60$ cycles
SIZE:
51/4"x $7^{\prime \prime} \times 31 / 8^{\prime \prime}$
WEIGHT: $21 / 2$ Ibs.
SHIPPING WEIGHT: 4 ibs.
DEALER'S NET PRICE
DEALER NET PRICE..... $\$ 29.50$
$.36 \cdot .9 \cdot 3.6 \cdot 9 \cdot 36 \cdot 90$
PEAK:
+236 Eveready Vinyl Carrying Case for
PEAK to PEAK:
Model 276 , .................. $\$ 8.75$

## INSTRUMENTSTHATSTAYACCURATE

## MODEL 488 FIELD STRENGTH METER ...

## Essential For Both VHF and UHF

## IV Receiver Installations

The Simpson Model 488 Television Field Strength Meter provides means for the measurement of Television signals in any locality. IT WILL WORK EQUALLY WELL FOR VHF AND UHF!

Although special consideration was given to fringe area applications in the design of this instrument it will be found of extreme value in all types of installations.
Location of maximum signal areas, antenna orientation and location, comparison of antenna systems, adjustment of boosters and checking antenna and lead-in installations are only a few of the many functions available.
Full scale sensitivity of the lowest range is approximately 50 microvolts and is an outstanding feature for those concerned with fringe area installations where maximum efficiency must be attained. Three additional ranges of approximately 500 , 5000 and 50000 microvolts extends the usefulness of the Model 488 into areas of higher signal strength. Antenna installation for UHF reception requires exacting positioning and orientation and this requirement is completely satisfied with the Simpson 488.
The large $41 / 2$ inch modernistic meter is easily read from a considerable distance and all controls and connections arranged for greatest accessibility.
Model 488 is housed in a beautiful gray hammerloid finished case with sturdy leather handle for complete portability and ease of use.
Equipped for reception on all 12 VHF channels.


SIZE: $8^{\prime \prime} \times 11^{\prime \prime} \times 8^{\prime}{ }^{\prime \prime}$.
WEIGHT: $11 \frac{1}{2}$ lbs. Shipping wt. 15 lbs. LINE VOLTAGE: 105.125 volts, $50-60$ cycles, 45 watts.

DEALER'S NET PRICE, including operating instructions and shoulder strap $\quad \$ 115.00$

## NEW SIMPSON MODEL 498 FIELD STRENGTH METER GOES ANYWHERE!

This practical Simpson field strength meter answers the long-felt need of service technicians for a combination power line or battery operated field strength meter.
Simpson Model 498 operates from any one of four sources:

1. Simpson 498 operates from 117 V AC line OR
2. Simpson 498 operates from self-contained storage battery OR
3. Simpson 498 operates from your automobile battery* OR
4. Simpson 498 operates from your external battery.

Models housed in beautiful grey hammerloid finished case with heavy leather handle for greater portability.
Dealer's Net Price including operating instructions and shoulder strap
Model 498-A for use on 117 volts AC only . . . . . . . . . . . . . . . . . . . . $\$ 148.50$
Model 498-D 117 volts AC and 6.3 volts DC . . . . . . . . . . . . . . . . . . . 155.30
Storage battery 12 ampere hour capacity . . . . . . . . . . . . . . . . . . . . . . 9.50
Size: $8^{\prime \prime} \times 11^{\prime \prime} \times 8 \frac{1}{2 \prime \prime} \quad$ Weight: $11^{11 / 2}$ lbs. Shipping weight: 15 lbs.

[^31]
## INSTRUMENTSTHATSTAYACCURATE

M/W: SIMPSON

COLOR BAR GENERATOR

Everything You Need in a Color-Bar Generafor . . . Including Independent Saturation and Hue Controls!



MODEL 430 Color-Bar Generator is a lightweight, portable instrument which provides a total of 18 output signals. True saturated primaries and complementaries are available, as well as the NTSC color-difference signals, and black-and-white. Single or multiple presentation of bars is provided. The signals are: Red, blue, green, yellow, magenta, cyan, black, white; plus-or-minus (R.Y), plus-orminus (B-Y), plus-or-minus (G-Y) $/ 90^{\circ}$, plus-or-minus Q ; white, and black.

Horizontal sync and burst (variable burst voltage).
Sound carrier, overload check, and signal monitor output are provided. Independent hue and saturation controls are provided. Positive or negative video output is available. Video output: for signal injection directly into video system. Ample attenuation.

DEALER'S NET PRICE,
Complete with instruction manual
$\$ 395.00$

## NEW! mimpisi man NEW!

VARIDOT

WHITE
DOTGENERATOR
VARIABLE DOT SIZE
VARIABLE DOT NUMBER
Lets You Adjust the Number and Size of Dots to Your Own Liking


The NEW Simpson Model 434 provides white dot patterns with variable dot size (from 1 to 8 scanning lines. with corresponding dot widths), and variable dot number, from 8 to 20 horizontal dots, and 6 to 15 vertical dots.
With the Model 434 White Dot Generator . . . you make linearity adjustment of black and white TV and linearity and convergence adjustments on color TV receivers with confidence. Adjustable dot size provides a check of receiver transient response.
Horizontal and vertical sync pulses are provided, with adjustable vertical sync which can be operated at line frequency or of line frequency. This also operates as a hum-check control for both color and black and white receivers. This feature is rarely found in test equipment offered at this price. Vertical and horizontal synchronization assures you of correct aspect ratio . . . ample attenuation . . . 300 ohm RF output.

Positive or negative video output . . . excellent for accurate and fast checking transient response of video amplifiers is available.

Housed in attractive Simpson grey hammerloid case.
Modulated RF output is available, operating on fundamentals from Channel 2 to Channel 6. Line Voltage: 117 Volts, $50-60$ cycles, 45 watts. Weight is approximately $111 / 2 \mathrm{lbs}$.

Shipping Weight: 15 lbs .
DEALER'S NET PRICE, Complete with operat-
ing instructions and output cables
$\$ 147.50$

## INSTRUMENTSTHAT STAYACCURATE

## MODELS 240 and 230 VOLT-OHM-MILLIAMETERS

These two "Micro-Tester" portables are famous throughout the world for their ruggedness and built-in accuracy. They exemplify the construction features and utility that distinguish the entire Simpson line shown in this section.

Both are shock-proof and incorporate the special D'Arsonoval Simpson movement which is known for its extreme accuracy. Resistors are in matched pairs to provide the greatest possible accuracy for all ranges.

Model 240 - the "Hammeter" - was designed for the additional voltage and sensitivity demanded in radio testing. With its maximum voltage range of 3000 AC or DC, it was the first self-contained pocket portable instrument built expressly to check high voltage and all the component parts of transmitters and receivers.
Model 230, with a maximum voltage of 1000 volts AC or DC, is ideal for most industrial testing. Its ranges are adequate for most line voltages, for telephone, teletype, and general purpose testing.
Both models are housed in heavily molded bakelite cases, with all numbers and symbols recessed in the panel and filled with white enamel for greatest legibility and ease of reading. Both have full size $3^{\prime \prime}$ meters.

## RANGES

MODEL 240
AC Volts: $0-15,150,750,3000$ (1000 ohnis per volt)
DC Volts: $0-15,75,300,750,3000$ ( 1000 ohms per volt)
DC Milliamperes: 0-15. 150, 750
Ohms: 0.3000 (center scale 30 )
0.300 .000 (center scale $\mathbf{3 0 0 0}$ )

Accuracy: DC $3 \%-\mathrm{AC} 5 \%$
Size: $3^{\prime \prime} \times 57 / 8^{\prime \prime} \times 21 / 2^{\prime \prime}$. Weight: $11 / 4$ lbs. Shipping Weight: 3 lbs.
DEAI.ER'S NET PRICE, complete with Liads and Printed Instructions.... \$26.35

## IIIIIIII

## MODEL 230

(Same physical appearance as Model 240 pictured at left)
AC Volts: $0.10,250,1000$ ( 400 ohms per volt)
DC Volts: $0.10,50,250,1000$ ( 1000 ohms per volt)
DC Milliamperes: $0.10,50,250$
Ohms: $0.1000,0-100,000$
Accuracy: DC $3 \%-\mathrm{AC} 5 \%$
Size: $3^{\prime \prime} \times 5^{7 / 4} \mathrm{~m}^{\prime} \times 21 / 2^{\prime \prime}$. Weight: $11 / 4 \mathrm{bs}$. Shipping Weight: 3 lbs.
DEAIER'S NET PRICE, complete with EAI.ER'S NET PRICE, complete with
Leads and Printed Instructions.... $\$ 24.95$


## ACCESORIES

NEW! CHROMATIC AMPLIFIER and CHROMATIC PROBE (For 479 and 480)
In just 15 seconds--you can convert your Simpson Model 480 Genescope or Model 479 TV.FM Signal Generator for servicing color TV with these two new Simpson accessories. No internal changes or connections are necessary. CHROMATIC AMPLIFIER, Model 406, complete with instructions. . . . $\$ 31.95$ CHROMATIC PROBE, No. 0186, complete with instructions.

## PROBES

| High Voltage Probe for $260(25,000$ | V) |
| :--- | :--- |
| High |  |

High Voltage Probe for 260 ( 50,000 V) ....... 1250
High Voltage Probe for 269 ( 40,000 V)......... . 12.50
High Voltage Probe for 221 ( 30,000 V) ......... 9.95
High Voltage Probe for 303 ( 30,000 V)......... 9.95
High Voltage Probe for 262 ( $16,000 \mathrm{~V}$ )......... 11.50
High Voltage Probe for 262 ( 40,000 V)......... 12.50
High Voltage Probe for 269 ( 16,000 V)........ . . 11.50
High Voltage Probe for 269 ( 40,000 V) . . . . . . . . . 12.50
High Frequency Probe for Model 303. . . . . . . . . . . 7.50

DC Probe for Model 303......................... . . 3.50
Ground Lead for Model 303. . . . . . . . . . . . . . . . . . . . . . 1.00

Output Cable, 45 Mc , for 479 and $480 . .$. ........ . . 4.25


No. 0186
PROBES
Voltage Doubler Probe, No. 740. $\$ 10.95$
Low Capacity Probe. No. 741 ........................ 9.95
100:1 Voltage Doubler Probe, No. 742........... 9.95
Direct and Dual Alignment Probe, No. 743...... 9.95
General Purpose Thermocouple Prabe
No. 0190, for 388 , 388 -3L........................ 4.95
Surface Temperature Thernoocouple Probe
No. 0187 , for $388,388-3 \mathrm{~L}$. . . . . . . . . . . . . . 6.95
LEADS
Test Prods and Elbow Terminals................. 1.25
Test Prods and Spade Terminals.................. 1.25
Alligator Clips and Elbow Terminals............ 1.25
Alligator Clips and Spade Terminals............. 1.25
Combination test prods with removable alligator
clips and Elbow terminals.
1.85

## CARRYING CASES



4326 OPEN

SIMPSON EVER-REDY INSTRUMENT CARRYING CASES--Saves your time! Large, onepiece lid folds back to expose meter and selection switches . . . ready for instant testing.
Leather Carrying Case for Model 260. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . No. 1818. . . $\$ 6.75$
Ever-Redy Vinyl Carrying Case for Models 260, 303, 276. . . . . . . . . . . . No. $4236 . .$. . 8. 75
Ever-Redy Vinyl Carrying Case for Models 262, 269, 388, 388-3L. . . . . . No. 5262. ... 9.95
Ever-Redy Leather Carrying Case for all Microtesters. . . . . . . . . . . . . . . . . No. 4299. . . . 5.50
Leatherette-Covered Carrying Case for all Microtesters. ................ . No. 3011.... 5.50
Leatherette-Covered Carrying Case for Models 391, 392...................No. $3413 \ldots$. . . 5.50
Leather Zipper-type Carrying Case for Model 355. . . . . . . . . . . . . . . . . . . . No. 6355.

IS READY FOR COLOR!

## INSTRUMENTSTHAT STAYACCURATE

## MODEL 390 VOLT-AMP-WATTMETER

Ruggedly constructed for full load. continuous operation, the Simpson Model 390 is the first tester of its size ever made to give you volt. ampere and wattage readings in one compact instrument. It embraces two ranges each of voltage and current, providing four wattage ranges which cover practically all types and makes of appliances. The panel has volt-ampere combinations clearly indexed to the proper wattage range on the scale, which makes the instrument easy to use. All readings are shown on one meter. In normal position, the meter indicates volts. Ampere and watt readings are obtained by depressing button on the panel. The widely separated binding posts make it possible for the Model 390 to be used as an individual voltmeter or as an ammeter. The Model 390 has a molded bakelite case with all figures recessed in the panel, which are filled with white enamel for better legibility. Special sets of leads and plug furnished to simplify connections.


RANGES
AC Current. 60 wales
Volts $=0.150,0-300$
Amperes: 0.3, 0-15 Watts: 0.300 , (2000) (1)-1500. 0.30010

## MODELS 391 and 392 <br> AC-DC VOLT-WATTMETERS

Designed for simultancous reading of volts and watts, each of these handy little testers has two separate $3^{\prime \prime}$ square meters, one for volts and one for watts. Each has a built-in cord and plug for connection to the line outlet. and a receptacle for connecting the appliance under test. The ranges for each meter are selected by separate toggle switches recessed in the molded bakelite case. The low power consumption combined with the high efficiency of these instruments results in negligible loss and error in reading.

Model $391(3000$ watts max.)
Ranges: AC or DC
Volts: $0.130,0.260$
Watts: $0.1500,0.3000$
Size: $3^{\prime \prime} \times 57 / \mathrm{s}^{\prime \prime} \times 21 / 2^{\prime \prime}$. Weight: $11 / 2 \mathrm{lbs}$, Shipping W eight: 2 lbs .
DEALER'S NET PRICE, with Oper. ating Instructions ............ $\$ 30.00$ 3413 Leatherette carrying case 5.50

Model 392 ( 5000 watts max.)
Ranges: AC or DC
Volts: 0.130, 0.260
Wolts: $0-130,0.260$
Size: $3^{\prime \prime \prime} \times 5^{7 / 8 "} \times 2 \frac{1 / 2^{\prime \prime} .}{}$. Weight: $1^{1 / 2}$ lbs. Shipping Weight: 2 lbs.
DEALER'S NET PRICE, with Oper. ating instructions ........... $\$ 35.00$


## MODEL 385 TEMPERATURE INDICATOR

This is the newest addition to the Simpson Appliance Tester line. You will find this a compact instrument which is ideal for measuring temperatures from $+70^{\circ} \mathrm{F}$ to as low as $-50^{\circ} \mathrm{F}$, where fast accurate temperature readings are important. The scale is designed so that the center portion is expanded, making the most widely used temperatures easy to read.
The Model 385 is ideal for use in the refrigeration service field and wherever temperature readings are important. such as deep freeze units, home refrigerators. walk-in coolers and air conditioning units.

The temperature readings can be taken at the end of the 15 ' lead which is supplied with the unit. The lead cord is small in diameter, making it possible to close the door of the equipment, thus obtaining temperature indications tunder actual conditions.
The probe can also be immersed in liquids where critical temperatures must be maintained.

Range: - $50^{\circ} \mathrm{F} .1 \mathrm{C}-0^{\circ} \mathrm{F}$. Battery, self-contained Size: $3^{\prime \prime} \times 57 / 8^{\prime \prime} \times 21 / 2^{\prime \prime}$. Weight: $11 / 2$ lbs. Shipping Weight: 4 lbs. DEALER'S NET PRICE, complete with Test Lead and Operating Instructions .-.-........ $\$ 30.00$ 3011 Leatherette Covered Carrying Case .. 5.50 4299 Eveready Leather Carrying Case .. 5.50

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Simpson smonoror coase

## INSTRUMENTSTHATSTAY ACCURATE

## MODEL 370 AC AMMETER

With self-contained current transformer For use on 60 cycles
In the Model 370, a current transformer and indicating instrument have been combined in one small case to theet the consistent demand for a small multiple range AC ammeter, at a price that you can afford. Its many uses include of electric appliances and drawn by all types ments, ments, lamps, radio sets, etc. RANGES: 0.1 ,
$0.2 .5,0.5,0-10,0.25 ~ A m p e r e s . ~$

Size: $3^{\prime \prime} \times 57 / 8{ }^{\prime \prime} \times 21 / 2{ }^{\prime \prime}$. Weight: $11 / 2$ lbs.
Shipping Weight: 2 lbs.


DEALER'S NET PRICE
.$\$ 19.95$

## MODEL 371 AC VOLTMETER

This instrument is a "must" for the industrial service kit or the lineman. Designed primarily for testing line voltages applied to mmors, man. Designed primarily for testing line voltages applied to nowtors,
heating equipment or other industrial installations. the ranges are heathg equipment or other industrial installations, the ranges are
such that many additional applications will suggest themselves. RANGES: $0.150,0.300,0.600$ Volts.

DEALER'S NET PRICE
Si8.40

## MODEL 372 OHMMETER

A complete instrument with self-contained batteries. Has a wide range from . 2 ohms to 50 megohins. "Ohnis" adjuster compensates for variations in battery voltages. Wire wound and matched metailized resistors are used throughout. The basic movement has a sensizity of 85 microamperes. RANGES: $0-500$ ohms ( 5 ohms center) $0-5000$ ohms ( 50 ohms center) $0-50,000$ ( 500 ohms center), 0,500000 ( 5000 ohms center), $0-5 \mathrm{Meg}$. $(50,000$ ohms center), $0-50$ Mep. ( 500,000 ohms center).
Size: $3^{\prime \prime} \times 57 /{ }^{\prime \prime} \times 21 / 2^{\prime \prime}$. Weight: $11 / 2 \mathrm{fbs}$. Shipping Weight: 2 liss. DEALER'S NET PRICE, complete with Test Leads
$\$ 25.50$

## MODEL 373 DC MILLIAMMETER

The Model $37{ }^{3}$ provides for DC current measurements from . 02 to 1000 MA. This tester is ideal for radio servicing and eaperimental work; checking burglar alarm circuits, railroad signal systems, teleMA. work, etc. RANGES: 0-1, 5, 10, 25, 50, 100, 250, 0-1000

Size: $3^{\prime \prime} \times 57 / s^{\prime \prime} \times 2^{1 / 2 "}$. Weight: $11 / 4$ Ibs. Shipping Weight: 2 lbs. DEALER'S NET PRICE
4299 Eveready Leather Carrying Case
$\$ 19.95$
3011 Leatherette-Covered Carrying Case

## .

## MODEL 374 DC MICROAMMETER

Incorporates a basic movement of 50 microamperes sensitivity with self-contained shunts for all other ranges. This tester can be used at 20,000 ohtins per volt. It is of as a high sensitivity voltmeter at 20,000 ohms per volt. It is of particular value in photoelectric cell and other experimental work. The meter may be shorted out of the circuit by setting the selector knob to "short" position. RANGES: $0-50,100,250,500,1000$ Microamperes.
 DEALER'S NET PRICE
$\$ 23.00$

## MODEL 375 DC AMMETER

## Self-Contained

A new multi-range instrument which is extremely useful in testing the current in DC circuits. Provides a complete range from a fraction of an ampere to 25 amperes without the necessity of using auxiliary external shunts. Excellent for checking auto radios and experimental work in DC circuits. RANGES: 0-1, 2.5, 5, 10, 25 Amperes.
Size: $3^{\prime \prime} \times 5^{5 / 4} \times 21 / 2^{\prime \prime}$. Weight: $11 / 2$ lbs. Shipping Weight: 2 lbs. DEALER'S NET PRICE
.$\$ 19.95$

## MODEL 376 DC VOLTMETER

Rectifier Type 1000 ohms per volf
An AC Voltmeter, especially useful in circuits where a limited amount of current is present. Makes an excellent output meter when used with proper condenser. The wide variety of ranges covers both primary and secondary voltage ranges of transformers used in radio sets, toys and appliances. RANGES: $0-5,10,25,50,100,250,500,1000 \mathrm{AC}$ volts.
Size: 3 "x $57 / 4 " \times 21 / 2 "$. Weight: $11 / 4 \mathrm{lbs}$. Shipping Weight: 2 lbs. DEALER'S NET PRICE
. \$19.95

## MODEL 377 DC VOLTMETER

Resistance 1000 ohms per volt
Measures all dry battery voltage, both $A$ and $B$, for radio sets, also yrid and plate voltage and filament voltage in battery-operated sets High ranges may be used for checking DC line voltage. RANGES:
(18

Size: $3^{\prime \prime} \times 5^{\% / 8} \times 2^{1 / 2 "} \mathbf{W}^{\prime}$ eight: $11 / 2 \mathrm{Jbs}$. Shipping Weight: 2 lbs.
DEALER'S NET PRICE
.$\$ 19.95$

## MODEL 378 AC MILLIAMMETER

With self-contained current transformer
Here is the instrument that answers your need for a low cost, handy size milliammeter that combines a current transformer and an indicating instrmment in one case. It offers five separate ranges, making it suitable for a wide variety of testing jobs. RANGES: $0-5,25,100$,
$250,1000 \mathrm{MA}$.

Size: $3^{\prime \prime} \times 5^{-1 / 8} \mathbf{n}^{21} 2^{\prime \prime}$. Weight: $11 / 2$ lbs. Shipping Weight: 2 lbs. DEALER'S NET PRICE
.$\$ 22.60$

## MODEL 379 BATTERY TESTER

Designed in accordance with the engineering specifications of leading battery manufacturers, this compact instrument is so ruggedly built that it will stand a lifetime of hard usage. The loading resistors have an accuracy of $1 \% / \%$ and properly load all radio and hearing aid $A$ and $B$ batteries.

A single rotary switch selects the voltage of the battery under test and brings into line the correct loading resistor. The full $3^{\prime \prime}$ dial has three separate arcs, one for all radio A batteries, one for hearing aid A batteries, and one for all B batteries.

A percentage scale shows the exact condition of the battery in percentage of full voltage. The voltage reading can be quickly ob taned by multiplying the percentage reading by the selector-switch voltage setting.
Size: $3^{\prime \prime} \times 57 / 8^{\prime \prime} \times 2^{1} 2^{\prime \prime}$. Weight: $11 / 4$ lbs. Shipping Weight: 2 lbs. DEALER NET PRICE WITH LEADS
4299 Eveready Leather Carrying Case. ..... $\$ 5.50$3011 Leatherette-Covered Carrying Case . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 55.50$\$ 5.50$
 ..... $\$ 1.25$

INSTRUMENTSTHATSTAYACCURATE

## QUICK, Easy WAY

 TO СНЕСК LINE QUALITY
## For Testing Overload of Circuits

 Before Adding an Additional Electrical Line Load.Be Safe_Use for Pre-testing Line Load . . .

Minimizes Expensive "Call Backs' when New Appliances Are in Warranty

The new Simpson Line Quality Tester Model 397 is used to indicate the adequacy-or inadequacy-of ANY existing power line to furnish any value of motor starting current from 13 to 50 amperes.

Should there be any question as to whether or not a motor driven device can be safely-or satisfactorily-used on an unknown line, the Simpson Line Quality Tester can provide the proper

answer quickly and easily. There is no need to pull cables apart to make individual line checks. Just plug the five foot cord into the outlet to be tested and take your reading from the meter on the face of the Model 397.
. . . Simpson Model 397 can check line quality before the unit in question is put into the circuit:

## HEAVY HOME APPLIANCES

Heavy appliances and devices which can overload certain lines by themselves: Refrigerator - Freezer - Clothes Drier - Washing Machine - Dishwasher - Air Conditioning - Garbage Disposal.

## INDUSTRIAL DEVICES

Electrically Driven Industrial Machinery - Grinders - Lathes - Drill Presses - Sanders - Conveyors - Miscellaneous Power Tools - Air Conditioning. SIMPSON LINE QUALITY TESTER, MODEL 397 Complete with 5 ft . Cord, Instructions.

Dealer's Net
$\$ 29.95$

INSTRUMENTSTHATISTYACCURATE

NEW!

## MODEL 388 TEMPERATURE THERM-O-METER

## THE TEMPERATURE THERM-O-METER

 measures
## $-50^{\circ}$ to $1000^{\circ} \mathrm{F}$ Quickly ... on ONE 7"SCALE

You can measure the temperature of practically anything - gases, solutions, or solid objects - quickly and accurately, from a distance, with this new Simpson THERM-O-METER Model 388. Meter measures temperature at end of $71 / 2$-foot thermocouple lead. Size is only $7^{1.516 " ~ w i d e ~ b y ~} 6^{\prime \prime}$ high by $2^{15 / 166^{\prime \prime}}$

thick. Complete with internal battery and operating instructions. Adjust-A-Vue Handle supports instrument at convenient viewing angles.
MODEL 388, Complete
Dealer's Net Price
$\$ 59.50$
Carrying Case ................................................ $\$ 9.95$
SPECIAL ACCESSORY PROBES ARE AVAILABLE AS fOLLOWS:

| DIMENSIONS |  | DESCRIPTION |  | PART No. | PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Maximum Thickness | Minimum Thickness | Length | (Surface Temperature Probe | 10-890187 | \$6.95 |
| .090" | .065" | $\begin{gathered} 7.5^{\prime} \\ \text { (Approx.) } \end{gathered}$ | Additional Single General Purpose Thermocouples | 10-890190 | \$4.95 |

[^32]
# YMMPSOM PANEL INSTRUMENTS 



MODELS
$125,135,145,155$
$21 / 2^{\prime \prime}$ ROUND CASE - OPEN FACE STYLE. Flange diameter, $23 / 4$ "; depth overall, 2 5/16"; body diameter, 2 11/64"; scale length, $1 / / \mathrm{s}^{\prime \prime}$. Bakelite case.


MODELS
127, 137, 147, 157
2' $2 \prime \prime$ RECTANGULAR CASE. Width
 hole. Body diameter, 2 3/16". Scale length $1 / \mathrm{s}^{\prime \prime}$. Bakelite case.


MODEL 27.37-57
ILLUMINATED
$3^{12} 2^{\prime \prime}$ RECTANGULAR CASE. Width $3^{\prime \prime}$; height $31 / 8^{\prime \prime}$. Mounts in round hole. Body diameter $23 / 4^{\prime \prime}$. Scale length $15 / 16^{\prime \prime}$. Bake. lite case.

NOTE: The $21 / 2^{\prime \prime}$ and $31 / 2^{\prime \prime}$ rectangular instruments indicated (*) are also carried in stock with lucite illuminated dials. Supplied complete with socket and 6 volt bulb for an additional cost of $\$ 1.50$ dealer's net. R.F. ammeters lucite illuminated must be supplied with external thermoconple. Add $\$ 4.95$ for couple. All instruments are calibrated for use on non-magnetic panels.

VOLTMETERS


MILLIAMMETERS

| 0.1 | \$7.65\% | \$8.70\% | \$9.75 | . . |  | . . . |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.1 .5 | 7.65 | 8.70 | 9.75 |  |  | . . |
| 0.3 | 7.65 | 8.70 | 9.75 |  |  |  |
| 0.5 | 7.65 | 8.70 | 9.75 |  |  |  |
| 0.10 | 7.65* | 8.70 * | 9.75 | \$7.50 | 88.10 | \$9.90 |
| 0.15 | 7.65* | 8.70* | 9.75 | 7.50 | 8.10 | 9.90 |
| 0.20 | 7.65 | 8.70 | 9.75 |  |  |  |
| 0.25 0.50 | 7.65\% | $8.70 \%$ $8.70 \%$ | 9.75 9.75 | 7.50 7.50 | 8.10 8.10 | 9.90 9.90 |
| 0.75 | 7.65 | 8.70 | 9.75 | 7.5 | 8.10 |  |
| $0 \cdot 100$ | 7.65\% | 8.70 \% | 9.75 | 7.50 | 8.10 | 9.90 |
| 0.150 | 7.65 | $8.70 \%$ | 9.75 |  | . . . | . . . |
| 0.200 | 7.65\% | 8.70 \% | 9.75 |  |  |  |
| 0.250 | 7.65 | 8.70 | 9.75 | 7.50 | 8.10 | 9.90 |
| 0.300 | 7.65* | 8.70 * | 9.75 |  |  |  |
| 0.500 | 7.65* | 8.70 * | 9.75 | 7.50 | 8.10 | 9.90 |
| 0.750 0.1000 | 7.65 7.65 | 8.70 8.70 | 9.75 9.75 | ... | . . . |  |

MICROAMMETERS

| MODEI $\rightarrow$ | $125-127$ | $25-27$ | 29 |  | 125.127 | $25-27$ | 29 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| RANGE | D. C. |  |  |  | RANGE |  | D. C. |
| 0.25 | $\$ 13.65$ | $\$ 14.85$ | $\$ 17.10$ | 25.0 .25 | - | 12.00 | 13.20 |
| 0.50 | 10.80 | 11.85 | 13.05 | $50-0.50$ | - | 11.40 | 12.75 |
| $0-100$ | 10.20 | 11.25 | 12.60 | $100.0-100$ | - | 9.75 | 11.10 |
| 0.200 | 8.55 | 9.60 | 10.95 | $500-0.500$ | - | 8.85 | 9.90 |
| 0.500 | 7.95 | 9.15 | 10.35 |  |  |  |  |


| MODEL $\rightarrow$ | 125.127 | 25.27 | 29 |
| :--- | ---: | ---: | ---: |
| RANGE | D. C. |  |  |
| 0.50 | $\$ 7.65$ | $\$ 8.70$ | $\$ 9.75$ |
| 0.100 | 7.65 | 8.70 | 9.75 |

For More Detailed Information About Test Equipment, Ask for Technical Bulletin 2054. For More Detailed Information About Panel Instrnments, Ask for Technical Bulletin 2052. Simpson Electric Company, 5200 West Kinzie St., Chicago 44, Ill. Phone: ESterbrook 9-1121. In Canada: Bach-Simpson, Led., London, Ontario.

The . $1 / .45 / 7: R$ - 20 h Edition

# Simpon umaman 



MODELS 25, 35, 45. 55
$31 / 2$ " ROUND CASE - OPEN FACE STYLE. Flange diameter, $31 / \%^{\prime \prime}$ : depth ovet all, $2 \frac{1}{4}$ "; body diameter, $23 / 4$ : scale length 2 9/16". Bakelite case.


MODELS 27, 37, 47, 57 31/2" REETANGULAR CASE. Width, $3^{\prime \prime}$ : height, $31 / 8^{\prime \prime}$. Mounts in round hole. Body diameter, $23 / 4^{\prime \prime}$. Scale length 2 9/16". Bakelite case.


MODELS 29, 39, 49, 59 41/2" RECTANGULAR CASE. Width $421 / 32^{\prime \prime}$, height, $413 / 64^{\prime \prime}$. Mounts in round hole. Body diameter $23 /{ }^{\circ}$. Scale length 3 29/32". Bakelite case.

## AMMETERS

| MODEL $\rightarrow$ | 125.127 | 25.27 | 1 | 29 | 11 | 155.157 | 55.57 |  | 59 | II |  | 125-127 | I | 25.27 | 1 | 29 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RANGE |  | D. C. |  |  | 11 |  | A. C. |  |  | 11 | RANGE |  |  | D. C. |  |  |
| 0.1 | \$7.65 | \$8.70 |  | \$9.75 |  | \$7.50 | \$8.10 | \$ | 9.90 |  | 0.100 | \$7.65 |  | \$8.70 |  | $\$ 9.75$ |
| 0.1.5 | 7.65 | 8.70 |  | 9.75 |  | 7.50 | 8.10 |  | 9.90 |  | 0.150 | 7.65 |  | 8.70 |  | 9.75 |
| 0.2 | 7.65 | 8.70 |  | $9 .-5$ |  | 7.51 | 8.10 |  | 9.90 |  | 0-200 | 7.65 |  | 8.70 |  | 9.75 |
| 0.3 | 7.65 | 8.70 |  | 9.55 |  | 7.50 | 8.10 |  | 9.90 |  | 0.250 | 7.65 |  | 8.70 |  | 9.75 |
| 0.5 | 7.65 | 8.70 |  | 9.75 |  | 7.50 | 8.10 |  | 9.90 |  | 0.300 | 7.65 |  | 8.70 |  | 9.75 |
| $0-10$ | 7.65 | 8.70 |  | 9.75 |  | 7.50 | 8.10 |  | 9.90 |  | 0.500 | 7.65 |  | 8.70 |  | 9.75 |
| $0-15$ | 7.65 | 8.70 |  | 9.75 |  | 7.5.] | 8.10 |  | 9.90 |  | 0.750 | 7.65 |  | 8.70 |  | 9.75 |
| 0.25 | 7.65 | 8.70 |  | 9.75 |  | 7.80 | 8.40 |  | 10.50 |  | 0-1000 | 7.65 |  | 8.70 |  | 9.75 |
| 0.30 | 7.65 | 8.70 |  | 9.75 |  |  |  |  |  |  | 15-0.15 | 7.65 |  | 8.70 |  | 9.75 |
| 0.50 | 7.65 | 8.70 |  | 9.75 |  |  | 9.30 |  | 12.60 |  | 30.0.30 | 7.65 |  | 8.70 |  | 9.75 |
| 0.75 | 7.65 | 8.70 |  | 9.75 | , |  |  |  |  |  | 50-0.50 | 7.65 |  | 8.70 |  | 9.75 |

AC.DC ammeters are self-contained for ranges up to and including 50 amperes. Higher range DC ammeters (50MU) listed above CAN be supplied with external shunts and inciude 6 foot leads. Higher range AC ammeters can be supplied with external current transformers and include 2 foot leads. Prices of external shunts or current and transformers should be added to meter prices shown.

## WATTMETERS-DYNAMOMETER TYPE

| RANGE | MAX. | MAX. | MODEL | MODEL | MODEL | RANGE | MAX. | MAX. | MODEL | MODEL | MODEL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| WATTS | VOLTS | AMPS. | 175.177 | 75.77 | 79 | WATTS | VOLTS | AMPS. | 175-177 | 75.77 | 79 |
| 0.75 | 150 | 1.0 | \$18.60 | \$19.80 | \$25.80 | 0.600 | 300 | 4.0 | \$20.70 | \$21.75 | \$27.75 |
| 0.150 | 150 | 2.0 | 18.60 | 19.80 | 25.80 | 0.1500 | 300 | 10.0 | 20.70 | 21.75 | 27.75 |
| 0.300 0.750 | 150 150 | 4.0 10.0 | 18.60 18.60 | 19.80 19.80 | 25.80 $\mathbf{2 5 . 8 0}$ | 0.3000 | 300 | 20.0 | 20.70 | 21.75 | 27.75 |


| RANGE | $\begin{gathered} \underset{\substack{\text { MODEL } \\ \text { APPROX. }}}{\text { RESISTANCE }} \end{gathered}$ | 45-47 | 49 |
| :---: | :---: | :---: | :---: |
| 0-1 |  | \$12.75 | \$13.65 |
| 0.3 |  | 12.75 | 13.65 |
| 0.5 |  | 12.75 | 13.65 |
| 0.10 | 1000 | 12.75 | 13.65 |
| 0.15 | ohms | 12.75 | 13.65 |
| 0.50 | ohms | 12.75 | 13.65 |
| 0-100 |  | 12.75 | 13.65 |
| 0-150 |  | 12.75 | 13.65 |
| 0.300 |  | 12.75 | 13.65 |
| 0.1 |  | 13.05 | 14.25 |
| 0.3 |  | 13.05 | 14.25 |
| 0.5 | 2000 | 13.05 | 14.25 |
| 0.10 | ohms | 13.05 | 14.25 |
| $0-15$ | per volt | 13.05 | 14.25 |
| 0.50 | per volt | 13.05 | 14.25 |
| 0.100 |  | 13.05 | 14.25 |
| 0-150 |  | 13.05 | 14.25 |
| 0.300 |  | 13.05 | 14.25 |

A. C. MILLIAMMETERS - RECTIFIER TYPE

| 0.1 | 600 ohms | $\$ 12.60$ | $\$ 13.65$ |
| ---: | :--- | ---: | ---: |
| 0.2 | 400 | 12.60 | 13.65 |
| 0.5 | 200 | 12.60 | 13.65 |


\section*{A. C. MICROAMMETERS - RECTIFIER TYPE <br> | 0.100 | 3400 ohms | $\$ 15.15$ | $\$ 16.50$ |
| :--- | :--- | :--- | :--- |
| 0.200 | 2400 | 13.50 | 14.85 |
| 0.300 | 1800 | 13.35 | 14.55 |
| 0.500 | 1200 | 13.05 | 14.25 |}

D. C. GALVANOMETERS

| SCALE | SENSITIVITY MICRO. AMPERES | M | 125.127 | 25.27 |
| :---: | :---: | :---: | :---: | :---: |
|  |  | RESIST. |  |  |
| 50-0.50 | 500-0-500 | 46 ohms | \$7.65 | \$8.70 |
| 50.0.50 | 75-0.75 | 2000 | 9.45 | 10.50 |

## R. F. AMMETERS INTERNAL THERMOCOUPLE TYPE

| MODEL $\rightarrow$ | 135.137 | 35.37 | 39 |
| :--- | :--- | :--- | :--- |
| RANGE | $13.10 \%$ | $\$ 10.50^{*}$ | $\$ 12.75$ |
| $0-1$ | $\$ 9.30^{*}$ | $\$ .30$ | 10.50 |
| 0.1 .5 | $9.30^{*}$ | $10.50^{*}$ | 12.75 |
| 0.2 | 9.30 | 10.50 | 12.75 |
| 0.2 .5 | $9.30^{*}$ | $10.50^{*}$ | 12.75 |
| 0.3 | $9.30^{*}$ | $10.50^{*}$ | 12.75 |
| 0.5 | 9.30 | 10.50 | 12.75 |
| 0.8 | 9.30 | 10.50 | 12.75 |
| 0.10 |  |  |  |

*See note at top of next page.

## RF MILLIAMMETERS

| +0.115 | $\ldots$. | $\$ 21.45$ | $\$ 23.45$ |
| :---: | :---: | ---: | ---: |
| 0.150 | $\ldots$ | 12.60 | 14.55 |
| 0.250 | $\ldots$. | 12.60 | 14.55 |
| 0.500 | $\ldots$ |  |  |
| $\dagger 0.100$ linear scale- 50 divisions. |  | 14.55 |  |

VOLUME LEVEL INDICATORS-DECIBEL METERS
ZERO POWER LEVEL-6 MW. 500 OHM LINE

| MODEL $\rightarrow$ | 145.147 | 45.47 | 49 |
| :---: | :---: | :---: | :---: |
| RANGE |  |  |  |
| GENERAL PURPOSE TYPE | \$11.25 | \$12.30 | \$13.95 |
| HIGH 10 to +6 db 5000 ohms |  |  |  |
| HIGH SPEED TYPE |  |  |  |
| LOW ${ }^{10}$ to +6 db 5000 ohms |  | 13.20 | 14.85 |
| -10 to +6 db 5000 ohms |  | 13.20 | 14.85 |

VOLUME LEVEL INDICATORS-VU METERS
REFERENCE LEVEL-1 MW. 600 OHM LINE


## Shurite panel meters



Model 550 AC


Model 550 DC with Zero Adjuster


Model 650 AC （or DC）


Model 950 DC lor AC）


Model 9300 Z
Zero Adjuster Built In

## 0－1 DC MILLIAMPERES

Sensitive－type meters such as Stock No． $9300 \%$ ， $0-1 \mathrm{llC}$ Ma．with approximately 1000 ohms internal resistance，and Stock No． $9332 Z, 0-3$ 1）C Ma．， 500 ohms internal resis－ tance，open new design possibilities．Where the necessarily more costly l＇Arsonval per－ manent magnet meter was formerly thought to be the only choice，these Shurite variations are now used in many circuits．Substantial quantity production makes moderate prices possible．

Shurite banel meters are attractive．rugged，de－ pendable instruments with accuracs well within $5 \%$ ．All models have metal cases．telephone－black front；all require $2{ }^{6}{ }^{6} 2$ hole．DC meters are polar－ ized－vane solenoid type，or moving－magnet con－ struction when indicated．AC meters are double－ vane repulsion type with jeweled bearing．Althongh the jewel construction costs more to build，it pays ofi by providing continuing accuracy during a longer useful life．All are guaranteed．
－GUARANTEE：Meters are guaranteed to users against defective workmanship and material，and will be repaired or replaced if sent to the factory postpaid with 40 handling charge within one year after purchase．
－ALL－METAL DIALS－－age and moisture resis－ tant．lithographed in black on white for high visibility．
－STURDY DESIGN—with lusky new coil frames designed to prevent breakage，rigidly mounted in cases with anti－turning hex head studs．Inter－ changeable in other respects with a popular brand formerly available．
－MODERN APPEARANCE－with concealed coils and new raised dial design，enhancing appearance and greatly increasing readability．
－WIDE SELECTION－Shurite offers the broadest line of standard meters in the economy－priced field． Distributor stocks are backed by an extensive factory inventory．
TYPICAL USES：Shmrite products，with their rugsed design，and ability to duplicate readings， enjoy wide acceptance in the electronic and elec－ trical fields for transmitters，receivers，$\Gamma$ V antenna rotator controls，battery indicators，appliances， power sources，battery eliminators，electric fence controllers，and the very popular basic meters in radio test kits，battely voltage indicators on emer－ gency lighting，burglar and fire alarm systems， output meters on rectifiers，rate－of－charge indica－ tors，testers for hearing aid batteries and their chargers．ammeters for plating sets．and polarity indicators for metals analysis，automotive test equipment to pin－ball circuit testers，and well－ depth indicators．Shurite has long been the favor－ ite brand for lohbies and experiments．

DC MILLIAMMETERS

| RANGE | RESIST． | Model 550＊ |  | Model 650＊ | Model 950 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ma． | Approx． Ohms | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Net <br> Each | Stock No． | Stock No． | Net Each |
| （）－1＊＊ | 11010 | 5300\％ | \＄3．20 | （13）01\％ | 93611\％ | \＄3．25 |
| 0－3L＊＊ | $\therefore 110$ | 5332\％ | 2.90 | 633.2 Z | 183：3\％ | 2.95 |
| ＋1）3 | 4＊104 | 5301 | 2.25 | 6301 | 9311 | 2.30 |
| 0 －5 | 315 | 5312 | 2.05 | （6302 | 930 | 2.10 |
| 0－10 | 870 | 53013 | 1.95 | 6303 | 9303 | 2.00 |
| $0-15$ | 485 | 5314 | 1.60 | 1：304 | 9364 | 1.65 |
| 0．25 | 172 | 530.5 | 1.55 | （63） 5 | 930．7： | 1.60 |
| 0－50 | 46 | 5306 | 1.55 | （1：319 | 9306 | 1.60 |
| 11． 100 | 10.4 | 5307 | 1.55 | 19307 | 9307 | 1.60 |
| （0．15C | 4.4 | 530.2 | 1.55 | 43098 | 9308 | 1.60 |
| （1－2611 | 2.8 | 5309 | 1.55 | （i309 | 9：309 | 1.60 |
| （1－301） | 1.5 | 5310 | 1.55 | 6：110 | \＄310 | 1.60 |
| （0）－400 | 46 | 5311 | 1.50 | （\％：11 | 9311 | 1.55 |
| （1－500 | ． 39 | 5312 | 1.50 | 6：12 | 9312 | 1.55 |

＊＊Sinsit we tyln．We to internal resistance，Moving－matnet constructinn， paterat pendiug．luian includes zeru hajlt－in＂uljuster．
＊For zero al\}uster adil 35s to price and $Z$ to stock number．
No zerv aljuster on Mudel 950 stock models；except $9300 \%$ aud $93: 2 \%$ ．

| AC MILIAMMETERS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RANGE | RESIST． | Model 550 |  | Model 650 |  | 550 |
| Ma． | $\begin{gathered} \text { Approx. } \\ \text { Ohms } \end{gathered}$ | Stock No. | Net Each | Stock No． | Stock No． | Net Each |
| 0－10 | $48(10)$ | 51507 | \＄2．95 | finior | 9607 | \＄3．00 |
| （1－25） | 750 | \％60 1 | 2.65 | 6601 | 9601 | 2.70 |
| 0－50 | 150 | 5003 | 2.65 | 6ib02 | 960 | 2.70 |
| 0－100 | 37 | 54113 | 2.65 | ［1503 | 96313 | 2.70 |
| 0－250 | 5.4 | 5104 | 2.65 | 6604 | 9604 | 2.70 |
| 0－500 | 1.34 | 5605 | 2.65 | 6605 | 9605 | 2.70 |


| DC AMMETERS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RANGE | RESIST． | Model 550\％ |  | Model 650＊ | Model 950 |  |
| Anıps | Approx． Ohms | Stock No． | Net Each | Stock No． | Stock No． | Net <br> Each |
| 11．1 | ． 10.5 | 5201 | \＄1．55 | 6201 | 9201 | \＄1．60 |
| 11－3 | ．02 Max | 506 | 1.55 | （i202 | 9202 | 1.60 |
| （1－5 | ． 02 ．Max | $520: 3$ | 1.55 | 0203 | 9203 | 1.60 |
| 11－8 | ．02 Max | 5204 | 1.55 | fiect | 9204 | 1.60 |
| 0－10 | ．02 Max | 520.5 | 1.55 | （i205 | 3205 | 1.60 |
| 0－15 | ． 102 Max | 5206 | 1.65 | 6：06 | 920\％ | 1.70 |
| $0-25$ | ．02 Max | 5207 | 1.95 | 12034 | 9207 | 2.00 |
| 0－50 | ．02 Max | $5 \geq 0 \mathrm{~S}$ | 2.25 | 隹0x | 9：088 | 2.30 |
| 3－0－3 | ．12 Max | 5210 | 1.65 | 1210 | 0210 | 1.70 |
| 5－0－5 | ， $12 \underline{2}$ | 5211 | 1.65 | （iご1 | 1211 | 1.70 |
| （i－6）－6 | ，12 Max | 5こ12 | 1.65 | ＊ －$_{\text {12 }}$ | 9212 | 1.70 |
| 10－6－10 | ． 02 Max | 5213 | 1.80 | 19.13 | 9213 | 1.85 |
| － 6 － $0-20$ | ． 02 Max | 5214 | 1.85 | fiel4 | 9214 | 1.90 |
| ：11－0－30 | ． 02 Max | 5215 | 1.95 | 1i215 | 9215 | 2.00 |
| 511－11－50 | ． 02 Max | 5216 | 2.10 | $1 i=16$ | 9210 | 2.15 |

[^33]AC AMMETERS

| RANGE | RESIST． | Model 550 |  | Model 650 | Model 950 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Amps | $\begin{gathered} \text { Approx. } \\ \text { Ohmis } \end{gathered}$ | Stock No． | Net Each | Stock No． | Stock No． | Net Each |
| 0－1 | ． 43.3 Max | 5.511 | \＄2．65 | （3．） 111 | ！ 5 ， 41 | \＄2．70 |
| $11-: 3$ | ．07゙ッ Max | 5－92 | 2.65 | ト．』いご | ！－，\％ | 2.70 |
| 11.5 | ． 011 Mas | －5．110 | 2.65 | H．うい： | ！ | 2.70 |
| 11－［1］ | ．110 Maハ | 8.511 | 2.65 | （こ．）い | ！1，11 | 2.70 |
| 11－1． | ．13：Max | －\％ハ， | 2.65 | いまい | いいい， | 2.70 |
| 11． 311 | ．11＂Max | 8．11．） | 2.95 | 1．in\％ | ！ハッ： | 3.00 |
| 11.80 | ．11－3 Max | －．5川\％ | 3.15 | 1．i．vh； | ！ 1.114 | 3.20 |


| DC VOLTMETERS |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RANGE | RESIST． | Model 550\％ |  | Model 650\％ | Model 950 |  |
| Volts | $\begin{aligned} & \text { Approx. } \\ & \text { Ohms } \end{aligned}$ | Stock No． | Net Each | Stock No． | Stock No． | Net Each |
| （1－1 | 10 | \］！1 | \＄1．50 | ［1］11 | ！ 111$]$ | \＄1．55 |
| 11－：3 | 10； | $\because 102$ | 1.55 | 610： | $!1112$ | 1.60 |
| $\because 3-11-3$ | 2゙11 | $\therefore 16$ | 1.55 | （i16： | ！111： | 1.60 |
| 11.7 | ：361 | $\therefore 111$ | 1.55 | （i）111 | ！｜ 11 | 1.60 |
| 11．ti | 3！ 10 | $\square 110$ | 1.55 | （i） 11.5 | ：110． | 1.60 |
| $11 . N$ | find | Sllini | 1.55 | 6111＋i | ： 1114 | 1.60 |
| 111 | sso | $\therefore 167$ | 1.60 | （1）19： | ：1117 | 1.65 |
| 11.15 | 2：30） | $\therefore$ ご | 1.70 | （t） 11.5 | ！1 118 | 1.75 |
| 1121 | ：5111 | $\therefore 1 \because 1$ | 1.70 | 61121 | 4101 | 1.75 |
| 11 O | 1：111 | $\therefore 1104$ | 1.75 | 1；10！ | ：110： | 1.80 |
| 11－3．う1妻＊ | 5心（0） | －1111 | 2.40 | （1）110 | ！\｜\｜\｜ | 2.45 |
| 10．7\％1 | 哭 111 | 512 | 1.85 | 13：2 | ！1： | 1.90 |
| 0．：い川＊＊ | 11817 | $\because 111$ | 2.55 | （i111 | ＋111 | 2.60 |
| 11.7 | 3310 | －11\％ | 1.90 | 1：11： | （111\％ | 1.95 |
| 11－11110 | 51110 | \＃11：3 | 2.00 | Aill： | ！ 1110 | 2.05 |
| 11．110014＊＊ | 2： 2113 | $\therefore 111$ | 2.70 | 13111 | （1111 | 2.75 |
| 11－1：1） | 7．in！ | $\therefore 11.1$ | 2.10 | 1ill | 117\％ | 2.15 |
| 11．1．5111＊ | $34 \times 191$ | －11\％ | 2.80 | Hilli | ：1111 | 2.85 |
|  | 7.806 | 315 | 3.05 | 1i1\％ | 3117 | 3.10 |
| （1）－5日叫＊＊ | $1 \geq 4 \mathrm{c} 14$ | $\therefore 11$ | 4.00 | ＊il | け1以 | 4.05 |
|  | 心込析 | $\therefore 119$ | 4.75 | 6ill： | ［1］1！ | 4.80 |

＊＊H dutontes Litish rasistanco
$\dagger$ Aufりlled will wxtcrnal resisturs．
AC VOLTMETERS

| RANGE | RESIST． | Model 550 |  | Model 650 | Model 950 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Volts | Approx． Ohms／Volts | Stock No． | Net Each | Stock No． | Stock No． | Net Each |
| （1－4 | 11 | 5） 101 | \＄2．65 | （i） 1111 | ：161 | \＄2．70 |
| 0－6i | 15.8 | \％103 | 2.65 | （ital | 4111－ | 2.70 |
| （1）－10 | 47 | 5103 | 2.65 | Aitu：； | 610：； | 2.70 |
| H－15 | ： 3 | $\therefore 111$ | 2.65 | tillit | ［1111 | 2.70 |
| 0－95 | $5:$ | 511： | 2.65 | 1；412 | ！＋1艺 | 2.70 |
| 11－511 | 1／15 | 5115 | 3.15 | （if11．） | 140.7 | 3.20 |
| 11－1．311 | 185 | Tlici | 3.40 | 64106 | 11 1010 | 3.45 |
| 11－311）＊ | 1100 | 5117 | 3.80 | cilli | 1107 | 3.85 |
| 11－10110＊ | 1011 | Sills | 4.80 | 6．fis | $\because+08$ | 4.85 |
| 11－8．）${ }^{\text {a }}$ | 1111 | －4119 | 5.40 | （6）60！ | ： 11119 | 5.45 |

## RESISTANCE METERS

| RANGE |  | Model 550： |  | Model 650＊ | Model 950 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Volts | Stock No． | Net Each | Stock No． | Stock No． | Net Each |
| 10.1160 | 1．5＊＊ | 5 S 1 | \＄2．10 | 15111 | ！ 111 | \＄2．15 |


|  <br>  <br>  |
| :---: |
|  |  |
|  |  |

## resibur for boltasu ratings．



## POCKET TYPE METERS

A tybical pooket matiof in briuht－
phter Morlep lint mast is this tran－

flatas ask for the ratront revision of

friner stach mombers whish burin with
Stock 415
tho，lierin
（PRICES SHOWN ARE U．S．A．DEALER NET FOR INDIVIDUALLY BOXED METERS）

## SHURITE METERS

NEW HAVEN8，CONNECTICUT

## marion RUGGEDIZED meters

The original, glass-to-metal hermetically sealed ruggedized meter. Performs under extreme shock, vibration, mechanical stress and strain. Standard JAN $21 / 2^{\prime \prime}$ and $31 / 2^{\prime \prime}$ sizes. ua, ma, amp, mv, volt, kv, AC rectifier types for voltage, decibel and VU measurement, manufactured to MIL-M-10304. Standard ranges from stock.

Twelve page booklet on request.


Marion Medalist Meters represent an entirely new approach to the design of panel instrument housings. Longer dial arc, larger numerals and longer pointer greatly increase readability, provide up to $50 \%$ more scale length. Particularly useful where minimum panel space and attractive styling are requirements.
One piece plexiglass cover construction. Interchangeable with ASA/JAN 11/2"', $2^{1 / 2^{\prime \prime}}$ and $31 / 2^{\prime \prime}$ sizes. Various colors available. Write for specifications and data.

HS 1-1/2"



## ELECTRICAL INDICATING INSTRUMENTS



## marion meters



HM 2-2 ${ }^{\prime \prime} \mathbf{2}^{\prime \prime}$


HM 3-31/"

# marion hermetically sealed meters 

## "Sealed like a vacuum tube"

For applications involving severe climatic and atmospheric conditions. Dustproof, moisture-proof, unaffected by heat, cold and humidity. Magnetically shielded. High torqueweight ratio. exceptional linearity, sustained accuracy and long life. Dimensionally interchangeable with standard JAN $21 / 2^{\prime \prime}, 31 / 2^{\prime \prime}$ to $41 / 2^{\prime \prime}$ types.

RANGES - See Table under Ruggedized Types

## NTERCHANGEABLE ROUND AND SQUARE COLORED FLANGES

One instrument thus may be used four ways:

Round. non-magnetic panel


Rectangular-nan-magnetic panel


Round-magnelic pane!


Rectangular. magnetic panel

## marion PMI portable bench type induction soldering unit

Simplifies, improves, speeds up component production Safe, compact, economical

Marion Model PMl generates heat within work itself, permits soldering otherwise inaccessible parts. Reduces oxidation, scaling and surface damage. Improves quality, eliminates
need for highly skilled operators. Ideal for quantity production, glass-to-metal soldering. Permits hermetic sealing in your own plant.
Widely used in radio, electronics, jewelry, electrical component, toy, automotive fields.

PMI SPECIFICATIONS
Power Supply: 115 volts, 60 cycles. Size: $153 / 4^{\prime \prime} \times 211 / 2^{\prime \prime} \times 15^{\prime \prime}$. Maunting: Standard relay rack cobinet.
Weight: 150 pounds.

POWER
775 watts at full pawer output, 100 wotts standby.

## OPERATION

Simple, twa-switch cantral: one can trals the filaments, the other, the high valtoge to ascillatar tubes.


## marion meters

SERIES 52

Accurate, dependable, small size. Four case forms: $21 / 2^{\prime \prime}$ round phenolic (52N) (JAN MR24, MR25): $21 / 2^{\prime \prime}$ rectangular phenolic (52S); narrow flange brass (52RM): brass without flange (52RMS). Well-aged Alnico magnets. higher performance at moderate cost. Widely used for pocket test equipment, portable communication, medical equipment.

marion "regular" meters


SERIES 55
$45 / 8^{\prime \prime} \times 41 / 8^{\prime \prime}$. Most popular case style in the test equip. ment field. Model 55 includes the best Marion standard features plus long $100^{\circ}$ scales for maximum readability. It is the accepted standard for many of America's finest vacuum tube voltmeters, tube testers, multime. ters, densitom. eters, and many other test equip. ment applications.

## SERIES 56

$61 / 2^{\prime \prime} \times 51 / 4^{\prime \prime}$ heavy case construction. $51 / 2^{\prime \prime}$ scale. High accuracy, great readability, ideal for combining several scales. For laboratory test equipment and production testing equipment.

SERIES 57
Model 57 is large $81 / 2^{\prime \prime} \times 7{ }^{\prime \prime}$ instrument providing a 67\% long scale in a $100^{\circ}$ arc. It has an Alnico $V$ magnet with highest torque moving system to assure dependable performance in an instrument of this size. Ideal for multi-purpose test equipment, class room use and wherever a great many scales and exceptional read. ability arere. quired.

SERIES 53

Standard $3^{\prime \prime}$ rectangular type meter (Model 53SN). Also available in $31 / 2^{\prime \prime}$ round phenolic case (53RN). (JAN MR34, MR35). All Alnico construction. Excellent scale distribution characteristics. Ideal for portable test equipment and general electronic equipment application.

RANGES-

MCI
Switchboard type fanshaped steel case. Black baked enamel finish. Rugged Alnico construction. Shat. terproof window Terminals permit surface mounting on panels up to 3/4" thick. Recom mended for pre cise laboratory switchboard ap* plications.

## ELAPSED TIME

 INDICATORS - for mainte. nance programming, productivity studies.Compact, low cost tamper. proof. Standard ASA-MIL dimensions, $21 / 2^{\prime \prime}$ and $31 / 2^{\prime \prime}$ sizes. Easy to read standard size counter registers $1 / 10$ hour steps to 9999.9 or hour steps to 99999. Her metically sealed. Shielded. Starts, operates continuously from - $55^{\circ}$ C. $10+85^{\circ} \mathrm{C}$. For 110.125 or 220.250 volt 50 or 60 cycle A.C

## marion meters

# marion multi-range meter tester 

-Power Supply and Limit Bridge
The only instrument of its type available today. Precise, versatile, self-contained unit for laboratory and production use. For DC instrument calibration from 25 ua full scale to 10 ma full scale, and 0-100 V $D C$; sensitivity and resistance measurement; DC current-voltage source; limit or Wheatstone bridge measurements from 0-5000 ohms. Regulated power supply. Stepless vacuum tube voltage control. Accuracy exceeds $1 / 4 \%$ (current), $1 / 2$ ohm or $1 / 2 \%$ (resistance). For 115 V , 60 cycle AC. Complete - needs no accessories.

## FEATURES

Illuminated $81 / 2^{\prime \prime}$ Mirror-Scale
Standard Instrument, Hand Calibrated

Marion Ruggedized Null Indicatof movement for bridge balance indication

Decade of $.1 \%$ accurate Manganin Wire Wound Resistors
Direct Reading Bridge Circuit using Helipot
ruggedized null indicators

## build your own test equipment with marion multi-range meters


Two models, HS2 (2 $1 / 2^{\prime \prime}$ ) and HS3 ( $31 / 2^{\prime \prime}$ ), devised to permit application of the basic D'Arsonval mechanism to the field of sensitive null detection in applications not per. mitting use of suspension Galvanometers. The unique core and magnet structure of Marion's null indicators allow precise null determination with high sensitivity over a wide range of unbalance. They permit the observation of large amounts of unbalance in bridge or other detection circuits without physical or electrical overload of the instrument. Manufactured in many different current sensitivities and in various internal resistances.
STANDARD TYPES
AVAILABLE AS LISTED:
meter type
SENSITIVITY AT
$\begin{array}{ll} & \text { (microamperes per } \mathrm{mm} \text { ) } \\ \text { A } & 1 / 2 \text { va } \\ \text { A } & \\ \text { B } & \text { va } \\ \text { C } & 2\end{array}$

| RESISTANCE | FULI SCAIE |
| :---: | :---: |
| $\pm 5 \%$ | CUrrent $\pm 10 \%$ |
| 2000 ohms | 100 va |
| 500 ohms | 200 va |
| 75 ohms | 500 va |

These instruments have Alnico Magnets and full $100^{\circ}$ three-color scales. They have a 400 ua movement, 500 ohms internal resistance and offer long life under severe conditions, plus the highest degree of accuracy. Offered in Models 535N, 55, 57.


Use it with the Multi-Ranger Meters and it's simple ta make your awn accurate, versatile Multitester.
Kit contains 18 precision fixed Resistors ranging from . 40 ohms to 750,000 ohms, plus diagrammatic instructions.

## STERLING



TYPE 80
 humethy. liam. flathe



ALTERNATING
CURRENT METERS

DIRECT CURRENT METERS
A.c. VOLTMETERS


STERLING'S NEW SPEED NUT CLAMP



REGULAR BACK CLAMP


No. 31 A


No. 13


No. 23 AMMETER


## Sterling Hearing Aid Battery Testers <br> \section*{}

 "A" batteries, scale 1 .all v. 1 v. div., scale $u-\frac{2}{2}$ v.. $1 / 10$ r. divisions. Carefully engineered to impose the correct loads on the small delinate batterifs used to operate vacumm tube hearing airls. Equipped with new STEIBLING Hexible plugs ... Price $\$ 4.00$ batteries. scale u-: STLERLIN(: flexible pluss

Price $\$ 4.00$
NO. 10 DUAL CONTACT PROD METER in pocket or lesk molel. Marked "A" at one contact and " ${ }^{\prime}$ " at the other. the prod is simply inserterl into the corresponding battery for flut-k and easy reading. No. $1 \|$ is for parlier tye hearing aid batteries.
 Price $\$ 4.75$
 The load regnirement is moportionately less than i mil. No. 11 has one cord and one plug . Price $\$ 7.50$ NO. 12 This new meter has no spur and a new voltage scale :3n-0.3n v., 1 v. div. and $2 \cdots \because$ Y.. $1 / 10$ r. div. Jade extra sensitive for the latest type miniature batteries. Load: on $2 \underline{1} / 2 \mathrm{v}$. batteries apmox. 5 min miro-amperes. on 15 v . batteries approx. :万 in micro-amperes. on $1 \frac{1}{2}$ v. batteries approx. 40 mils Price $\$ 7.50$ NO. 13 TRANSISTOR TYPE BATTERY TESTER with voltage scale 0.7. $2 / 11 \mathrm{~V}$. divisions. Tests mu to five mercury batteries in series. Indicates battery strengtla with a minimum comsmmption of power

Price $\$ 4.65$

## Sterling Pocket Meters

Standard Line Direct Current Pocket Ammeters. Volmeters and Voltammeters.


| No. 33 |  | \$2.30 |
| :---: | :---: | :---: |
| No. 34 |  | \$2.30 |
| No. 34 A |  | \$2.50 |
| No. 34B |  | \$2.50 |
|  |  | \$3.00 |

## Voltammeters






## SPECIAL PURPOSE POCKET METERS



No. 38A the !ar ". "B" hatturies and 1.5 v. " $A$ " battaries, Seale


 $\because 0^{\circ}$ hatterios anile $\$ 3.75$



No. 42A (irathia \{anneral Tester. Rent and Grean color chatt patr




STANDARD LINE—Sterling's direct current pocket ammeters. voltmeters and voltanmeters may be user! in all kinds of battery testing, in railroad sisnal wort for photo flash purposes and in telephone and low. voltage electrical work generally. They are polarity indicators. Meters $21 / 2^{\prime \prime}$ in diameter and "is thick. Nickel finish. Standard package, ten instruments. Shit. ping Weight \& lbs.


No. 42A GENERAL TESTER


No. 45 VOLTAMMETER

## WESTON INSTRUMENTS



Round Style

## PANEL INSTRUMENTS

These panel instruments reflect half a century of instrument skill, and the Weston tradition of building instruments to the highest standards of dependability and service.
Models 301, 425 and 476 are available in round flush bakelite cases $31 / 2^{\prime \prime}$ or $33 / 8^{\prime \prime}$, and $31 / 4^{\prime \prime}$ metal cases with black finish; also in round surface metal and rectangular flush bakelite cases. Models 301 and 425 supplied in round surface bakelite cases. Models 506, 507, 517 regularly sup plied in round flush $21 / 2^{\prime \prime}$ bakelite and black finished metal cases; flush narrow flange metal and reciangular flush bake lite cases with a clamp for panel mounting. Model 506 available in surface metal case. All are calibrated normally or use on non-magnetic panels. For mognetic panel use, instruments will be adiusted for steel panel thickness of $.09^{\prime \prime}$. Order instruments in bakelite cases for use on circuits above 300 volis when is is not possible to connect in grounded side of line. For other insirument prices, write to Weston Electrical Instrument Corparation. Newark 5, New Jersey.


Rectamgutar Style

## 3½" PANEL INSTRUMENTS

MODEL 301 - D.C VOLTMETERS
Approximote resistance of Model 301 in ohms per volt - 1 to 30 volts, 62; 50 to 150 volts, 200; 200 volts, 250.

| Range | Price | Range | Price | Range | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | \$14.25 | 15 | \$14.25 | 150 | \$15.75 |
| 5 | 14.25 | 30 | 14.25 | 200 | 16.50 |
| 8 | 14.25 | 50 | 14.25 |  |  |
| 10 | 14.25 | 100 | 15.00 |  |  |
| With Resistance of 1,000 ohms per volt |  |  |  |  |  |
| Range | Price | Range | Price | Range | Price |
| 50 | \$15.00 | 300 | \$18.75 | 1.5KV | \$44.25* |
| 100 | 15.75 | 500 | 23.25 | 2 KV | 49.25* |
| 200 | 17.25 | IKV | 30.75 | 3 KV | 59.25* |

* Supplied with external resistor.

MODEL 301 - D-C MILLIAMMETERS *

| Range | Approx. |  | Approx. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Res. Ohms | Price | Range | Res. Ohms | Price |
|  | 105 | \$14.25 | 30 | 1.2 | \$14.25 |
| 1.5 | 27 | 14.25 | 50 | 2.0 | 14.25 |
| 2 | 27 | 14.25 | 100 | 1.0 | 14.25 |
| 5 | 5.7 | 14.25 | 150 | 0.66 | 14.25 |
| 10 | 2.0 | 14.25 | 200 | 0.5 | 14.25 |
| 15 | 2.0 | 14.25 | 300 | 0.33 | 14.25 |
| 20 | 2.0 | 14.25 | 500 | 0.2 | 14.25 |
| Mil'io | eters with. | anges | MA. | shunted, | have |

*Mil'iommeters with ranges above 40 MA . are shunted, and have a drop of approximately 100 MV .

MODEL 301 - D.C AMMETERS *
Single Ranges: $1 / 1.5 / 2 / 3 / 5 / 10 / 15 / 30 / 50$ at $\$ 14.25$

* Ammeters ore supplied in self-contained ronges up to 50 amperes inclusive, and have a drop of $50 \mathrm{MV}+5 \%$. Ranges above 50 inclusive, and have a drop of

MODEL 301 - D-C MICROAMMETERS
Range
20
30
50

| Price | Ronge | Price |
| ---: | :---: | ---: |
| $\$ 30.00$ | 100 | $\$ 27.00$ |
| 30.00 | 200 | 18.00 |
| 28.25 | 500 | 18.00 |

MODEL 301 - RECTIFIER TYPE A-C VOLTMETERS
1000 ohms 2000 ohms
1000 ohms 2000 ohms


| MODEL 301 - RECTIFIER | TYPE | A-C MILLIAMMETERS |  |
| :--- | :---: | :---: | :---: | :---: |
| Ronge | Price | Range | Price |
| 0.5 | $\$ 25.50$ | 2 | $\leq 21.75$ |
| 1 | 21.75 | 5 | 21.75 |

MODEL 301 - RECTIFIER TYPE A-C MICROAMMETERS

| Range | Price | Range | Price |
| :---: | :---: | :---: | ---: |
| 100 | $\$ 34.50$ | 250 | $\$ 25.50$ |
| 200 | 25.50 | 500 | 25.50 |
|  | MODEL 301 VU METER |  |  |

A OR B SCALE
MODEL 301 VU METER

MODEL 476 - A-C AMMETERS
Single Ranges: $1 / 1.5 / 2 / 3 / 5 / 10 / 15 / 30,50$ at $\$ 14.25$ MODEL 476 - A-C VOLTMETERS
Single Ronges: $1.5 / 3 / 5 / 8 / 10 / 15 / 30 / 50 \quad a^{+} \$ 14.25$

| Range | Price | Range | Price |
| :---: | :---: | :---: | :---: |
| 100 | $\$ 15.00$ | 250 | $\$ 17.25$ |
| 130 | 15.75 | 300 | 18.00 |
| 150 | 15.75 | 500 | 21.00 |

MODEL 425 - THERMOCOUPLE TYPE AMMETERS
Single Ranges: $1 / 1.5 / 2 / 3 / 5 / 8 / 10 / 15 / 20$ of $\$ 21.00$ MODEL 425 - THERMO MILLAMMETERS
Ranges: 10/20/50
00/115/120/150/200/300/500
2½" PANEL INSTRUMENTS

MODEL 506 - D-C VOLTMETERS
Approximate resistance of Model 506 in ohms per volt: 3 to 150 volts, 125; 300 volts, 1000 .

| Range | Price | Range | Price | Range | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | $\$ 11.25$ | 10 | $\$ 11.25$ | 100 | $\$ 12.00$ |
| 5 | 11.25 | 15 | 11.25 | 150 | 12.75 |
| 8 | 11.25 | 50 | 11.25 | 300 | 15.75 |

MODEL 506 - D.C AMMETERS
Single Ranges: $1 / 1.5 / 3 / 5 / 10 / 15 / 30 / 50$ at $\$ 11.25$
Ammeters, self-contained up to 50 amps., inclusive-drop $50 \mathrm{MV} \pm 5 \%$
MODEL $506 \rightarrow$ D-C MILLIAMMETERS

|  | Approx. |  |  | Approx. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Range | Resis. | Price | Range | Resis. | Price |
| 1 | 105 | \$11.25 | 30 | 1.2 | \$11.25 |
| 1.5 | 18 | 11.25 | 50 | 1 | 11.25 |
| 2 | 18 | 11.25 | 100 | . 5 | 11.25 |
| 3 | 18 | 11.25 | 150 | . 33 | 11.25 |
| 5 | 9.5 | 11.25 | 200 | . 25 | 11.25 |
| 10 | 3.2 | 11.25 | 300 | . 16 | 11.25 |
| 15 | 1.5 | 11.25 | 500 | . 1 | 11.25 |

MODEL 507 - THERMO AMMETERS
For use on ony frequency including radio frequency. Single Ranges: $1 / 1.5^{/ 2 / 5 / 8 / 15^{/ 2}} \mathbf{a}$ at $\$ 18.00$

MODEL 517 - A-C AMMETERS

Range
1
3
5
10

| Approx. Resis. |  |  |
| :---: | :---: | :---: |
| Range | in ohms | Price |
| 20 | .0012 | $\$ 13.50$ |
| 30 | .00085 | 13.50 |
| 50 | .00072 | 13.50 |

Range
5
10
15
25

SUBJECT TO PRICE CHANGE OR WITHDRAWAL WITHOUT NOTICE

# WESTON INSTRUMENIS 

## 41/4" PANEL INSTRUMENTS

MODEL 961 -D-C INSTRUMENTS
Rated accuracy $2 \%$ of full scale-Scale 3.17"' ( 80.3 mm )-Permanent Magnet Moving Coil Type.

| D-C <br> ROLTMETERS |  |  |
| :---: | :---: | ---: |
| Range | Scale Div. | Price |
| 1 | 50 | $\$ 21.75$ |
| 2 | 40 | 21.75 |
| 3 | 60 | 21.75 |
| 5 | 50 | 21.75 |
| 7.5 | 75 | 21.75 |
| 10 | 50 | 21.75 |
| 15 | 75 | 21.75 |
| 25 | 50 | 21.75 |
| 50 | 50 | 21.75 |
| 80 | 40 | 21.75 |
| 100 | 50 | 22.50 |
| 130 | 65 | 23.25 |
| 150 | 75 | 24.25 |
| 200 | 40 | 25.50 |
| 250 | 50 | 26.25 |
| 300 | 60 | 29.25 |

Self-confained ranges listed have sensitivity of approximately 200 ohms per volt up to and including 200 volts; higher ranges are 1000 ohms per volt.

D-C MILLIAMMETERS

| Range | Scale Div. | Approx. <br> Res. | Price |
| ---: | :---: | :---: | :---: |
| S | 50 | 80 | $\$ 21.75$ |
| 3 | 60 | 7.3 | 21.75 |
| 5 | 50 | 2.8 | 21.75 |
| 10 | 50 | 1.25 | 21.75 |
| 25 | 50 | 1.0 | 21.75 |
| 50 | 50 | 2 | 21.75 |
| 100 | 50 | 1 | 21.75 |
| 200 | 40 | 0.5 | 21.75 |
| 300 | 60 | 0.33 | 21.75 |
| 500 | 50 | 0.2 | 21.75 |

Ranges above 25 milliamperes are shunted and have a drop of approximately 100 millivolts.

## MATCHED A-C AND D-C PORTABLE INSTRUMENTS

MODEL 433-A-C INSTRUMENTS
Scale Length 4.04"-Accurocy within $1 / 4$ of - Movable Iron. Type - Shielded $21 / 2$ lbs._Hand Calibrated Mirror Scales Bakelite Case with Corrying Strop. Note: These instruments are calibrated for use in a horizontal position.

## A.C VOLTMETERS

Made with single, double and triple ranges. For use on frequencies from 25 to 125 cycles.

| Range | Ne |
| :---: | :---: |
| $10,30,50,75$ | $\$ 64.00$ |
| $10 / 5,20 / 10,30 / 15$ | 71.50 |
| $450 / 300 / 150$ | 93.25 |
| $600 / 300 / 150$ | 95.50 |
| $750 / 300 / 150$ | 97.75 |

## A.C MILLIAMMETERS

Made in single and double ranges only, for use on frequencies from 25 to 500 cycles.

| Range | Net Price |
| :---: | :---: |
| $15,30,75,500$ | $\$ 62.50$ |
| $300 / 150$ | 77.50 |

## A.C AMMETERS

Made in single, double and triple ranges for use on frequencies from 25 to 500 cycles. All instruments have two binding posts; double and triple range instruments are provided with a range exelector switch.

| Range | Net Price |
| :---: | :---: |
| 1. 1.5, 2, 3 | S 62.50 |
| 15, 25, 30 | 68.50 |
| 2/1. 5/2.5, 10/5 | 77.50 |
| 3/1.5/0.75, 5/2.5/1, 10/5/1 | 122.50 |
| 20/5/2. 30/7.5/3, 50/20/5 | 128.50 |

# WESTON INSTRUMENTIS 

## MODEL 983 OSCILLOSCOPE

he Weston Model 983 is a high gain, wide band oscilloscope designed or the TV technician. The band width of 4 megacycles allows accurate display of video frequencies, including pulse wave forms and color synchronizing bursts. High sensitivity of 17 millivolts per inch make this oscilloscope ideal for setting resonant traps, as a general null indicator, and for signal tracing in low level stages, as well as for weep frequency visucil alignment of TV receivers. The unit has pro visions for internal calibration, internal phased sine wave, and Z-axis intensity modulation. Reversal of polarity of both horizontal and vertical signals is easily accomplished by means of toggle switching

8y internal adjustment with gain contrals at maximum, 00 phase shift is possible on any specific frequency ta 6 mc

A fast, retrace, linear sweep circuit with cathede follower output prevents pattern distortion. Preset sweep rates of 30 and 7875 cycles are available. In addition, if provides contiriuous coverage from 10 cps to 500,000 cps. 8oth vertical and morizontal trequency amplifiers have compensated step attenuators and cathode follower input. A.C or D.C coupling can be made without affecting sensitivity or band width.

## SPECIFICATIONS

WIDE BAND FREQUENCY RESPONSE: Flat within 1.5 db from $0-3.58 \mathrm{mc}$ and within -3 db to 4.5 mc on both vertical and horizontal am olifiers. Transient response: overshoot 2 to 5\% Rise time: 0.1 microsecond.
HIGH DEFLECTION SENSITIITY: 15.0 millivolts per inch, RMS, on both vertical and horizontal amplifiers
PHASE SHIFT: Between Horizontal-Vertica Amplifiers, 0 to $100 \mathrm{kc}-00$; to 1 mc within $20^{\circ}$. by internal adjustment with gain controls a max. 00 phase shift possible on any specific ${ }^{\text {r }}$ requency to 6 mc .
CALIBRATING VOLTAGES: 500 millivolts, 5 volts, 50 volts, 500 volts, peak to peak
Z-AXIS MODULATION: Input terminal mounted on front panel
SWEEP FREQUENCIES; $10.500,000$ cps. vari able. Preset TV/V Position-30 cps. Preset TV/H Position-7875 cps. Retrace Time-better than $2 \%$ to 100 kc ; at 500 kc less than $10 \%$.

INTERNALLY PHASED SINE WAVE.
VERTICAL ANO HORIZONTAL POLARITY: Reversible.
INPUT IMPEDANCE: Vertical Amplifier (with. out Shielded Cable). I meg shunted by $60 \mu \mu f$. Vertical Amplifier (with Shielded Cable), ; meg shunted by $120 \mu \mu f$. Vertical Amplifier (with Low Capacitance Probe), 10 meg shunted by $12 \mu / \mu$. Horizontal Amplifier (without Shielded Cable), I meg shunted by $60 \mu \mu$ f. POWER SUPPLY: $105 / 125$ volts, $50 / 60$ cycles.
TUBE COMPLEMENT: (I)-IV2, (1)-5U4-GA $\begin{array}{llll}\text { (6) }-6807 A, & \text { (4)-12BY7A, } & \text { (4) }-6 A H 6, & \text { (1).6U8, }\end{array}$ (1)-5UP1, (1)-OD3.

CASE: Grey hammertone finished steel.
PANEL: Aluminum finish with etched, black markings.
SIZE: $10^{\prime \prime} \times 13.5^{\prime \prime} \times 18^{\prime \prime} .(254 \times 342.9 \times 457.2 \mathrm{~mm})$ APPROX. WEIGHT: 40 lbs. (18.2 kgs.)

Net Price $\$ 329.50$


Model 983


A light weight, packet size instrument of special design ta insure extreme ruggedness and sustained accuracy in every day service. The care-magnet mechanism has spring backed jewels, and is effectively shock-maunted in the sturdy Bakelite case. Scale windaw is af $s$ hatter-praaf Plexiglas, wrap-araund design. Has anly ane easily read scale far all ranges and functians which are selected thraugh canvenient thumb selectar switch. Jaws take up ta $1^{\prime \prime}$ raund, ar $13 / 4^{\prime \prime}$ rectangular canductars. Supplied in sturdy scuffipraof case, with campartment far $5^{\prime}$ valtage test leads which have insulated clips and remavable test prabes.
Rated Accuracy: $\pm 3 \%$ fuil scale deflection. Weight: 14 az . Size: $71 / 2^{\prime \prime} \times 3^{\prime \prime} \times 11 / 4^{\prime \prime}$.

Ranges: Current-300/150/60/30/15/6 amperes a.c.
Valtage- $-600 / 300 / 150$ valts a-c.
$\$ 44.50$ complete

Model 633 Clamp Volt-Ammeter and Clamp-Ammeter


Net Price
Model 633 Type VA-1 (Incl. Potential Leods) - 1000/250
100/25 10 amperes a-c 700/350 :75 volts c-c............... $\$ 95.00$
Model 633 Type A-1 - 500/250 100'50 $25^{\circ} 7$ a amperes a.c...S 87.00 Model 633 Type A-2 - $1000 / 500 \quad 250 \quad 100 \quad 25 \quad 10$ cmperes o.c S 87.00 Model 633 Type A.3-2000/1000/500 250'100/50 amperes
a-c $\quad \$ 95.00$
Model 9958, 50 Foot Extension Cable, Plus \& Receptacle for 7200 Model 633 Types A.1, A-2, A-3.......... 72.00 Leather Carrying Case (Model 633 Types VA-1, A-1, A-2, A-3) 513.50 Leather Carrying Case (Madel 9958 - Coble, Plug and Re
ceptacle)
$\$ 22.50$

- NOTE -

Model 633 instruments may be used for continuous duty up ta 500 amperes.

Approximate Dimensions and Weights
Model 633 Types VA-1, A.1, A-2, A.3 ... $3^{\prime 5} / 8^{\prime \prime} \times 43 / 6^{\prime \prime} \times 21 / 2^{\prime \prime} 31 / 4 \mathrm{lbs}$. leather Carrying Cose (Types VA-1, A-1, A.2, A-3) ... $141 / 2^{\prime \prime} \times 51 / 2^{\prime \prime} \times 35 / 8^{\prime \prime}$ 21/4 ibs.
Model 9958, 50 Foot Extension Cable, Plug \& Receptocle . 41/4 Ibs. Leather Carrying Case (Model 9958-Cable Flug \& Receptacle) $4^{\prime \prime} \times 81 / 2^{\prime \prime} \times 33 / 4{ }^{\prime \prime} 41 / 4$ lbs

Prices Subject To Chonge Without Notice.

# 980 un: WESTON TEST EQUIPMENT 

## MODEL 980 LINE - WESTON TEST EQUIPMENT

A New Simplified Approach to TV Alignment

The Weston Model 980 line provides servicemen with the most odvanced, and by for the most simple ond occurote method of TV receiver olignment. It comprises oll of the instruments necessory for oll-purpose observotion of complex wove forms by the electronic industry.

With the Weston method, the output of the sweep generotor is fed into the colibrotor moking it unnecessory to connect the colibrotor to the IV set. Only two connections ore necessory. This eliminotes receiver oscillotions ordinorily encountered with the conventionol method of receiver test hook-up. Further, there is no disoppeoronce of morkers of trop resonont frequencies. Response curve is not disturbed. Annoying trimmer touch-up on trop circuits is minimized.

## WESTON MODEL 985 CALIBRATOR

The Weston Model 985 Colibrotor is o highly functional in. strument for TV shop, engineering, loborotory, ond industrial olignment applicotions. Morkers ore provided for woveform potterns, locol tuner oscillotor frequencies, ond trop circuit olignment. The instrument is extremely useful for moking lineority odjustments, colibroting signol generotors, and determining signols of unknown frequencies.

## FEATURES

SCALE CALIBRATION: The frequency calibration of each frequency setting can be checked and adiusted with crystal accuracy. Crystal calibrating points are available at 1.5 and 4.5 megacycles throughout the entire scale. A scale shift knob is provided to align properly the scale with the crystal calibrating dots. A neon type bulb is utilized to indicate visibly the erystal frequency points.

SCALE PRESENTATION: Slide rule type in which one scale is visible at a time. Ten scale range bands available. . . total scale length of $81 / 4 \mathrm{ft}$.

DUAL MARKERS: 4.5 mc side band markers permit simultaneous ob. servation of video and sound carrier.

INTERNAL MARKERS: Special circuitry provides an internal marker of either a positive or negative pulse suitable for $\mathbf{Z}$-axis intensity modulation of the scope pattern. This eliminates the necessity of feeding an RF calibrator signal directly into the TV receiver which can cause overload and oscillation in the TV set. The marker is visible even at the sound trap frequencies.

HETERODYNE DETECTION: With an input sensitivity of 500 microvolts, the local TV receiver-tuner channel oscillator frequency can be determined without tuner disassembly.

BAR PATTERN GENERATOR: Amplitude modulated signals of the band oscillator at 400 cycles for the horizontal linearity check and 300 KC for the vertical linearity check can be readily fed to TV antenna terminals to produce horizontal and vertical bars.

This simplified technique is only possible when the componion instruments - Weston Colibrotor ond Sweep Generotor - ore used with o scope hoving provisions for Z-oxis intensity modulotion. However, individual instruments in the Model 980 line con be used with ovoiloble test equipment in the conventional method of olignment.
SEND FOR COMPLETE DATA ON THE NEW WESTON MODEL 983 OSCILLOSCOPE. IWide band, Z-axis intensity modulated ideal for color. 1 Accessories for all instruments described are available.


## SPECIFICATIONS

FREQUENCY RANGE (with Variable Frequency Oscillator):

- 4-110 megacycles in 7 bands.
- $770-260$ megacycles in 3 bands.
- Use of second harmonic is suitable for UHF 340-520 megacycles in 3 bands.
OUTPUT ATTENUATOR RANGE: $100 \%$ to $1 \%$.
CRYSTAL MARKER ACCURACY: 1.5 mc position $\pm 0.01 \%$
4.5 mc position $\pm 0.01 \%$

INTERNAL MODULATION FREQUENCIES: $400 \mathrm{eps}, 300 \mathrm{KC} .4 .5 \mathrm{mc}$ HETERODYNE INPUT SENSITIVITY: 500 microvolts (VFO)
LINEARITY ADJUSTMENT: Horizontal - 400 cycles
DUAL MARKERS: Video and sourd ... available for either Z-axis
intensity modulation of scope or conventional marker pip display. TUBE COMPLEMENT: 68A7, 12AT7, 6CL6, 6AL5, 6X4, 6T4. POWER SUPPLY: $105 / 125$ volts, $50 / 60$ eycles per second. SCALE LENGTH: $81 / 4 \mathrm{ft}$.
CASE: Grey hammertone finished steel.
PANEL: Aluminum finish with etched black markings.
SIZE: $13.5^{\prime 4} \times 10^{\circ 4} \times 6.75^{\prime \prime}$
APPROX. WEIGHT: $183 / 4$ lbs.
Model 985
Net Price $\$ 199.50$

# 980 um: WESTON TEST EQUIPMENT 

## WESTON MODEL 984 SWEEP GENERATOR

The Weston Model 984 is o top performonce instrument, precision built for effective trouble shooting of sound ond video If circuits, ossociated trap circuits, TV tuners, video omplifiers and all-purpose visual olignment. It hos o high flot output voltoge.

## FEATURES

BLANKING: Special circuitry produces a zero output reference base which is essential for relative gain measurements.
RF OUTPUT: Frequency modulated signal, TV Channels 2 to 13 in clusive, complete FM coverage available by means of two preset selector positions. FREQUENCIES ARE FUNDAMENTALS OF THE OSCILLATOR FREQUENCY.
IF/VIDEO OUTPUT: Frequency modulated signals ranging to 50 megacycles, continuous tuning, signals free from harmonics.
SWEEP WIDTH: Fulf 10 megacycles on all channels
Z-AXIS TERMINAL: For use with the Model 985 Calibrator.

## SPECIFICATIONS

SWEEP WIDIH: $0-10$ Megacycles (continuously variable for both IF and RF ranges).
OUTPUT VOLTAGE (RMS): 0.1 Volt . . . sweep is linear.
RF OUTPUT: TV channels 2 to 13 preset. Complete FM coverage available by means of two additional preset selector positions. IF/VIDEO OUTPUT: 50 Megacycles (continuous tuning). HORIZONTAL SWEEP FOR OSCILLOSCOPE: Phase adjustment range - $165^{\circ}$. Frequency - Power Line 60 cycles per second.

CABLE TERMINATION: RF output - $\mathbf{3 0 0}$ ohms balanced. IF output 100 ohms.
POWER: $105 / 125$ volts, 60 cycles.

## WESTON MODEL 981 PROPORTIONAL MUTUAL CONDUCTANCE TUBECHECKER

## FEATURES

METER MEASUREMENT OF HIGH LEAKAGE RESISTANCE: Provides an accurate meter measurement of leakage resistance as high as 5 megohms between tube elements, thus being particularly useful for TV servicing and TV tine production assembly.
MULTIPLE SWITCHING FACILITIES: Protection against obsolescence is assured through the use of nine single circuit, twelve position, selector switches. These multiple switching facilities make possible many more combinations of tube connections.
TWIN SECTION TUBES: Three toggle switches make it possible to rapidly check and compare the respective sections of twin section tubes at only one setting of the selector switches.
SINGLE SOCKET FOR EACH TUBE BASE REGARDLESS OF TUBE CONNECTION: Eliminates the possibility of plugging a tube into the wrong socket. Sockets are provided for conventional type tube bases as well as acorn, and 7 and 8 pin subminiatures.
Gm MEASUREMENTS: Gm measurements are made more accurately by using filtered d-c plate, screen grid and control grid potentials. A precision voltage divider network and selector switch allows a proportionate value of signal voltage to be chosen for testing tubes having transconductances up to 30,000 micromhos. fignal voltages of $5.2,2.6,1.3$, and 0.65 volts peak-to-peak having a frequency of 5000 cycles are provided.
ROLL INDEX CHART: Provides comprehensive, up-to-date test data on commonly encountered tubes, as well as those infrequently used.
FILTERED D-C VOLTAGES: Filfered d-c potentials of 90,130 , and 220 volts are available for plate and screen potentials. A variable to obtain better resolution of Grid Bias settings. Far greater accuracy is obtainable with filtered d-c potentials than previously possible in portable tubecheckers.
VOLTAGE REGULATOR TUBES: A selenium rectifier supply furnishes 200 volts $\mathrm{d}-\mathrm{c}$ for testing of voltage regulator tubes.
SUBMINIATURE TYPE TU8ES: A 45 volt potential source facilisates testing of subminiałure tubes.


TUBE COMPLEMENT: 6J6, 6U8, 12AT7. 6X4.
CASE: Grey hammertone finished steel; leather carrying handle. PANEL: Etched aluminum satin finish.
SIZE: $13.50^{\prime \prime} \times 10^{\prime \prime} \times 6.75^{\prime \prime}$
APPROX. WEIGHT: 14 las. 4 oz.
Model 984
Net Price $\$ 199.50$


## SPECIFICATIONS

FILAMENT VOLTAGES: .65, ,1, $1.5,2,2.5,3.3,5,6.3,7.5,10,13$, 20, 27.5, 35, 47, 70, 85, 115.
PLATE VOLTAGES: 90, 130,220 volts d-c; $22,44,160$ volts a-c.
SIGNAL VOLTAGES: $5.2,2.6,1.3$. 0.65 volts peak-to-peak.
Gm RANGE: $U_{p}$ to 30,000 micromhos.
POWER REQUIREMENTS: 100 to 125 volts, 60 cycles single phase d-c, 30 watts.
CASE: Grey hammertone finished steel
SIZE: $17.50^{\prime \prime} \times 13.25^{\prime \prime} \times 6.00^{\prime \prime}$.
WEIGHT: $231 / 2$ lbs. ( 10.7 Kgs.)
Model 981
Net Price \$199.50

# 980 LINE WESTON TEST EQUIPMENT 

## WESTON MODEL 982 VACUUM TUBE VOLTMETER

The Weston Madel 982 is a self-contained, battery operated Vacuum Tube Voltmeter. It is particularly adaptable to the Radio-TV Servicing industry where the requirements of peak to peak measurement of a-c voltages exclude the use of con ventional meters. This instrument makes possible quantitative measurement of all complex wave form voltoges utilized in video, sync and deflection circuits with no a-c line interference in critical meosurements.

## FEATURES

8ATTERY OPERATED: Unit affords complete isolation from spurious response due to stray a-c fields and circulating ground currents. Extremely low drain for long battery life. Power Consumption: Less than 25 milliwatts.
DIRECT PEAK TO PEAK MEASUREMENTS.
NO SWITCHING OF LEADS IS REQUIRED: One shielded lead is used for all measurements, a-c, d-c, ohms, and peak to peak. RANGE FUNCTION SWITCH: Makes negative and positive d-c potentials measurable DIRECTLY
HIGH INPUT IMPEDANCE: 10 megohms on d-c for accurate measurements - 2.8 megs. a-c, RMS - 1 meg. a-c, peak to peak. NO ZERO SCALE DRIFT: Instrument can be used immediately without waiting for warm up. resetting of zero corrector when switching from range to range is entirely eliminated
DC ISOLATION ADAPTOR: Makes d-c measurements possible in the presence of a-c voltages.
FREQUENCY RESPONSE: Suitable for measurement of TV wave forms, such as sync pulses, saw tooth, drive voltages, and other complex wave form voltages.
DISCRIMINATOR ALIGNMENT: Zero corrector knob has sufficient latitude to center scale, so that discriminator measurements can be made.
RF PRO8E is available as an accessory.

## SPECIFICATIONS

ACCURACY: $\pm 3 \%$ d-c - $\pm 5 \%$ a-c, RMS. Sinusoidal wave form. IMPEDANCE: 10 megs. d-e - 2.8 megs., a-c, RMS -1 meg. a-c, peak to peak.


RANGES:


BATTERY LIFE: Battery $A^{*}$ - Approx. 90 days . . . is easily replaceable (Standard 1.5 volt Size D Cell) Battery $B^{*}$ - Shelf life approx. 1 year
SCALE LENGTH: 4.63".
CASE: Grey hammertone finished steel with carrying strap.
PANEL: Aluminum finish with markings etched in black.
SIZE: $10^{\prime \prime} \times 7.38^{\prime \prime} \times 3.625^{\prime \prime}$
APPROX. WEIGHT: 6 lbs. (complete with batteries and accessories). 4 lbs. (without batteries).

* 8 ased on maximum use -8 hours per day.

Model 982 ... .................................................................. Price \$69.50

## WESTON MODEL 980 ANALYZER (VOLT-OHM-MILLAMMETERI

The Weston Model 980 Volt-Ohm-Milliammeter is o highly sensitive, occurate and rugged instrument with o combination of functional ronges which provide o wide ronge of test meosurement applicotions in the electronic field. The instrument has o d-c sensitivity of 20,000 ohms/volt, ond on o-c sensitivity of 1000 ohms/volt. Accurocy is $2 \%$ d.c. $3 \%$ o.c.
Ronge ond functional switching is greatly simplified by use of o single diol for oll ronges ond functions.

## SPECIFICATIONS

ACCURACY: 2\%, d-c; 3\%, a-c.
SCALE LENGTH: 4.63'

## RANGES:

D-C Volts: 1,6, 8, 40, 160, 400, 1600 at 20,000 ohms/volt.
A-C Volts: $1.6,8,40,160,400,1600$ at 1,000 ohms/volt.
at 1,000 ohms/volt.
D8 Range: -15 db to +54 db (in six ranges).
D.C Milliamperes: 8. 80, 800.
D.C Microamperes: 80.

D-C Amperes: 8.
Model 980

| Ohms R | Center Scale | Full Scale |
| :---: | :---: | :---: |
| $R \times 1$ | 25 |  |
| $\mathrm{R} \times 10$ | 250 | 10,000 |
| $\mathrm{R} \times 100$ | 2.500 | 100,000 |
| $\mathrm{R} \times 1,000$ | 25,000 | megohm |
| $R \times 10,000$ | 250,000 | 10 meg |
| CASE: 8lack ing strap. | olded bake | with ca |
| PANEL: 8la graved wh | molded ba markings. |  |
| IZE: 6.25* | $50^{\circ} \times 3.25^{\prime \prime}$ |  |
| PR | HT: 2.69 lb |  |



## GENERAL DESCRIPTION

Vibrating Reed Instruments aro dirw pablur formane indicators





 the remefs ate the only moving olemonis. Running Time Meters are ats ice promes or service requirements.

## APPLICATIONS


















## SERIES 7004

 On standhy bower supplies for measuring generator frequenco and encrine sperds. Electrical characteristics: same as the Series 7002.
 MI.-M-6A molded lakelite" \$21.50 6915-133-5!-63 cy. in $31 / \mathbf{x}^{\prime \prime}$ \$1antive



## SERIES 4009



|  | SERIES 4009 |
| :---: | :---: |
|  |  <br>  and aircratt inworters. Accuracy: $\pm 0.2 \%$ at $70^{\circ} \mathrm{F}$, Power consumption: Approximately 1.25 watts. Resistance: Apmoximately 00 ohms priv volt. Flush panel mometincr. |
|  | 4059-134-3k0-420 cr. in :31/2" flanae MII-M-4.1 molded bakelite (ases. <br> $\$ 31.00$ |
|  |  |
|  |  |
|  |  |






[^34]
## SERIES 7002

Range: 48-5! amb intio ert Remander in pithur -ill ill age: 12.5 wolls $\pm$ 首体 whis. Accuracy:
 Consumption: 1 w:att. Resistance: Ap, proximatedy 100 olims per wolt. Fhish pancl mount inr.
$\$ 21.50$

SERIES 1001






 r-chs. 61134 -fin (x. in 33: flanco MII.-M. 1134 lund hatkilitr (alast . . $\$ 19.00$


31/2" SEALED METER
Merols all applicathle rubuirmonts ot MIL-N-AS spercitication. All :31/2"
 seallewl puses. Electrical characteristics: Sambers mesealed instruments. Pricers on all madal ataliall. rayinest.

 metal cased to insure permanent accuracy


SQUARE BEZEL


MULI INDICATOR
Available Rd, or Sq. Bere!

## YOU CANNOT BUY BETTER

The dependable time proven movements of the famous Phaostron RUGGEDIZED and SEALED Instruments (which conform to U.S. Military Specification MIL-M-10304) have been incorporated in these CUSTOM Instruments. ONLY those elements required for the extreme high shock combat conditions of Military Instruments have been eliminated.
PHAOSTRON Metal-Cased CUSTOM Instruments overcome the undesirable characteristics of unshielded, plastic-cased meters,
 which have been known to deviate up to $35 \%$ from their initial calibration when exposed to magnetic fields. Phaostron Anti-Magnetic shielding is accomplished by the drawn steel case which shields the magnetic assembly of the instrument against stray magnetic fields insuring continued instrument accuracy. CUSTOM Instruments are calibrated to within $1 \%$ of full scale deflection, with controlled, certified standards assuring $2 \%$ reading accuracy. All models have large, easy to use, insulated front zero adjustments. CUSTOM Instruments are available in $2 \frac{1}{2}{ }^{\prime \prime}$ and $31 / 2^{\prime \prime}$ sizes with either round or square bezels, AC or DC models, and Null Indicators. We leave it to you . . . would you buy a plastic-cased wrist watch if you could buy the finest movement in a magnetically shielded metal case?

$6^{\circ \prime}$ RANGES

| MICEOAMMETERS D. |  |  |  | VOLTMETERS A.C. ( 1000 ohms per volt) Rectifier Type |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ranges | $\begin{gathered} 21 / 2^{\prime \prime \prime} \text { Rnd. } \\ \text { or } \mathrm{Sa} . \end{gathered}$ | $\begin{gathered} 31 / 2^{\prime \prime} \text { Rnd. } \\ \text { or Sa. } \end{gathered}$ | 6"Rect. |  |  |  |  |  |  |
|  | - | - | 6 Rect | Ranges |  |  | $\begin{gathered} 21 / 2^{\prime \prime} \text { Rnd. } \\ \text { or Sa. } \end{gathered}$ | $\begin{gathered} 31 / 2 " \text { Rnd. } \\ \text { or Sa. } \end{gathered}$ | 6" Rect. |
| 1-.70 | \$11.4. | $1 \geqslant .4$ | 27. |  |  |  | \$10.4.i | \$11.51 | -14.0.4 |
| 0.1000 | 110 | 10.411 | 26.50 |  | $0-8$ | 11:зи" |  |  |  |
| 11-2000 | ! 311 | 14.0010 10.01 .5 | 17.80 1780 | $11-\vdots$ | $0.511$ |  |  |  |  |
| (10-11-50 | 11.2 | 12.40 | 2 (1.7) | 0-11 | 10.10\% |  |  |  |  |

## MILIAMMETERS D.C.

| 11.1 | (1-1" | 13.140 | 8.4.5 | 0.60 | 14.1" |
| :---: | :---: | :---: | :---: | :---: | :---: |
| (1)-... | "1020 | (1) |  |  |  |
| $0 \cdot \%$ | 11-36 | 0.300 |  |  |  |
| 10.5 | (1-0) | 4.500 |  |  |  |
| AMMETERS D.C. |  |  |  |  |  |


| $1 \cdot 1$ | "1" | 5.11.5 ${ }^{\text {a }}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0.1. | 10.15 | 110.0.10\| |  |  |  |
| \% | (1).36 | 1.7.t.1. ${ }^{\text {a }}$ | 8.45 | 9.60 | 14.10 |
| 0 \% |  | 2(1)-(0)20 ${ }^{\text {a }}$ |  |  |  |
| 10.1 |  | 271-1.-30 |  |  |  |
|  |  | 541.10.60) |  |  |  |
| VOLTMETERS D.C. (1000 ohms per volt) |  |  |  |  |  |
| \#1, |  |  |  |  |  |
| 0 - | ${ }^{11} 510$ | - -300 | 8.3.7 | 9.40 | 14.85 |
| "- | $0 \times 0$ | -5.50n |  |  |  |

## MICROAMMETERS A.C. Rectifier Type

| (1.10) | 13.8.7 | 11.51 |  |
| :---: | :---: | :---: | :---: |
| 1.2041 | 11.51" | 1-311 | 119:3010 |
| - | 11.50 | 10.10 | 19:4010 |

MILLIAMMETERS A.C. Rectifier Type

| 11.10 .5 | 10.0 | 12.1. | 1:1.6. |
| :---: | :---: | :---: | :---: |
| 0 -1 | 11.53 | 11.:11 | 16.24 |
| $0 \cdot 2$ | 10.3 | 11.:11 | 16.20 |
| 11.5 | $11 . \overline{\text { \%. }}$ | 11.\%11 | 16.20 |

NULL INDICATORS

|  Deflection in Microamos <br> Type 0.50 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| i | $1 .$ | $\therefore \cdots$ | 17..70 | 19.54 | - |
| 1 | 1" | 10.1 |  |  |  |

## PROVIDE ENVIRONMENT FREE OPERATION anywhere IN THE WORLD


$21 / 2^{\prime \prime}, \quad 31 / 2^{\prime \prime} \& 41 / 2^{\prime \prime}$
SIZES

These panel instruments are the product of engineering skill and facilities that have produced ruggedized precision instruments and test equipment for The Military and are now available to industry.
Built to meet U.S. Military specifications MIL-M-6A and MIL-M10304, these instruments will withstand extreme shock, vibration, fumbling, humidity, complete immersion and extremes of temperature. They will provide ENVIRONMENT FREE operation anywhere in the world.
These instruments feature RUGGEDIZED movements, Sealed
 Construction, Anti-Magnetic Shielding, Self Contained Rubber Shock Mounts, Shock Mounted Jewels and Pivots, aged Alnico Magnets, Miniaturized Hairsprings, Pointers locked to the balance cross of the moving coil system, and $2 \%$ Accuracy.
A Fhaostron RUGGEDIZED \& SEALED Panel Instrument is leakproof, breakproof, shockproof, shielded from stray external magnetic fields and impervious to temperature changes. Available in A.C and D.C. models, also Null Indicators.

## RUGGEDIZED NULL INDICATORS

Three deflections of arc are available in $21 / 2^{\prime \prime}, 3 \frac{1}{2}{ }^{\prime \prime}$ and $41 / 2^{\prime \prime}$ sizes. Principal applications are bridge and potentiometer balance indicators-or where instru. ments of extreme sensitivity near the zero or balance point are required. These RUGGEDIZED indicators make possible the application of Null systems for precise measurement under previously prohibitive conditions.


RUGGEDIZED NULL INDICATORS $21 / 2^{\prime \prime}, 31 / 2^{\prime \prime}, 41 / 2^{\prime \prime}$ Sizes
$11 / 2^{\prime \prime}, 2^{1 / 2} 2^{\prime \prime}, 3^{1 / 2} 2^{\prime \prime}, 41 / 2^{\prime \prime}$ RANGES

MICROAMMETERS D.C.

| Ranges | $11 / 2^{\prime \prime}$ Sq. | 21/2" Rnd. | 31/2" Rnd. | 41/2" Rnd. |
| :---: | :---: | :---: | :---: | :---: |
| 1020 ( $60{ }^{\circ}$ Scale) | - | - 20.80 | 201.30 | *23.30 |
| (1).30) | - | $\because 0.80$ | $\because 1.30$ | 20.30 |
| 0.50 | - | 20.80 | 21.30 | 22.30 |
| 0.100 | \$18.80 | 18.30 | 18.80 | 19.80 |
| 0.200 | 15.30 | 14.80 | 15.30 | 14.30 |
| 10-500 | 14.20 | 13.70 | 14.00 | 15.26 |
| 50-1)-50 | 18.80 | 18.30 | 18.80 | 19.80 |
| $100 \cdot 61.100$ | 15.30 | 14.80 | 1 -0.31) | 16.30 |
| $500 \cdot 0 \cdot \overline{5} 00$ | 12.30 | $12.31)$ | 12.80 | 13 .ス0 |

MILLIAMMETERS D.C.


|  |  |  | AMMETERS D.C. |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11108 |  |  |  |  |  |  |
| 1. | 3i, |  | - | 17.941 |  |  |
|  | 511 | -0.0-20 6 | - | $1 . .9 n$ | 10.40 | 14.410 |
| \% |  | $\left.\begin{array}{l} 30.0-30 \\ 20-0.50 \end{array}\right)$ |  |  |  |  |



MILLIAMMETERS A.C. Rectifier Type

| 11.0.5 | 11.30 | 15.80 | 13.30 | 17.30 |
| :---: | :---: | :---: | :---: | :---: |
| 11.1 | 14.90 | 14.50 | 14.90 | 15.tis |
| 11.2 | 14.90 | 14.50 | 14.90 | 1.7 .165 |
| 11-5 | 14.96 | 14.50 | 14.90 | 1.1.is |

## NULL INDICATORS

|  | Deflection | Microamps |
| :---: | :---: | :---: |
| Type | $0-50$ | $0-45^{\circ}$ |



POCKET SIZE WITH


LENGTH SCALE

## WE LEAVE IT TO YOU

 WOULD YOU BUY A PLASTIC.CASED WRIST WATCH . . .if you could buy the finest movement in a magnetically shielded metal case?

Phaostron, world famous manufacturer of ENVIRONMENT FREE PRECISION AIRCRAFT EQUIPMENT for Military and Industrial uses introduces a new concept in Multimeters, This magnetically shielded, metal-cased " $555^{\prime \prime}$ compares with plastic-cased multimeters as a fine watch in a precious metal case would compare with a plastic wrist watch.

The shielded, shatterproof and anti-magnetic case insures continued accuracy and integrity of this instrument for years to come.

Phaostron " 555 " Multimeter incorporates more ranges, including AC current, greater visibility, simplified and functional controls and the greatest value offered to date.

See the Phaostron " 555 ", note its many outstanding features, its beautiful satin chrome case, its compactness and light weight, and you will know why
"YOU CANNOT BUY BETTER"
" 555 " MULTIMETER at your PARTS DISTRIBUTOR

TYPICAL INSTRUMENT CASE SHAPES AND SCALES

$21 / 2^{\prime \prime}$ SQ．FLUSH PLEXIGLAS FRONT


ROUND FLUSH


SQUARE SEMI－FLUSH


SQUARE FRONT BOARD

sQuARE
FLUSH （Except Model 721 ）


FAN
SHAPED

| VOLTMETERS，AMMETERS，MILLIAMMETERS，MICROAMMETERS |
| :--- |

## LIST PRICES，F．O．B．BURLINGTON，IOWA

D．C．MICROAMMETERS
MODEL NUMBERS

| Range | 221 | 421 | 431 | 441 | 321 | 331 | 921 | 931 | 311 | 721 | 521 | 531 | 731 | 741 | 141 | 841 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 50 | 11．5i\％ | 11．55 | 12．111 | 12．75 | 12.45 | 12．75 | 1－6．11 | 19.11. | 10．！11 | 10．： | 11.56 | 12．196 | 12.15 | 1：3，11： | 3：5．15） | 10：－ |
| 100 | 10.50 | 16.50 | 111.95 | 11.511 | 11.65 | 11．6． | 15．25 | $1 \times .011$ | 12．011 | 11．\％1 | 111.6 | 16．9．7 | 16.55 | 11．9．i | 11－1 | 11.511 |
| 200 | 9．101 | 9， 160 | 111.05 | 10，46 | 11.111 | 11.411 | 16．16 | 18.4 .5 | 11．8．： | 16．20 | ［1． 124 | 11.110 | 16．．1） | 111011 | 110．－11 | 111.14. |
| 500 | $\therefore 111$ | － 10 | Q．101 | 19.75 | 10.65 | 11.111 | 1．4．45 | 15：911 | 11.11 | ！！¢ \％ 1 | －40 | （1．04 | \％ 12. | 10.24 | 17．3＂ | U，is |

D．C．MILLIAMMETERS
：顺州吅
（MODEL NUABERS SAME AS ABOVE）

D．C．AMMETERS
（MODEL NUMBERS SAME AS ABOVE）
$\qquad$
ALL STANDARD RANGES ARE SAME PRICE：

D．C．VOLTMETERS $1000 \Omega /$ Volt
（MODEL NUMBERS SAME AS ABOVE）

| Std．Rinus | －， | $\cdots$ | 9， 11 | 119.411 | 111．3．： | 11.111 | 11i．33： | 11．！ | 114．8． | 1．1． 1. | －． | 1．1i1 | 111．4．\％ | 10. | ！ | ＋11＋ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL STANDARD RANGES ARE SAME PRICE： $2 . \therefore 111 \%$ \％u．तul |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $\begin{gathered} \text { Range } \\ 80 \end{gathered}$ | ！ 1111 | 4.11 | $\cdots$ | 111．： 11 | 111．6．： | 13．111 | 14．9．5 | 1ヶ．i． | 111.6 | 111．311 | 4．14 | ！！！ | 111．3．： | 11．1． | 11．1．， | 1い，${ }^{\text {an }}$ |
| 10 C | ！1．34 | 4.301 | 110.105 | 111．an | 111．＊11 | 11． B \％ | 1\％．8． | 1－1．： | 119．8is | 111．－71 | ！ 3 | 10．01．${ }^{\text {a }}$ | 111．．01 | 17，$\quad 10$ | $11 .$. | 110011 |
| 150 | 91.121 | ！ 4.161 | 111.35 | 111，4．0 | 11.10 | 11．．i | 1！1．11．5 | 1：4．0．in | 111.8 .0 | 10.41 | 3 | 111．8．\％ | 111．14． | 11.411 | 1134 | 119 |
| 200 | 1.76 | 4．7＂ | 111．1．i | 11.06 | 11.211 | 1－1．i | 24．\％） | 21.15 | 1119．\％ | $10 .!+11$ | ！ 1.7 | 113，4． | 111．：${ }^{1}$ | 11．．．11 | 11 估 | 1111.1 |
| 300 | 9， 96 | ！．1911 | 11．1．\％ | 11．2． | 11.111 | 1 $\because .118$ | 20．\％11 | $2: .111$ | 10．1．${ }^{10}$ | 11.10 | 4.911 | 1 P ， 18.5 | 111．！${ }^{1}$ | 11．：11 | $11 \%$ | 11.2 |
| 500 | － 9.111 | $\checkmark .11$ | 11.111 | 11．\％ | 119．20 | 1．．．01 | 1．1． | － | 110．6．： | ：．3＂ | $\bigcirc .11$ | 11．111 | － | 12．1： | 1：1\％ | 11．711 |
| 800 | $\cdots$ | ． 111 | 11．311 | 11.161 | 111：20 | 13，园 | 1：1\％ | $3-6.0$ | ｜11， 4,5 | ：1．：n | $\bigcirc .111$ | 11．30 | －ッ．！ | 12．．n | 1\％， | 11 |

D．C．VOLTMETERS 200！2／Volt
（MODEL NUMBERS SAME AS ABOVE）

## Rureingtom Panel wsirumenis

MODEL 745


VU INDICATOR AVAILABIE WITH ILLUMINATION

MODELS 321，331．
322，332， 921,931

hermetically sealed AND RUGGEDIZED

$11 / 2 "$ SQUARE
hermetically sealed

MODEL 338


RUNNING TIME
HERMETICALIY SEALED

MODEL 538


A．C．MILLIAMMETERS
MODELNUMBERS

|  | 222 | 422 | 432 | 322 | 332 | 722 | 522 | 532 | 732 | 742 | 142 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Std．R ngs | 8．10 | N．10 | ＊．55 | 111.24 | $111 . \times 11$ | ！ 0.1 | ¢． 11 | \＄．5．5 | － $\mathrm{s}_{5}$ | 4．45 | \％ 1.4 | ALL STANDARD RANGES ARE SAME PRICE： $111,12,25,50,100,250,500$

A．C．AMMETERS
 ALL STANDARD RANGES ARE SAME PRICE： $1,1 \ldots, 5,10,15,85,30,50$ All Ranges Above Those Priced are Supplied as 5 Amp．Movements for use with Separately Priced Current Transformers．

## A．C．VOLTMETERS 25－1 25 Cycles（model numbers same as above）



| $1.5-100$ | 9．10 | 8.10 | 人，${ }^{\text {a }}$ | 16.2 （1） | 10.80 | 1．1．1 | R．34 | N．5．3 | 2．入ら | 91.45 | 9.45 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 150 | 8.10 | 8.10 | 10.15 | 10.95 | 11．5．5 | 4．15 | 2． 111 | ！ $1 . \mathrm{T}$ | Q 4.4 | 10．20 | 111.24 |
| 300 | 10.35 | 10.35 | 10.615 | 11．nis | 12．4．5 | 11．411 | 10．5．5 | 10．19 ${ }^{1}$ | 12．40 | 11．＊ | 11．85 |
| 500 | ＊ 8.10 | ＊＊．10 | 13.95 | ＊111．20 | ＊ 110.201 | ＊！ 9.1 \％ | ＊．${ }^{\text {a }} 1$ | 13．4i ${ }^{\text {1 }}$ | ＊2．8．7 | 14．3．5 | 14.8 .1 |
| 600 | ${ }^{*} \times 10$ | ＊＊．11 | 16．20 | ＊11．20 | $111 . \times 11$ | ＊！1．1．\％ | ＊${ }^{1} 111$ | 14.011 | ＊5．xi | 17．14 | 17．10 |


| RUNNING TIME METERS Recording in Hours Dials Read 9999.9 |  |  |
| :---: | :---: | :---: |
| MODELS | $\begin{gathered} 115 \\ \text { Volls } \end{gathered}$ | $\begin{aligned} & 230 \\ & \text { Volts } \end{aligned}$ |
|  sealed for roumb flush mount intr． <br> Nonlel So． $3: 38$ | \＄11．05 | \＄1！．io |
|  | ＊11i，m | \＄17．25 |
| $3^{\prime \prime}$ s（9C\IRE <br> Hakelite <br> flush <br> mointed． <br> Marlel Ko． 538 | ＊16．k！ | \＄17．2\％ |

## POWER LEVEL INDICATORS

| $\begin{aligned} & \text { Model No, } \\ & \text { "t-scaile " } A \text { " } \\ & \text { or "解" } \end{aligned}$ | 225 | 425 | 435 | 445 | 325 | 335 | 925 | 935 | 315 | 725 | 525 | 535 | 735 | 745 | 145 | 845 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 17.40 | 17.44 | 18.001 | 112．20 | 1－．40 | 1：14．4．\％ | － 4.411 | 2.5 .80 | 20.85 | 1×．大ill | 1\％．4 | 18．06 | 18．1\％ | 19.50 | 1！1．50 | 19．201 |
|  | 14.411 | 11.411 | 1．in！ | 16.20 | 15．f4 | 14．9\％ | Э1．9\％ | 2．．．00 | 1－n\％ | 1．\％） | 14.40 | 1－．10 | 1．．． | 16.50 | 16.50 | 1 （6．20） |



SCALE＂A＂



SCALE＂B＂


（haistur




SAMPLE SCALE STANDAFD IMPEDANCES and SPEEDS

| $\begin{gathered} \text { Medium } \\ \text { or } \\ \text { High Speed } \end{gathered}$ | $\begin{aligned} & 6 \mathrm{MWW} \\ & 500 \\ & 0 \mathrm{hms} \end{aligned}$ | $\begin{aligned} & 6 \mathrm{MW} \\ & 600 \\ & 0 \mathrm{hms} \end{aligned}$ | $\begin{gathered} 1 \mathrm{MW} \\ 600 \\ 0 \mathrm{hms} \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: |
|  | VOLTAGE AT＂O＂DB |  |  |
|  | 1．730 | 1.911 | it4i |

## 

> MEDIUM SPEED HIGH SPEED

Whoms．





Coltmutres．Thermo Ammetres，Extornal chmals，Jmint
Frankiumars Extarmal Multipiaers．

MANY OTHER RATINGS AND TYPES AVAILABLE IN D．C．AND A．C．
BURLINGTON INSTRUMENT CO．BUrIINgion，lowa

## Hoyt PANEL AND PORTABLE INSTRUMENTS <br> Fine Instruments for more thon Fifty Years



MODEL Nos． 641 and 645
Plastic Styrene Cases

HOYT moving－coil Meters are built on the D＇Arsonval principle using carcfully selected jewel bearings and insulated \％ero adjustors．Ac－ curacy within $2 \neq ;$ Alnico Magnets with soft－iron pole－pieces of uni－ form flux density used in all move－ ments．Permanently correct balance assured by HOY゙T＂cross arm＂ spiral wire balance．High torque to weight ratio．Quick response and good damping under all conditions． Choice of＂knife－edge＂or＂lance＂ type pointers．


MODEL Nos． 600 and 607,647 Bakelite Cases


MODEL Nos． 635 and 597


MODEL Nos． 582 and $17 / 3$
NOTE：M．ters listenl ane stanland in Flush casus surfar casts fan

 ＂as＂
 pire of arxt hiulue rancu histe－l．





NOTE：Inloss nh hawist spurcition． all methers are calibrated int ront maturtic bathes．If stmel pands arי usinl．kinlly st statte，wivius thicknows of steen and size of hanel hole．and metars will he ＂：alithatomb fur steel bamels at wo whra whares All pries are net －subjivect to chanme or with． drawal without notion

| $D C^{M C}$ | AC | $\begin{array}{ll} \hline \text { CASE TYPE } \\ \text { PANEL MTG. } \end{array}$ | $\begin{gathered} \text { SCALE LENGTH } \\ \text { AC . DC } \end{gathered}$ | Flange | $\begin{gathered} B O D Y D I A . \\ A C \cdot D C \end{gathered}$ | $\begin{gathered} \text { BODY DEPTH } \\ \text { AC.DC } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $17 / 3$ | 552 | Bakelite Rd． | 17／8＇ | $2.690^{\prime \prime}$ | $2.200^{\prime \prime}$ | $13 / 8$＂ |
| 17／：3 | 552 | Metal Rd． | $1 \%{ }^{\text {\％}}$ | $2^{3 .} 964$ | 21／16＂ | 119／6＊ |
| 635 | 636 | Bakelite Sq． | $17 / 8{ }^{\prime \prime}$ | $23 / 8{ }^{\prime \prime} \times 23 / 8$ | $2.200^{\prime \prime}$ | $1.400^{\prime \prime}$ |
| $17 / \mathrm{L}$ | 560 | Metal Rd． | $2^{1 / 4}$ | 37／32＂ | $21 / 2^{\prime \prime}$ | $11 /{ }^{\prime \prime}$ |
| 17／I， | 560 | Metal Suriace | － $21 / 4$ | 3116 | $21 / 2^{\prime \prime}$ |  |
| 58. | 584 | Bakelite Rd． | $21 / 2{ }^{1}$ | $31 /{ }^{\prime \prime}$ | 2\％／4 | $13 / 8{ }^{\prime \prime}$ |
| 597 | 598 | Bakelite Sq． | $21 /{ }^{\prime \prime}$ | $3^{\prime \prime} \times 3^{\prime \prime}$ | $23 / 4{ }^{\prime \prime}$ | $13 /{ }^{\prime \prime}$ |
| 570 | 580 | Metal Ra． | $25 / 8$ | $3{ }^{3 / 4}$ | $3^{\prime \prime}$ | 111／10＂ |
| 570 | 580 | Metal Surface | － $25 / 8$ | $35 /{ }^{\prime \prime}$ | $3^{\prime \prime}$ | 110 |
| 607 | 610 | Bakelite Sq ． | $23 / 4$＂ | $35 / 8{ }^{\prime \prime} \times 3516{ }^{\prime \prime}$ | 21／4＂ | 11／16＂ |
| 574 | 617 | Metal Rrl． | $33^{3 / 4}$ | $41 / 2^{\prime \prime}$ | $33 / 4{ }^{\prime \prime}$ | $119 / 32 "$ |
| 574 | 617 | Mecal Surface | $33^{\prime \prime}$ | $41 / 2^{\prime \prime}$ | $33 / 4{ }^{\prime \prime}$ |  |
| 600 | 601 | Bakelite Sq． | $33 / 4 "$ | 41／2＂${ }^{\prime \prime} 4^{\prime \prime}$ | $23 / 4$ | 11／16＂ |
| $641 \%$ | $642 \dagger$ | Styrene Sq． | $4^{1} \times 2$ | $41 / 2$＂$\times 3 \times 7 / 32^{\prime \prime}$ | 23／4＂ | $11 / 8{ }^{\prime \prime}$ |
| $64: 3 \dagger$ | $644 \dagger$ | Styrene Sq． | $4^{\prime \prime}{ }^{\prime \prime}$ | $45 / 8 " \times 43 / 8{ }^{5 \prime}$ | $23 / 4 *$ | $11 /{ }^{\prime \prime}$ |
| $645^{\dagger}$ | $646 \dagger$ | Styrene St． | $4^{\prime \prime}$ | $4{ }^{5 \prime \prime}{ }^{\prime \prime} \times 43 / 8{ }^{\prime \prime}$ | $23 / 4{ }^{\prime \prime}$ | $11 / 8$＂ |
| 647 | 648 | Bakelite Sig． | $: 33 / 4{ }^{\prime \prime}$ | $4^{5 / 8 \prime} \times 43 / 8{ }^{\prime \prime}$ | $2^{3 / 4}$ | $11 /{ }^{\prime \prime}$ |
| 602 | － | Metal Rd． | 5 ＂ | $611 / 1 ;{ }^{\prime \prime}$ | $3{ }^{\prime \prime}$ | $11 /{ }^{\prime \prime}$ |
| 58：； | － | Metal Rd． | $\mathrm{f}^{1}+{ }^{\prime \prime}$ | $83 / 8{ }^{\prime \prime}$ | $3^{\prime \prime}$ | $1{ }^{1 \%}$ ：$: 2 \prime$ |


| PRICES： |  |  | PANEL MOUNTING |  |  |  |  | PORTABLE |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Range | $\begin{aligned} & \# 17 / 3 \\ & \# 635 \end{aligned}$ | \＃17／L | $\begin{aligned} & \# 582 \\ & \# 597 \end{aligned}$ | $\begin{array}{r} \# 570 \\ \# 607 \end{array}$ | $\begin{gathered} \# 574 \\ \# 600,647 \end{gathered}$ | \＃583 | \＃602 | \＃578 | \＃515 |
| D．C．MILLIAMMETERS |  |  |  |  |  |  |  |  |  |
|  | \＄7．50 | \＄8．20 | \＄8．50 | \＄8．85 | \＄9．45 | \＄17．35 | \＄13．15 | \＄10．35 | \＄12．15 |


| D．C．MICROAMMETERS |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0／20 | \＄1：3．50 | \＄14．50 | \＄14．50 | \＄14．85 | \＄15．45 |  |  |  |  |
| 0／50 | 10.50 | 11.35 | 11.50 | 11.85 | 12.45 |  |  | \＄13．50 | \＄15．25 |
| $0 / 100$ | 10.00 | 10.85 | 11.00 | 11.35 | 11.95 | \＄19．95 | \＄15．7． | 13.00 | 14.70 |
| 0／200 | 8.50 | 9.25 | 9.50 | 9.85 | 10.45 | 18.40 | 14.20 | 11.40 | 13．15 |
| $0 / 500$ | 7.85 | 8.75 | 8.85 | 9.8 | 9.95 | 17.85 | 13，65 | 10.85 | 12.60 |

D．C．MILLIVOLTMETERS
$\begin{array}{llllllllll}0 / 50 & 7.50 & 8.20 & 8.35 & 8.85 & 9.45 & 17.35 & 13.15 & 10.35 & 12.15\end{array}$

## D．C．AMMETERS

$\begin{array}{llllll}8.85 & 9.45 & 17.35 & 13.15 & 10.35 & 12.15\end{array}$

## D．C．VOLTMETERS

$\begin{array}{lllllllll}7.50 & 8.20 & 8.50 & 8.85 & 9.45 & 17.35 & 13.15 & 10.35 & 12.15\end{array}$



## STANDARD SWITCHBOARD SHUNTS

 shmu1，showa lutlow．

| $0 / 25$ | $\$ 6.60$ | $0 / 100$ | $\$ 6.60$ | $0 / 500$ | $\$ 11.55$ | $0 / 1500$ | $\$ 35.35$ |
| :--- | ---: | ---: | ---: | :--- | :--- | :--- | :--- |
| $0 / 30$ | 6.60 | $0 / 150$ | 7.00 | $0 / 600$ | 13.80 | $0 / 2000$ | 42.20 |
| $0 / 50$ | 6.60 | 0.200 | 7.00 | $0 / 800$ | 19.00 | $0 / 2500$ | 53.55 |
| $0 / 75$ | 6.60 | $0 / 300$ | 7.65 | $0 / 1000$ | 25.00 | $0 / 3000$ | 64.30 | $\begin{array}{lllllll}0 / 0.00 & 0 / 300 & 7.65 & 0 / 1000 & 25.00 & 0 / 3000 & 64.30\end{array}$




## Hoyt PANEL AND PORTABLE INSTRUMENTS

| PRICES: | PANEL MOUNTING |  |  |  |  | PORTABLE |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \# 552 \\ & \# 636 \end{aligned}$ | =560 | $\begin{aligned} & \equiv 584 \\ & =598 \end{aligned}$ | $\begin{aligned} & =580 \\ & =610 \end{aligned}$ | $\begin{gathered} =617 \\ =601.648 \end{gathered}$ | $=562$ | $\pm 517$ |
| A.C. MILLIAMMETERS |  |  |  |  |  |  |  |
|  | \$7.40 | \$8.00 | \$8.10 | \$8.85 | \$9.45 | \$10.35 | \$12.15 |
| standard sinme Millameter rames for all moneles at athere uriwe are <br>  |  |  |  |  |  |  |  |
| A.C. AMMETERS |  |  |  |  |  |  |  |
|  | \$7.40 | \$8.00 | \$8.10 | \$8.85 | \$9.45 | \$10.35 | \$12.15 |
|  <br>  |  |  |  |  |  |  |  |
| A.C. VOLTMETERS |  |  |  |  |  |  |  |
|  | \$7.40 | \$8.00 | \$8.10 | \$8.85 | \$9.45 | \$10.35 | \$12.15 |
|  <br>  bulow. |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 0/150 | \$7.90 | \$8.75 | \$8.85* | \$9.45 | \$10.20 | \$11.55 | \$12.85 |
| 0/300 | 8.75 | 9.50 | 9.60* | 10.45 | 10.50 | 11.95 | 13.70 |
| 0/500 |  |  | 12.95 | 13.95 | 14.40 | 15.50 | 17.20 17.80 |
| 0/500 | . . | $\cdots$ | 13.50 | 14.50 | 14.40 | $16.0 \bar{\square}$ | 17.80 |




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stoel and si\% oi fancl hole.

## HIGH CURRENT DONUT TYPE TRANSFORMERS

| Vur prices uf hisher (rirrent d |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100/5 | \$7.95 | 200/5 | \$7.95 | 600/5 | \$9.95 |
| 150/5 | 7.95 | $300 / 5$ | 7.95 |  |  |



MODEL Nos. 636 and 598

HOYT A.C. Meters for indicatiag 60 cycle Voltage and Current are of the repulsion type with pneumatic damping. Furnished in the same case styles and sizes as HOYT D.C. Meters, they match the D.C. meter where both types are used on the same panel.

Accaracy is $2 \%$. A choice of pointers is available, and special shields can be supulied if needed.


MODEL No. 593
$21 / 2^{\prime \prime}$ Rect. Case

## MAGNETIC VANE MOVEMENTS

HOYT magnetic Vanetype Indicators have been used for many years by the leading manufacturers of electrical devices.

Attractive appearance is combined with a
sturdy movement. Furnished in round or square cases at low cost. Standard finish on metal cases is black. Chrome Plate is available at slight additional cost.


MODEL No. 566
$21 / 4{ }^{\prime \prime}$ Round Case




Model 532

## COMPLETE PORTABLE SERVICE UNIT

- COMPOSITE PLATE CONDUCTANCE TUBE TESTER - ACCURATE VOLT-OHMMETER - CONDENSER LEAKAGE TESTER
- DRY BATTERY TESTER

All In One Attractive Luggage Type Case
The Chicago Model $\quad$ nit contains all the instruments you would normally ever need to movide on-the-job service. The tube checker is of the very latest design using a patented quick set-up key arrangement that tests diodes as diodes. triodes as triodes and pentodes as pentodes. Illuminated roll chait lists all receiving tube types including some just coming on the market. Dimensions: $16^{\prime \prime} \times 13^{\prime \prime} \times 71 / 2^{\prime \prime}$.

VOLT-OHMMETER HAS ALL USEFUL RANGES:
A.C. Volts
D.C. Volts

Ohms

0-10/100/500/1010 $0-10 / 100 / 500 / 10100$ 4-5000/50.0001/5010.000/50 mex.

MODEL 532 Price Complete with Picture Tube Adapter test leads, Fabricoid covered case and instructions
$\$ 90.00$ net

## CHICAGO MODEL 531 TUBE AND BATTERY TESTER

Like the Model 532, the Model 531 offers more quality features than minch higher priced instruments. It contains the same tube tester as the Model 532 and tests dry batteries under rated load. Dimensions: $16^{\prime \prime}$
x $13^{\prime \prime} \times 7^{\prime \prime}$.
MODEL 531-Price complete with picture tube adapter, test leads, simulated leather carrying case and instructions.
$\$ 70.00$ net

## TWO GREAT CHICAGO VACUUM TUBE VOLTMETERS

MODEL 541
UNIDIAL V.T.V.M.

Heres a most convenient instrument for all servise -TV. HI-FI and radio-all in a small $63 / 4{ }^{\prime \prime} \times 5 \frac{1}{4 \prime \prime} \times$ $3 Y_{4}^{\prime \prime}$ rugged Bakelite case. One selector knob selects both range antl function The Model 541 is a precision factory wired and tested instwment ar the price of a kit! Compare these features:
A.C. and D.C. Volts: $0-3 / 30 / 300 / 1200$. Ohms: $1 / 5$ to 1000 meg. High Torque Jewelled Meter witl electronic burn-out wotection. Decibels Scale: Polarity reverse for D.O. volts. Peak Volts Scale for saw tooths and square waves. A.C. Operation: nses only 7 watts. 11 Megohm input. TV Type rectifier. $1 \%$ Range resistors.
MODEL 541 - Price. rom.
plete with service data
only $\$ 33.00$ net
MODEL 541-1—Hi-voltage Probe;
extends the range of Model
511 to 30,000 F
only $\$ 6.50$ net

MODEL 504
V.T.V.M. PORTABLE ELECTRONIC MULTITESTER

A complete service laboratory in an easy-to-read, slant-front case is yours with the Chicago Model 504. All the tests that you will ever be likely to need are quickly selected with rotary switches. Check the ranges carefully then compare the Model 504 with instruments costing twice as much.

## RANGES

A.C. and D.C. Volts: $0-5 / 10 / 50 / 100 / 500 / 1000 / 5000$. Decibels: -20 to +16 .
Ohms: $0-1000 / 10 \mathrm{~K} / 100 \mathrm{~K} / 1 \mathrm{meg} . / 100 \mathrm{meg} . / 1000$ meg.
Ohms Center Scale: 10/100/1000/10K/1 meg. 10 meg. Capacitance: 50 minf. to 5000 nmmf.; .000)5 mf. to . 0.5 mf.: . 05 nif. to $5 \mathrm{mf}$. ; . 5 mif. to $50 \mathrm{mf}$. ; 5 mf . to 500 1 ff .; 50 ml . to 5000 mf .
D.C. Milliamperes: 0-1/10/100/5110.

MODEL 504 V.T.V.M. Electronic Multitester-Complete with D.C. Probe and only $\$ 42.00$ net

## MODEL 504 ACCESSORIES

MODEL P-505 R.F. PROBE Extends A.C. range to 100 Mc .
$\$ 6.50$ net
MODEL P- 506 HIGH VOLTAGE PROBE
Extends D.C. volt rance
to 30.000
$\$ 6.50$ net

## CHICAGO INDUSTRIAL INSTRUMENT CO.

Since 1933 we have been manufacturing a quality line of test equipment. For high accuracy and rugged dependability, Chicago Instruments are without compare in the service field. They represent the greatest test equipment values on the market!

## CHICAGO MINIATURE VOLT-OHM-MILLIAMMETERS

Chicago Industrial Instrmment Company is the poneer maker of miniature service instruments. The accuracy of bench type equipment in a pocket size unit makes these handy instrments most popular for home service calls. A choice of sereral models is a a ailable at extremely attactive prices.


| MODEL 450 FEATHERWEIGHT V.O.M.A. $3-15 / 16^{\prime \prime} \times 21 / \mathbf{s}^{\prime \prime} \times 2^{\prime \prime}$ <br> D.C. Volts: $11-5 / 10 / 51 / 500 / 10010$ <br> Milliamperes: $0-1$ <br> MODEL 450-1000 Ohms rer rolt |  Ohms Center Scale: $31 / 3 / 101 / 30010$ Price \$14.00 net |
| :---: | :---: |
| MODEL 453 FEATHERWEIGHT V.O.M.A. $3-15 / 16^{\prime \prime} \times 27 / \mathrm{B}^{\prime \prime} \times 2^{\prime \prime}$ <br> A.C. and D.C. Volts: $01-15 /: 31 / 151 /: 300 / 1500 / 3000$ <br> Ohms Full Scale: 5000 $50.100150100,000$ <br> MODEL 453-1U00 Ohms per volt | D.C. Mils: 11-150 <br> Price $\$ 19.50$ net |
| ```MODEL 371 SIMPLEX V.O.M.A. 17/8" }\times23/4"\times31/\mp@subsup{\mathbf{g}}{}{\prime\prime D.C. Volts: 0-3/15/30/300 Mils: 0-2.: MODEL 371-Iron Vane Ty'pe``` | Ohms Full Scale: 10.u0n <br> Price $\mathbf{\$ 7 . 0 0}$ net |
| MODEL 312 SIMPLEX V.O.M.A. $\quad 17 / 8^{\prime \prime} \times 2^{3 / 4^{\prime \prime}} \times 3^{1 / 8^{\prime \prime}}$ <br> A.C. and D.C. Volts: $11-25 / 511 / 125 / 251$ <br> A.C. and D.C. Mils: $1-, \ldots$ <br> MFD.: . 10 to 15 <br> MODEL 312-Iron Vane Type | Ohms Full Scale: 1010.014 Ohms Center Scale: utho Price $\mathbf{\$ 9 . 0 0}$ net |
| MODEL 454 FEATHERWEIGHT DRY BATTERY TESTER 3.15/16" <br> Tests portable radio batteries. flashlight and industria Volt Ranges: $1.5 / 6 / 15 / 22.5 / 30 / 45 / 67.5,90$ <br> Complete with Test Leads | under standard load. <br> Price \$12.00 met |



NEW CHICAGO POWER TESTER MODEL 543

An absolute "must" for the service man who wants to do a good jol on appliances as well as electronic equipment. Tester allows simultaneons readings of A.C. volts and A.C. ampereswats with provision for shorting out ammeter on motor starting current.

RANGES
A.C. Volts: $11-1.51 /: 3, \cdots$
A.C. Watts: 1-60161/1204 11-1550/:5110

MODEL $543-$ Size $111 / 2^{\prime \prime} \times 6^{\prime \prime} \times 4^{\prime \prime}$.



## SELECTOHM

Model 501 Lineor Precision Potentiometer

The Selectolm is at laborafory quality instrument acm rately calibrated in ohms from () to 100. ."m tor powers up to 25 watts.

It may be used in place of a decade box, as a pre(ision shme or multiplier or as a resistance substitute in many electrical devices. it is partionlarly useful for determining the value of a blackened, burned-out frasistor when substituted in a circuit.

MODEL 501 -selectolm $\quad$ 1rice $\mathbf{\$ 9 . 0 0}$ net

## CHICAGO INDUSTRIAL INSTRUMENT CO.

CHICAGO 10 ILLINOIS

## PRECISION INSTRUMENTS <br> FOR PANELS AND TEST SETS



EMICO panel anl test meturs :Irr ruxsen and roliable instrments Cases are of steel and finished in durable black. DC meters have the new HI•TORK magnetic movenents and are accurate to well withm $5 \%$. AC meters are of the moving iron type and are also accurate to within $5 \%$.

MOUNTING—All model NF-2C and RF-er mintis will tit into a $2_{\text {rg }}$ " diameter hole and are mounted by mpans of a $U$ slamp.
 under the most severe conditions. They are styled to add to the prestige and appearance of electrical erpipment.

CALIBRATION—since the instruments are calinated in steel wasts. their accuracy is not affected by panels made of magnetic materials of nominal thiekness.
 fertive material and workmanchip for a period of one sear after ditu of furehare. abl will be repaided or replaced if sent to the fantory forthatid with a soc hathding charge

EMICO instruments are availald in quantitits to jubleets of manne

 anplication.

EMICO VOLTAGE TESTER Model 0-116


## Designed to Accurotely Test <br> Volfage at the Receptacle

Theis mew convenimit voltage tester is strons. rurge l and rolimble. (ase of steed tinished in durable black. Damped moter morement, preeision mechanism. Aceuracy $\pm 5 \%$ \% $90^{\circ}$ swivel at the prones make :udinis from angle easy LIST PRICE $\$ 4.50$

## 配解面边 TEST INSTRUMENTS

## DYNAMIC MUTUAL CONDUCTANCE TUBE TESTER



## Most Accurate Engineers＇Laboratory Model Tests Tubes Per Tube Handbooks and JAN Specifications

Model 700：For precise laboratory measurements of the most in－ portant vacuum tube characteristics，Transconductance（Mutual） Conductance）．With this Tube Tester it is possible to duplicate the results found in tube manuals．This instrument places a separate voltage on each clement of the tube．These voltages can be varied and measure by means of separate variable rheostats and meters in each circuit．A．C．ripple has been completely filtered out of the plate．screen and grid circuits，
In addition to providing accurate measurements of Mutual Con－ ductance，it is possible to study the behavior of various tubes when used in non－conventional and special types of circuits．Amplification Factor and Plate Resistance may be obtained from the test results The HICKOK Model 700 may be operated in either of two ways． First．by making use of alternating current null methods of measure－ went in which capacitance and resistance errors have been eliminated： and second，by direct reading on a meter．The Null Method of making measurements on the tube is the most accurate and is the one which is recommended where sufficient time for the test is available．
Complete with all leads and accessories．Attractive and sturdy case．
Model 700

TECHNICAL
1．Micromho rates are arailabie as follows：600，1500．3000． 6000 15．（00I， $30,0 \mathrm{~h}$ at hd bl l，（000 micromho．
2．Four separate signal voltages ire available， 1.0 volts． 0.5 volts 0.1 volt and 0.05 volts
3．Plate voltage supply is conimaously variable from zero to 300 volts．An impividual B．C．whtmeter in the plate circuit read plate voltage at all times．
 This is metered $1, y$ means of a separate D．Voltmeter it The serena control gif voltage is continuously variable from 0 to The control aril voltage is continuously variable firm on D．Voltmeter in the gride circuit．Provision is made to make bias either incentive or positive．Suppressor can be used as control grid if alestred．
6．Ap extra negative circuit is provided for holding umber mule elements negative whale test is being made on other bidets．
－Provision is made for testing tabes under seli－bias conditions when requite d by that partienkior tube or when such informa lion is desired．
8．Fitment voltage may be applied to the tube up 1011 vols A．F．The separate A．C Voltmeter in this circuit measures the voltage abe lied to the filament at all times．This voltage
 to amperes


FEATURES
screen current．or cathode current．This reads from 0 to 150 ma．and may he switched into the three circuits for this ma．and
purpose．
10．A separate（1）．C．Microammeter is mounted in the control grid circuit to read grid current，if and when it exists．
11．Amplification factor can be easily calculated from values obtained from the meter readings．Other factors may be obtained from the meter readings．Other factors may be
similarly calculated．
12．Provision is made for testing tapped filaments either in series or in parallel． series or in parallel for adjusting to the electrical center of filament type tulies． Twin tube section may be tested either singularly or in parallel．
Screen grid tubes can be connected ats triodes or tetrodes． etc．，as mat be desired．Switching arrangement is provided for this purpose．
A builtin power supply is included with the instrument providing thoroughly filtered 1）．$\left(\begin{array}{c}\text { on plate．screen，and con }\end{array}\right.$ trot grid．
A voltage adjustment with an accurate A．C．meter in the circuit is provided to insure exact signal voltage and correct phasing． ion． 150 watts．Calibration for other frequencies and voltages ton． 150 watts．Calibration for other frequencies and voltages
available．
19．Approximate size－ $\left.8^{\prime \prime} 1\right) \times 20^{\prime \prime} W^{*} \times 29^{\prime \prime}$ L．Approximate TO Hos．net．© I hes shipping．


Model 7001：Null Ruarling Apparatus is self－contaned in a shall case placed alongside the Model 700 tester．It consists oi a voltage supply（source from the Model 700 to assure correct phasing），a sensitise A．C．Galvanometer，a calibrated resimbr，and an accurate $\therefore$ C．Voltmeter．It is connected directly into the plate circuit of the tube under test by binding posts on the panel of the Model 700．The grid－signal－produced－component of plate current is balanced by an dual and opposite current applied to the plate from the power supply through the calibrated resistor．The reading of the Micromho Meter at the top of the panel is proportional to the＇lransconductance of the tube，and is therefore calibrated in Micrombor．The effect of the Null Reading Method is to reduce resistance in serins with the plate to zero，thereby assuring the highest accuracies obtanteble．
Model 7001 ：for obtaining bridge type null readings of $1 / 2 \%$ accuracy． $8^{\prime \prime}$ D．，8＂W．， $1.31 / 2 " L$

## Model 7001

HICKOK
CHOICE OF THE EXPERTS

## DYNAMIC MUTUAL CONDUCTANCE TUBE TESTERS



Model 539A

ENGINEERS' LABORATORY MODEL RADIO, TELEVISION, LABORATORY, AVIATION and COMMUNICATION ENGINEERS' MODEL

Model 539A : with tule realiurs in micromhen prish


 Model 539-A Not comenient to provide lathatary atematy for the field enmeer. line is attractively
 shipping wgi. 1119-125 V. A.C. tr wate.

SPECIFICATIONS

mos. Scparate A.C. meter meathes line voltage at all times Vernier adjustment. with sensitive - -range incter, permit. accuatc setting of grid voltage.
$\qquad$

$\qquad$ Jouilt-im, optional seli-bias arrangement.


Model 750

## PORTABLE RADIO-TV and COMMUNICATION TECHNICIANS' MODEL

Model 750: Black and White Model 750: Illustrated at the heit, strome porthe carreing canc with detachable


SPECIFICATIONS


Test, voltage regulator ( $\mathrm{V}^{\prime}$ R) tubes in awo data or by use of the up tordate roll chant furmishel.

共

Shum tot Recent H1CKOK enginerting achievement: have pro
 I-ine adjust knot, attematically indicates wether the line voltage







## TEST INSTRUMENTS

## RADIO and TELEVISION TECHNICIANS' SMALL SIZE MODELS <br> DYNAMIC MUTUAL CONDUCTANCE in A HANDIER, PORTABLE SIZE

Model 600A: New lighter weight portable. Dynamic Mutnal Conductance in a radio and "T' technicians" popularly priced model. smaller, handier. but built to the high HICKOK standard for acemacy and dependability. A very popular model for on-location or shop-benth servicing. The Gold may also he used for labs. and inclustrial applications.
Model 600A, illustrated at the left. Strong portable carrying case with detachable cover. Case is attraticely covered in durable, dark red leatherette. $16 \% \%^{\prime \prime}$ W., $113 / /^{\prime \prime}$ L., $71 / 2^{\prime \prime}$ D. 16 lbs. net, 21 lhs. shipping weight. $110-120$ V.A.C. 40 watts.
HICKOK testers remain up to date.... Jeriodically revised rollcharts, covering new tubes, are available to all registered owners of HICKOK Tube 'Testers.

## SPECIFICATIONS:

Scale rearlings in micromhos for most accurate tulbe evaluation. A.C. Signal 2.5 volts: ( $0-3000$, (0000), 15,000 micrombos.
Contains the HICKOK Trube Gas 'Fest.
Acclaimed by the experts as a must for accurate television servicing.
New, large $5^{\prime \prime}$ meter scale is easier to read more accurately.

Detects more weak tubes with professional accuracy. Tests tubes under simulated operating conditions.
Tests the latest tubes including miniature and submimiature types.
New lias fuse prevents accidental damage to bias potentiometer.
Contains the new HICKOK improved "Short Test."

[^35]HICKOK

## TEST INSTRUMENTS



## DYNAMIC MUTUAL CONDUCTANCE IN A SMALLER COUNTER MODEL



Model 533AC, a lower cost dealer's comoter model. Attractively designed to set on the counter and increase vour tube sales. Highly accurate Dsnamic Mutual Conductance circuits. Encourages customers to bring their tubes in where they can see the actual test. If customers' tubes check "()K" you have an excellent opportunity to invite hin to bring his receiver in for a thorough check of all its circuits. With the 53.3 -AC you will build customer confidence, increase tube sales and promote your complete radio and $T V$ service.

Model $533 A C$, illustrated at the left. Satin finish almmitum panel. Beautifully styled, blue enameled steel case. $171 / 2^{\prime \prime}$ WV., $18 \frac{1}{2 \prime \prime}$ L., $6^{\prime \prime} \mathrm{H}$. 23 lis. net, 30 Hb s. shipping weight. $105-125$ V...... 40 watts.

## Model 533AC

## SPECIFICATIONS:

Dual-scale metcr provides readings in micromhos for the technician.
A.C. Signal 2.5 volt: : $0-3000,6000,15.000$ micromhos. Quick, impressive, accurate, and dependable.
Detects more weak, ordinarily passable tubes.
Contains the IIICKOK lube Gas lest and a circuit
for accurate forecast of future tube life.
Simple to operate.

Contains all necessary tube information on a handy built-in roll chart.
Tests tubes under simmlated operating conditions.
T"ests all the latest tubes including television.
Large 5" easy-to-read meter scale and calibrated GM circuit provide increased accuracy in testing tolay's newer tubes.
Contains the new HICKOK improved "Short Test."


## PROFESSIONAL RADIO-TV TECHNICIANS PORTABLE MODEL


#### Abstract

Model 533AP: Radio, television and communication techncians' portable model with true Dynamic Mutual Conductance circuits pionecred by HICKOK. Acclaimed by the experts as the only true test of a tube.

Model 533AP. illustrated at the left. Strong. portable carrying case with detachable cover. Designed for on-location or shop-bench servicing. Case is attractively covered with durable black leatherette. 163/4" W.. $183 / 8^{\prime \prime}$ L.. $71 / 2$ " D. 23 11ss. net, 30 lls s. shipping weight. $110-130$ V.A.C. 40 watts.

Model 533 AP


## SPECIFICATIONS:

New liats Fine prewents accidental damage to bias potentiometer. New lucite meter window has staticfrec coating.
Tube realings in micromhos- $33-3000$, 6000, 15.000 Tests tubes under simulated operating conditions.
Contains the H1CKOK Tube Gas Test and Tube Noise test.
Incorporates the new test feature that forecasts future life of a tube.

Larger: s" easy-to-read meter seale and calibrated GMI circuit provide increased accuracy in testing tolay's newer tubes.
Tests all the latest tubes including miniature and subminiature types.
An improved "Short Test" is incorporated into the design of this tester.
Completely built of highest quality components for lasting accuracy and dependability.

Most valuable for accurate matching of tubes in television servicing.

## HICKOK <br> CHOICE OF THE EXPERTS



## TEST INSTRUMENTS



## IN AN ATTRACTIVE DISPLAY MODEL mOST EfFECTIVE TUBE SALESMAN

Model 533ADM．Dealers who use this tube tester enthusiastically report that it is the best salesman they ever used．
Customer consincing，the 533ADM contans a huge，illuminated minc－inch meter that clearly and accurately shows condition of the tube moler test． Dual－scale meter provides micromho readings for the technician，and a multi－color＂Good．＂＂Replace．＂scale for easy customer interpretation across the counter．
Contains the HICKOK Tube Gas Test，and a circuit for accurate forecast of future tube life．
Detects more weak tubes
Tests all the latest tubes including television．
AC Signal 21／2 Volts： $0.3000,6000$ ． 15,000 micromhos．
Model 533ADM，illustrated at the left． $9^{\prime \prime}$ chrome meter case．satin finish aluminum panel Strong．attractive．enameled stecl case． $26 \frac{1 / 2 " ~}{2}$ ．． $17^{\prime \prime}$ W．， 11＂D． 33 lbs．net， 43 lbs．shipping weight． $110-130$ V．A．C． 65 watts．
Model 533ADM

## TUBE TESTER SOCKET ADAPTERS



8－Pin
9－Pin
－Easy to permanentiy install．
－Add years more life to your tester．
－Eliminate wear on tube sockets in your HICKOK tube tester．
－Available as a set of 3 most popular types from your Radio－TV Parts Jobber．

Set of three most popular types．


TV PICTURE TUBE TESTER
－Lights TV picture tube ．．Places actual raster on the face of the tube．NO OTHER TESIERR DOFS TIIIS．－Tests all sizes of electromag－ netically deflected TV picture tubes ．．．Hoth electromagnetic and magnetic focus ．．Both glass or metal shells．Has definite and accurate rejection limits．Actually measures light output． Dual fused for full protection．Shorting switch ar－ rangement prevents shock hazard．－Iigh voltage
． 7000 volts 1） C is more than enough to illuminate aluminized screens．Horizontal sweep frequency is alummized screens．Horizontal sweep frequency is
15,750 cps nominal sawtooth．；vertical is 60 cycle 15,750 cps nominal sawtooth．；vertical is 60 cycle
sinusoidal．When used with any standard Himusoidal．DGOK Dynamic Mused with any standard Tester， 590 will also accurately check for emission． shorts．gas content and grid control．Portainle
 case $105-125^{2}$ V．， $50-60$ cycles， 60 watts．Single and double ion traps．test leads and protective goggles ate included．

## TUBE TESTER ROLL CHARTS

HICKOK periodically issues revised tube reference charts to include the data on all tubes available at time of each printing．Announcement of the availability of each new chart is sent to all registered owners of

HICKOK tube testers．This is another HICKOK service designed to help you maintain the speed and accuracy necessary in your profession．$\$ 1.00$ delivers up－to－date chart to you．

## HICKOK

## CHOICE

Of the experts


## VHF-UHF MARKER GENERATOR

Model 690: Cixatat controlled. Hixh . 25 rolt RF output. I'rovides dual markers with any TV sweep gemerator. Features amother HICKOK First - a Non-Parallax shadow type dial. Consentional dials unless viewed at exact, right-angle interduce error, since hairline indicator is always a slight distance from the scale. The HICKOK Non-Parallax dial can be viewed from any angle without introlucing error. The 45 inches of dial can be self-calibrated to within $05 \%$ accuracy with selfcontained crystal calibrator. Complete RF coverage channets 2 thru 8.3. Also, 3.57 me erestal (color burst frequency) is available. Leading TV manufacturer"s engineers have tested this mit and comment highly on its frequency, stability and time saving features. You need the 690 for VHF or CHF black and white aligument right now.

## Model 690

OUTSTANDING FEATURES

- Exceptionally rapil and thme saving method is comployed in calibrating the dial. Non comenting of beate -no interpolation-no remembering of frequencier.
- Calibrates other signal gemerators to erystal accuracy
- Complete IF-RF coverage thru channel 8.3. Picture and sonnd settings marked for all channels.
- Marker can be modulated by seli-contaned 400 cyele Especially valuable in stage-hy-stage alignment Eliminate:- nse of amother instrument.
- I'rovision for two wher ery-ats, in addition to 2.5 me crystal supplied. (3.57 the crystal. frequency of the onlor burst. available for colno work.)
- \iew two markers at once on response curve main marker and marker of crystal selected. Greatly spereds alignment.
- Both electroniceye and headphone jack provide visual or autlible zero-beat.
- Attenuation is controlled by both step attenuator and vernier for completely regulated output.
- Unit is completely double-shielded.
- All VHF frefuencies on fundamentals. No spurious or confusing heats.
- Strong. attractive steel portable cate. $16 \frac{1}{2 \prime \prime}$ W. i31ヶ" Н.. 8" 1). 26 lbs. Net; 34 lbs. Ship.



## Model 691

## OUTSTANDING FEATURES

- Lamut Rİ voltage required: 50.000 microvolts.
- Ontput marker voltage: maximum 3 volts.
- Ittennation of matker: variable (0) to go dlo.
- Attenuation of remponse curve: variable 0 to 20 db .
- Input impedance: 90 ohms.
- L'ower supply required: $105-125$ volts. A.C. 50-60 cycles, 25 watt.
- Attractive steel portable case. $111 / 4 " \mathrm{IV} ., 81 / 4^{\prime \prime} \mathrm{H}$. $7^{\prime \prime}$ D. 10 lbs . Net; 15 llis . Ship.


THE ACCEPTED TV ALIGNMENT GENERATOR


Model 610A

Powet Supply: $115-125$ V.. $50-60$ cycles, A.C.
lube Compliments: 6J6—Variatlr oscillator; 6J6-Fixed oscillator: 6J6-Mixer; 6SN7-Crystal oscillator \& rarker oscillator: 6J5-Audio oscillator: 6X5Re:tifier.
Net 28 lbs. Shipping Weight: 36 Ibs
 steel portable case.

Model 610A: Popularly priced TV sweep gencrator Harmonic entput useable for LHF. Marker Range: 19 to 48 m.c. - Covers all I.F. frequencies in TV receivers. Comains linear swed with unmsual accuracy to 2 er. Hickok ferrous modulater furnishes symmetrical pattern response curve for casier and more accurate realings.

## THIS ONE INSTRUMENT DOES THIS

## l'rovides accurate. complete visual aligmant of any TV

 Yecever. align of stages of athy television receiverincluling the old and current hands, and men hands. Nither all traps with a catitrated signal-modulated of momedulated--19 to ts me. 05 me-at ang point alome coliment on a dial 9 it inclimasker long. Calimate if af RF Sections by single stage methot-with Attenuate the mitut down to a very low signal in microwelts.
Mathit multin and - vernier con trol calibrate: from 1 to 10
Lanel lack accommolates separate pitug-in calilurating crytals fur local TV channels, if desimel. or momodulateat for any fremember as an as 2 the to unper thervion channel Xio 13 at 216 mc

1. Temperature compensated.
2. Low amplitute medulation.
3. Completely shichded attemator.
4. *ue er phasing whtrol.
5. Ti. sweef frequmey.

## HICKOK... CHOICE OF THE EXPERTS

## TEST INSTRUMENTS

## MOST PRACTICAL UNIVERSAL NOISE GENERATOR

Industrial Engineer and
Radio-TV Technician's Model


Model 755
(wi:h 300 mc liead) Also available with 1000 mc hear.

 for inver vel ryw erry

 VOLTMETER SECTION :
 adjust jrovided for carredling out combat protential (phus er minus 1 Volt maximum).
 to inctraction lomk for catcoll
OUTPUT SECTION


 Frequenes Respon-e: 10 MC to 250 MC .
SPECIAL FEATURES:
Pemaits extremely low semsitivity measumemernts. Ilits mift-in stand. by puation for Nrise mutut. Spring loaded whtnut control-increase - life
 directly te recciver infut. This climinates cancelling ont eapacilies Threce sepatate seales on the noise fegure Meter permit more simplifed

 Shiptme. Fower consumption: $50-60$ creles. 15 volts. 50 Vitle.


Model 710


## NEW SINE-SQUARE

 WAVEGENERATORFor Laborafory and Industrial Use
Model 710: This new instrment is a professional laboratory design to proside all accurately calibrated souree of sine-wave and sifurewave functions over a very wide frequency range.

## TECHNICALFEATURES

- Sine wave total havmonies diatoction helow 1 er
- Hama level better than of dh down.
- Squate wave rice time less than 0.1 Miero-second
- Direct conpled output for subare wave.
- Synclaronization ourpat providea.
- Eifse-liglted marallax correcting hatione on frequency dial facilitates
- May le ued as a portable instrument or for rack Monnting.

FREQUENCY COVERAGE


(I) Scale: 200 Kio to 1 M

POWER CONSUMPTION :



## NEW UHF-VHF <br> FIELD STRENGTH METER

Model 235


HICKOK
CHOICE OF
THE EXPERTS
CHore

Copwitht by U. C. P., InC.
Page 6-60

## TEST INSTRUMENTS



## VHF SWEEP-ALIGNMENT GENERATOR <br> All Electronic Sweep

Model 695: Here is a completely new generator with M.I.ELEC'IRONIC sweep. It will exactingly fill top requirements. of the professional " TV serviemman or lab. engineer. There art no mowing parts to wear ont. Though moderately priced. thi mint features a sweep signal that is absolutely linear and without amplitude modulations. Features a high .3 volt output. Triple shielded - no leakage problem here. Signal can be attenuated from 3 to 300,000 microvolts. $0-12$ volts variable hias voltage with continums tuning allows set alignment to more sensitive for "frituge areas." or less semsitive for "prime areas" tu prevent overloading. Continuous tuning and detailed. easy-to-read scales provide foolproof method of alignment. Three RF oscillators provicle complete VHF coverage m fundamentals and heterodyned output IF () to 50 me. This assures the strong signal necessary for aligning front ends.

## Model 695

OUTSTANDING FEATURES

- Metered. variable IDC bias voltage (0-12 volts. Eliminates use of hatteries for fixed bias.
- $170^{\circ}$ of phasing
- Siweep width ai 0-15 me., $\pm 3 \mathrm{mc}$. depending on freguency.
- Linear sweep.
- Amplatude variation of less than 0.1 db , per mo
- Output imfedance is و) ohms.
- Fanking of oscillator, provides reference base line
- Attractive steel portalile case. $161 / 4^{\prime \prime}$ W.. $1.314^{\prime \prime}$ II.. $\mathrm{S}^{\prime \prime}$ )
- Priple shieldal. very lon leahage. I'rovides attenuation down (3) Ilse met: is 1hs. Shipping


## THE ACCEPTED TV ALIGNMENT GENERATOR



## Model 610A

Pawer supply: 115-125 V., 50-6C cycles, A.C
Tuve Compliments: 6J6-Variable ascillator: 6J6-Fixed ascillator: 6J6—Mixer; 6SN7-Crystal oscillator \& marker oscillator: 6J5-Audio oscillator; 6X5Rectifier
Net 28 Iths. Shipping Weight: 36 Ihs.
Size: $16 \frac{1}{4}{ }^{\prime \prime} 131 / 4^{\prime \prime} \times 7^{\prime \prime}$; Satin aluminum finish panel; Bluse Hammertex finished stell portable case.

Model 610A: Popularly priced 'lV sweep gencrator Harmonic ontput uscable for UHF. Marker Range: 19 to 48 m.c. - Covers all I.F. frequencies in TV receivers. Contains lincon swecp with unusual accuracy to $2 \%$. Hickok ferrous modulator furnishes symmetrical pattern response curve for casicr and more accurate readings.

## THIS ONE INSTRUMENT DOES THIS

## Provides accurate. complete visual aligmment of any TV

 Cisually align If stages of athy television receiverinclusting the old and current lands, and new bands. Marker ratige lo ted 88 med unmoululated- 19 to to me. Insert a marker-atccurate to . 05 me -at alls puint along the If respons. curve. This marker freducner is directly califrated on is ial gitz inclies long. high mututu. Attomate the mutut down to a very low signal in microvels.Outphat multiplier control is 5 -stage with at vernier coll. trol colidmutel fuem 1 to 10
lancl Jack accommolates separate plug-in calilmating crystal for local TV chanuels, if desired. Makes possible a erystal controlled trefucher mortulated

Mper television chanmer.
Temperature compensated.
Completely shielded attenuator.
Swew phasing enntrol
FM sweep frequency.

## H ICKOK <br> CHOICE <br> OF THE EXPERTS

## NEW UNIVERSAL VIDEO GENERATOR COMPATIBLE FOR COLOR OR BLACK AND WHITE RECEIVERS


his fine new i rapidly and accurately solve your service problems．Does in minutes many TV servicing jobs that would require hours by other methods． The 650C has a new timer circuit which delivers ride o pulses of 60 cycles． 900 cycles． 15.750 cycles and 315 kc ．，singularly or in locked together and crystal controlled for greater accuracy．
Pulses can he used directly，metered in peak－to－peak volts or to modulate the self－contained RF oscillator．
RF oscillator covers all＇I＇channels in two bands（ $2-6$ and 7.13 ）， all on fundamentals． RF output is metered at all times from 1 to 10.000 microvolt with calibrated attenuation and variable percentage modulation．RF can he externally modulated with video frequencies from cycles to 4 MC with variable percentage modulation on all channels．
Self－contained．substitute external video amplifier， 5 cycles to 4 MC with a variable gain from 0 to 10 ，with high input impedance， low output impedance and metered peak－to－peak voltage output．
Includes horizontal and vertical sawtooth voltages which can he directly substituted for vertical and horizontal oscillator in a TV receiver．Both the vertical and horizontal sawtooth amplitude is sufficient to give full raster deflection and in the case of flyback type high voltage power supplies the horizontal sawtooth can be used to light up the picture tube．
The 650 C also contains an AC line voltage scale for instantaneous check on line voltage fluctuation，a common source of TV trouble．
This tester is an absolute must for accurate registration adjust． mint of the three color guns of color TV receivers，as well as accurate adjustment of focus，convergence．centering of individual ratio．A real time saver．you need the 650 C for TV servicing now．

## OUTSTANDING FEATURES

Quickly localizes and denties trouble in any section of a TV receiver
Provides electronically accurate bar or dot pattern on the screen of any TV
receiver－independent of station operation
$\mathbf{1 0 0 \%}$ FULLY SATURATED NSC＊STANDARD TV COLOR BAR GENERATOR


Model 655XC
Model 655XC：Matched to the other HICKOK instruments，housed in a handy portable detachable cover carrying case attractively covered with I）． 34 I．bs．net； 42 Lbs．shipping．
＊National Television System：Committee as ap－ proved by Federal Communications Commission． Absolutely sti．he．Entirely independent of changes in tine voltage．Compare the wave form information find sharpness of detail of the 655 XC with any other TV cola bar generator．．．Yowl pick the IIICKOF：immediately．

Model 655XC：Produces a standard $100 \%$ finally saturated NTSC color bar pattern on color TV sets．This is a must for non－obsolescence．Regardless of future color television receiver design this HICKOK color bar generator will be compatible．This is the type of signal that is transmitted over the air．All literature and alignment data are punished around this standard．ITS signal．The Node 655．provides signal for complete color alignment．When alignment is made with this type of signal the operator is sure when a color transmission is received that moper colors win be order from left to right preen，yellow ed mars on white sean，blue ind black Phase of colors probed is accurately sum with precision delay lines．The amplitude of sub ．carrier and the amplitude of the brightness component are accurately set with of subbearrier and the amplitude of the brightness component are accurately set with precision resistive cutworks．This result in the high stabifty required for proper alignment．Proper colors ate generated within so sends after warmup．To produce proper colors，a luminescent component of proper amplitude for each color is necessary． principle．as they lack the ability to purdue the hrightues component of a color．

## DESIGN FEATURES：

Precisely crystal controllent：Sub carrier and horizontal framing．
produces clearly defined wat fums to provide ease of alignment and assure minimum
possible error． designing all color TV receivers and is mow used by TV manufacturers． signal at all times． this equipment is that white is produced by adding the 3 primaries．） ． The Model 655 X （ is preferred for its accuracy，stability and long trouble free operation．
 Generator is self contained
are necessary
Output is either R．F．or Video．Widen：11－2 volts peak－to－peak open circuit． $0-1$ volt peak－to－peak across 100 ohm with positive or negative output．R．F．：modulated output modulated through color bar pattern is available through channels 4,5 and 6. A sound carrier is also provider for accurate setting of local oscillator in TV receivers． In addition to color bars this instrument generates the necessary signals for I（In Phase delayed $57^{\circ}$ from color burst）$Q$（Quadrature 1＇lhase．delayed $147^{\circ}$ from burst）， R－Y（delayed 9$)^{\circ}$ from burst）and R － $\mathrm{Y}^{\circ}$（delayed $180^{\circ}$ from hurst）for demodulator alignment．These bars appear at black level with equal amplitudes．
Provision for switching I，Q．R－Y．B．Y or Chroma（H－or－Of．
The 3.58 MC sub－carrier output of one volt peak－to－peak is also available for trouble－ shooting and alignment of color synchronizing circuits．

## HICKOK．．．CHOICE OF THE EXPERTS

## 憵

NEW . . . ALL-BAND MICROVOLT SIGNAL GENERATOR


Model 295X

- 125 KC to 175 megacycle continuous coverage on fundamentals.
- Attenuation ban to . 1 microvolt. - No external attenuator pall required.
- Output 0.1 microvolt to 100.000 microvolt on all ranges.

Model 295X: Designers and built to exacting specifications, this generator is in at class by itself. The 295X is the only signal generator available today covering wide bands with these outstanding characteristics and at a moderate price. Advanced HICKOK engineering has provided this high quality instrument, which will find wide use in nearly every phase on the electronic industry
An ideal generator for mobile radio applications such as police. taxicabs. airlines. or wherever critical alignment and a low microvolt signal essential. Many other applications are possible since it covers AM radio hands :s well at many of the identification marker frequencies for TV alignment. All in all, it is a very versatile signal generator.

Model 295X: Multipurpose cave design with attractive etched aluminum panel, 19" W". 121/2" ). . $9^{\prime \prime}$ H.

125 KC io 175 MC continuous on fundamental-
Output 0.1 microegh to 100,000 mierowolts when teramated at sur ohms.
Outstandingly lowe leakage-encased in a copper cage. sliver plated.
Constant metered output.
120 (b) non frequency discriminating attenuator.
$400)$ cycle modulation - approximately 30 ct .
rental Oscillator - 1 M( crystal provided. Oscillator functions ,in any crustal from 500 KC to 20 MC limier control allows time hairline accuracy frequency settings Xi) Wading - Frequency does not change when the attenuator changed.
Rigid quality control in manufacturing insures that this instrument "ill conturni exactly with the outlined specifications even in the (critical (below I microvolt) region.

HICKOK CHOICE OF THE EXPERTS

## TEST INSTRUMENTS

## MOST PRACTICAL UNIVERSAL NOISE GENERATOR

## Industrial Engineer and

Radio-TV Technician's Model


Model 755
(with 300 mc lead)
Also available with 1000 mc read

Model 755: Extremely versatile uni for measurement of Noise factor it
 First Noise Generator in a completely selfecontained mit. Co additional equipment is required. Lint has wo indicating Meters. Mn st valuable for improved TV service. Slickly indicates ament of Nose inherent resulting in a clearer picture.
The Motel OF s $_{5}$ is designed with a VMY sidle and a Generator Noise Sidle.
VOLTMETER SECTION:
Meter readings: $0.0 .1 \mathrm{~V} .0 .5 \mathrm{~V}^{\prime}, 1.0 \mathrm{~V}$.. and $5.0 \mathrm{~V}^{\prime}$., Zero Center. Zero adjust provided for cancelling out contact potential (plus or minus 1 adult maximum).
VTVM Meter scale permits reading double power th eliminate referring VTVA is voltage regulated.
OUTPUT SECTION:
DH Meter Outhit readings:
Receiver Input Impedance 3100 ohms: 0.19 dt
Receiver input Impedance 75 (Ohms: 0. 19 dt
Recercr Input impedance.
Frequency Response: 10 MC to 250 MC .
SPECIAL FEATURES:
Permits extremely bow sensitivity measurements. Has builtin stand. by position for Noise output. Spring loaded output control-increases life of mise diodes by returning it te zero output when mot in use. directly to receiver input. This eliminates cancelling out capacities Three separate scales on the noise figure Meter permit more simplified readings. CIIF lead with $100-1000 \mathrm{MC}$ is available. 50 Ohms output. $0-17 \mathrm{~d}$ dh.
 Shipping. Power consumption: $50-60$ cycles. 115 Volts, 50 Watts.

## NEW SINE-SQUARE WAVE GENERATOR

## For Laboratory and Industrial Use

Model 710: This new instrument is a professional laboratory design to provide an accurately calibrated source of sine-wave and square-wave functions over a very wide frequency range.

## TECHNICAL FEATURES

- Sine wave total harmonics distortion liclow 1 兑
- Hum level hitter than 90 dhs down.
- Sylatre wave rise time less than 0.1 Miero-second
- Direct comped output for square wave
- Synchronization output provided.
- Edge-lighted parallax correcting hairline on fregheney dial facilitates highly accurate readings.
- May be used as a portable instrument or for rack Mounting.

FREQUENCY COVERAGE
20 cycles to 1 MC in 5 ranges.
(A) Scale: 20 in $200 \mathrm{cps}: \times 1 . \times 10 \times 100, \times 1 \mathrm{~K}$,

Calibrated to $\pm 2 f \%$. $\pm 1$ cps.
(B) Scale: 200 Kf to 1 MC

POWER CONSUMPTION
$50-60$ cps.. 115 Volts. 110 Watts. $83^{\prime \prime \prime}$ IT.. $12^{\prime \prime}$ D.. $16^{\prime \prime}$ W. ( $19^{\prime \prime}$ wide when

## NEW UHF-VHF FIELD STRENGTH METER

Model 235

Model 235: Attractively designed technician's cupipment for measurement of Field Strength. Large $4^{\prime \prime}$ meter is accurately calibrated in mierovolts. Handy portable size designs has self-entitaned battery power stipe

TECHNICAL FEATURES: frequency calibration is marked in Chanel numbers for easter measurement. An Impedance Watching Network is available

[TlC mage sensitivity is from an

## HICKOK... CHOICE OF THE EXPERTS

CAPACITANCE TESTER, TRUE VACUUM TUBE VOLT-OHM MILLIAMMETER


## Model 209-A

POWER SUPPLV: $105-125$ V $50-70$ cycles. Ranges Volis. A-C and D.C 0.3 $12,30,120,300.1200$. Mills (D-C): 0-3. 12. 30. 12C. 200,1200 . Cap. $0-10.000 \mathrm{mmf}$ ins 2 rathges, $0-1000 \mathrm{mf}$ in 5 ranges. Inde: $5 C \mathrm{mh}-100$ henries Ohms: 0.1 ohm to 10,000 mejohms in 7 ranges. Frequency. A $C$ up to approximately 200 mc may be neasur:d. Input 1 mpedanc: Volts D .C; 75 meyohms. Volt A-C: 12 megohms. Tube Complement: $6 \times 5 \mathrm{GT}$ A-C sectifiers ESJ cathode follower. 6SN7GT vacuum tube raltmete

## LABORATORY SIZE LARGE NINE-INCH METER WITH ZERO CENTER SCALE

Mode1 209-A: A unteral test instrment for all radio and elec tronic service work, Accurately and easily measures wide ranges of inductances. capacitances. resistances. currents and voltages. loth . 1 (8. and I). ${ }^{(0}$
This new giant size instrument matches the size and attractive ness of the llickok complete line of test equipment. Targe 9-inch meter improves ease of operation. Has a 1200 Volt scale, and a new Peak-to-Peak Voltmeter to measure peak to peak or RMS ralues of A.C.
The new Zero-Center scale on B.C. permits much faster alignment of discriminator and other galvanometer applications.
High input impedance prevents loading when making voltage tests. Measurement of ituductances are possible with the use of a conversion clart sumplied in the instruction book. Possibility of limage due to overload is slight in all except current measure ments. Power supuly permits normal operation and accuracy with wide line voltatre thictuation.

Includes high frequency probe and all leads.

## SPECIFICATIONS


Wetractive gray finish steel portable case with uon-glare black
Atractive gray
scale and bancil.

## NEW LOW PRICE ELECTRONIC VOLT OHMMETER



RANGES-D.C. VOLTMETER:


 Prole
Keroe-Center Eeale: Fur discriminator : Emment and other
gelvanometer applications

- Huge HICKOK-Builf 9" Meter
- Accurate Peak-to-Peak \$cales
- Fast Continuity Tests
- AC-DC Single Unit Probe

Model 225: lllCKOK practical engincering provides the low-cost answer to Gour needs for a multi-range Volt-()hmmeter in a professional engincers ton prality in-trument.
 mitny new features to impore the speed and accuracy of your radio-7 Fixtra lonir seales mingmize reading errons :hd permit permanent placement of the equipment at a more pratetical working distance.
Wditional features: - Built-in andin tone sueds continuity tests - Accurate Peak-10-Peak seales for measurement of complex waveforms - D.C Zero -anter scale for kalvanometer applications - Kew, IICKOK single tunt

SPECIFICATIONS:
Dimensions-131/", H., 161/4" I" $7^{7 " \prime}$ I).
Weight-15 los. Ne-t-2.3 the shipping. with ctehed almanum pane
Test leads and dual-purpose $A C$. DC probe are included.

## TECHNICAL FEATURES

OHMMETER
Design (enter: 10 , whinc

A.C. VOLTMETER

Ranges A.t. kNs: 0 to $1.5,3,12,30,120.300,1200$
Kange A.C. Jeak-to-Peak: 0 to 4, 8. 32. 80, $320,800,3200$.
Fregnency Characteristics: Flat from 40 cps . to 3.5 mc .

## HICKOK

CHOICE OF THE EXPERTS


## LATEST DESIGN VOLT-OHM.MILLIAMMETER

 YOU CAN'T BURN IT OUT!

Model 455: I mew pertable multimeter incorpurating the very lates enginerring adrancemente inchuling a new terhnique that protects both the meter and the entire internal circuit against aceidental burnouts. In fact, any high voltage or current may be applicel directly across any function including ohtms without any danger to the meter monement or asociated components.
This instrument is available in two monkes: Industrial Model 455--has a sensitivity of 20,000 whme per volt both $A C$ and DC. Audio Model 456-has a semsitivity of 20,000 ohmes per voli 1) C
 vision for futput mu:a

## Technical Features

- Exclusive overlatad cut-nat and fuse seram prowides complete protection, not only for the Aeter. hut for all Resistors, Shunts and wther componeme.
- Now streamlined ultra-modern case design with curved face and slanted meter dial permits casy reading while instrument is lying flat. Wide vision nom-hreakable lucite face permits extra light to facilitate meter reading.
- Buit with a single Function-and-Range selector switch.
- Batteries housed in special compartment accessible without remowag case. Xo solforing required - just stap batteries in or out.
- Incorporater full-wave bridgetype reetifier circhit.


## TECHNICALSPECIFICATIONS

INDUSTRIAL MODEL 455

Sensitivity:

Volts:

Resistance:
Center Scale Ranges: 5, 500, $50010,500.000$ ohms.

## Current:

5ia microamberes.

1. 10, 100, 10100 milliamperes.

10 amperes

AUDIO MODEL 456

Sensitivity:

## Volts:

Resistance:
Center Scale Ranges: Current:

DB Range:
-18 to +57 in 5 ranges
Frequence compensated for accurate readings over the entire andio range.


This versatile and compact portahle las the most attractive, up-to-date appeatance of any Volt-Ohm-Milliammeter on the market. The unique case design, coupled with a practical circuit overload protection and case of operation, makes the 455 the best TOM araiable today.

Molded "ase: 8 8 " I ...55" W. Height is 3 " tapering down to $13 / 4^{\prime \prime}$. Net weight: $33 / 417$ -
Attractive and durable momene carring case is available to honse instrument and leals.

## HICKOK <br> CHOICE <br> O F <br> THE <br> EXPERTS

TEST INSTRUMENTS


DOUBLE RANGE DC KILOVOLTMETER


Model 465

For measuring DC voltages as high as 30,000 volts. 20,000 olin per volt senstivity. Low current drain. Well insulated phenolic case for ample protection against the high voltages being measured. $7^{\prime \prime \prime} \times 6 \pm$ " $\times 4 \frac{5}{16 \prime \prime}: 6$ lis. net: $81 / 2 \mathrm{ll} \mathrm{s}$. shipping. Complete price including leads and carrying case.

PORTABLE TRUE WATTMETER
Tests all AC electrical units under actual use conditions. Continuity test for shorts. Accurately tests even smallest units. $4^{\prime \prime}$ meter shows watrage, amperes and line voltage. Portable case complete with leads, $91 / 2^{\prime \prime} \times 61 / 4^{\prime \prime} \times 41 / 4^{\prime \prime} .6 \mathrm{lbs}$. net; 10 lbs shipping. C-105 external transformer for ranges to 10,000 watts and 130 amp . 9A. and 9 B leads for 220 volts. Strong, detachable-cover carrying case.

Model 900-C

## CRYSTALS

Specified channels for $610-A, 680$ and 690
Special frequencies for $610-A, 680,690$
and 292X
Prices on request.
$.005 \%$ accuracy for $292 \mathrm{X}, 610 \mathrm{~A}, 680,690$ and 655 XC
4.5 MC for $610-\mathrm{A}, 680$ and 690

## PROBES and ACCESSORIES



PR 30 KV - High Voltage DC Probe - Extends VTVM range to 30.400 volts DC. Joules use of any voltmeter. I neal for use with HJCKOK $203,299,215,225$ or 203 PR. Heavy duty phenolic, 4 ft . cord and cable type connector. 12 oz . net; 2 lb .s. ship.

PR 30KVA - High Voltage DC Probe - For use with HICKOK Model 209.1. 12 oz. net; 2 lbs. ship.

PR 25 KV -Extends range of H1CK()K Models 450. 435-A or 435 to 23,000 volts IC, Cit be used with any 20,000 ohm-per-volt multimeter with a 250 volt scale. 12 oz. net; 2 lbs ship.

PR 15 - RF Crystal Probe - For use with IIICKOK Model 215 or Mabel 225. 12 oz . net; 21 lbs. ship.


Model
175
"175" Oscilloscope Voltage Calibrator-llandy
size, easy to use to accurately measure peak. to-peak voltages on any scope. Ranges:
jeakoto.peak: 0.1 volts, 1.0 volts, 10.0 volts, Jeak-eto-I'eak: 0.1 volts, 1.0 volts, 10.0 volts, 1100.0 volts. Accurate to $\pm 5 \%$ at 115 volts. Calibrates scope in peak-topeak in any de sired voltage. Wave shapes may le meansmed calibrator from scope ... Jermitted through means of a self-contained switch.
Model 175: $6^{\prime \prime}$ H., $334^{\prime \prime} W^{*} .2^{\prime \prime}$ I). $11 / 2$ lbs.
 watts. watts.

## HICKOK

CHOICE OF the EXPERTS


# WIDE BAND . . . HIGH SENSITIVITY 



Model 675

# Technicians' <br> 5" OSCILLOSCOPE <br> WITH ILLUMINATED, CALIBRATED SCREEN 

Model 675: Here is a new 5 -inch scope that provides all the late design features to permit unnsual accuracy in servicing present-lay electronic equipment . . including color TV receivers. This instrument features practical enginecring adrantages heretofore found only in much higher priced equipment.

The illuminated, calibrated screen with astigmatic focus provides a new standard in undistorted trace detail. The stability of this equipment plus the many definitely new circuit imovations provides a technician's scope that will rival the features of many high-priced engineer's models. The unusually wille range of the Model 675 is not achieved at the expense of sensitivity. Check the specifications listed below, and then see your Radio-Electronic Parts Jobber for an actual demonstration of this high quality though moderately priced scope.

## SPECIFICATIONS

VERTICAL AMPLIFIER: Frequency Response: 1 CPS to 4.5 MC (within 3db). Flat through the Color Burst Freduency ( 3.58 .3 C ). pulse Responsc: Excellent pulse response with a Rise Time of os Microseconds. Sensitivity: 20 MV RMS per inch. Vertical Attemuator: Frequency compensated decade steps of 1 to 1.10 to k . I (M) (1) I and tofo to 1. Gaim Control: Non-frequency discriminating 10) to 1 gain control. Trace Reversal: A switch is provided for reversing the polarity of the vertical trace. Deflection: Full sereen rertical deffection without low or high frequency distortion. Shock Mounted Arplifiers. Self-contained Voltagr Calihrator.
HORIZONTAL AMPLIFIER: Freguency Response: 1 CPS to 450 KC (within 3fb). Sensitivity: 250 MV RMS per inch. Horizontal Attenuator: Frequency compensated decate steps of 1 to $t$ and 10 to 1 . I.ine Sweep: Phaseable ( $180^{\circ}$ ) line frequency signal available. Cain Control: Non-frqquency diserminatinz 10 to 1 gain control. Deflection; Full screcn horizontal deflection without low or high irequeney distortion.
TIME BASE GENERATOR: Frequeney: Frequency coverage from 10 CPS to 100 KC . in four calibrated decade ranges. with vernier comtrol of $[0]$ to $t$, as follows:

$$
\begin{array}{lr}
10 \mathrm{CI} \text { S to } 100 \mathrm{CPS} & 1 \mathrm{KC} \text { to } 10 \mathrm{KC} \\
10 \mathrm{CPS} \text { to } 1 \mathrm{KC} & 10 \mathrm{KC} \text { to } 100 \mathrm{KC}
\end{array}
$$

Time Base Expansion: Time base expansion of ten times full screen (4) inches) with complete positioning of expanded trace. Writing

Speed: The wide frequency coverage ogether with expansion will produce writing speeds variable from 25.000 . Microseconds per inch (hased on 4 inches) or $10,000 \mathrm{Microsec}$ mids per (Cll (based on 10CM) to 0.1 Mieroseconds per CM based on lonCMI).

DISPLAY INFORMATION: The Trace is displayed on a type 50'P1 Cathode Ray tube with a high accelerating potential providing sharp trace detail. Intersity Modulation: Input provided for Intensity (\%-axis) Molulation.

DUAL FUSED: Hoth $13+$ and Line are fused for extra protection:
ILLUMINATED, CALIBRATED SCREEN: The Illuminated. Calibrated Screen is backed with a green filter - reducing rellections caused ing incidental illumination, thereby permitting accurate qualitative and quantitative measurements. Astigmatic foens comtrol provides a new standard in undistorted trace harpmess.
FOR SPECIAL APPLICATIONS: Sume engineers mily prefer a SG\}ll tube for shurt persistence or 5 STh tube for long persistence observations. Either is available in the Models 675 H .1 (with High Actinic Tube) or figh, (with long Persistence Tube') at at slightly higher cost.
DIMENSIONS: $1,3^{\prime \prime} H . .10^{\prime \prime} W$.. $16^{\prime \prime}$ D., $35 \mathrm{Hms.Ne}$, 4.3 ths. shipping. POWER SUPPLY REQUIRED: $105-125$ Volts, $50-40$, CI'S.
POWER CONSUMPTION: 125 Watts it 115 Volts. Furnished complete with test leads.

## PROFESSIONAL ENGINEERS'



Model 770

## Laboratory OSCILLOSCOPE

Model 770: A new 5 -inch uscillosonde designed for wutstanding versatility in general purpose, industrial lathoratory and television applications. This equip. ment provides unnsually wide range without sacrifice to sonsitivity, and is completely built to the highest specifications for accuracy and dependability. The 770 has been thoroughly fied tested and proven to prowile exceptionally nseful sorvice features in the obecration wi transiont or resular recurring phenomentat.

The DC 10 S MC remponse with a 10 M .V. RMS per juch semativity quickly identifies this seope as musual value in at class loy itself.

## SPECIFICATIONS

WIDE BAND AMPLIFIER: Fremtency rembisi Dr. to sme flewn . 3 (b).
 With band width -Witch an wathm poition, 35 II. V. K. NS per inth








 Imperlance: 3.2 megrlanir. $\mathbf{v}_{1}$ muni.

BUILT-IN CALIBRATING VOLTAGES: l'cah-:n-1'cak; Inm. 11. 3. . 111 roles.
 Available from irme lanel. Wirce: commetion lat both horionmal and vertical dellection plat's.
SHOCK MOUNTED: Provides mammm micrephomics duce to external mechanical vabation-.
SHIELDED: Mas Metal magnexic shich gias maximam frotetion to the cathoule ray bube against etfects of eaternal magnetic fills.
ILLUMINATED, CALIBRATED SCREEN: ljacheal with a green filter reduces rellections cansed jo incidertal illumination -isleal for acenrate fuatitative and fhatatiative measurements.
 ament cycles. I'rovision fine extermal capacities for slower frequency
 ivel fer miern-senmul. Tikevision fixed irequencies; 30 and $7,8 \%$ fin ubserving blanking and syne waveforms in the horizontal and
 line frempency.

EXPANDABLE SWEEP: "tince cxpansion. or cytuvalent to 30

LINE FREQUENCY PHASING CONTROL: \%ero, phas on mins
"Z" AXIS MODULATION: ("apacitively coupled te the grid oi the cathode ray twhe - wht faak-th-peatk will batak tatace fully at nomall internits.

INTENSITY:
-ut med anh der-itenco seredi. High aceclerating potentials give weellent intenaty ion vioning transiont waves and high irequencies. Some engiacer moty wein a 5 Abipll tube for short persistence. (n 5 ABP' thbe for fong persistence. Either is available in the
 l'erantence 'Tuler) at a haghly higher cost.

STABILIZED: Denigned so that sweep lengths and synchroniza. tions ane matuaniond as signal level varies.
 Ths. shipping, 105.125 Volts. 54.50 Cycles. 150 Watts. Combination light shield athe camera base porieled. Furnished complete with hads.

## TEST INSTRUMENTS

## LIGHT WEIGHT 3" PORTABLE OSCILLOSCOPE



## Model 385

Also available with shock - mounted, moisture-proof case.


## MODEL 385R for RACK MOUNT

The popular rack mount model permits a functional laboratory installation with the same circuit specifications and design features of the portable model excepting that the circuitry is encaser. in a standard rack mount type case.

Model 385R


#### Abstract

Model 385: A new light weight field engineer's portable that incorporates all the latest quality features. Ease of use and dependable design is similar to a model used by the Armed Services. Contains DC Amplifiers. both horizontal and vertical. Frequency coverage to $4 \mathrm{MC}, 3 \mathrm{db}$ down. Both vertical and horizontal sensitivity is .075 RMS volts per inch. Both vertical and horizontal attenuators are fully compensated.

Features unitized construction for quick accessibility to circuitry as well as replaceable circuit sections. Case is shock mounted. Built-in retractable light shield. with CR tube mounted at a $20^{\circ}$ angle, facilitates use of the portable model. Terminal board at rear provides direct connection to CR tube elements. This equipment has provision for Z -axis modulation.


## SPECIFICATIONS

CATHODE RAY TUBE: $3^{\prime \prime}$ Screen. Type 3RP-1.
FREQUENCY RANGE: Vertical Amplifier: DC to 4 MC 3db down, with Pand Width Switch in Wide position for color burst observation. D.C. to 2 MC , 3 db down. with Band Width Switch in 2 MC position for pulse observation. This 2 MC response is in accordance with the I.R.E. Standard Roll-off Specification for television level setting. Horizontal Amplifier: DC to 500 KC . 3ib down. Sweep Circuit Oscillator: 3 cycles to 50 KC .

INPUT IMPEDANCE: Vertical Amplifier: 2.2 megohms shunted by 25 mmf. Horizontal Amplifier: 2.2 megohms shunted by 25 mmf .

DEFLECTION SENSITIVITY: Vertical Amplifier: . 075 RMIS Volts/Inch. Horizontal Amplifier: . 075 RMS Volts/Inch. Vertical Direct Connection: 17 RMS volts per inch. Horizontal Direct Connection: 25 RMS volts per inch.
POWER SUPPLY REQUIREMENTS: $105-125$ volts, $50-1000$ cicles. Power consumption is 60 watts at 115 volts.

ACCESSORIES INCLUDED: 4 foot Coaxial Test Cable and 4 foot Ground Lead. Telescopic light shield and ruled plastic screen

DIMENSIONS: Including carrying case: $6^{\prime \prime} \mathrm{W}, 9^{\prime \prime} \mathrm{H}$. $131 / 2^{\prime \prime}$ D. 151 lhs . net. Less carrying case: $5 \frac{1}{2}{ }^{\prime \prime}$ W, $8^{\prime \prime} \mathrm{H}$. $131 / 4^{\prime \prime}$ D. 11 lbs . net. Rack Mount Case: $19^{\prime \prime} \mathrm{W}, 51 / 2^{\prime \prime} \mathrm{H}$, $91 / 4^{\prime \prime}$ D. 15 lbs . net.

## HICKOK... CHOICE OF THE EXPERTS



Deflection Sensitivity:
a. vertical anmplifier a. vertical amplifier
b. vertical direct
c. horizontal amplifier
d. horizontal direct

Input Impedance:
a. vertical amplifier
b. vertical direct
c. horizontal amplifier
d. horizontal direct
d. horizontal dir
Frequency Range:

015 volts (RMS) per incl 12 volts (RMS) per inch 07 voits (RJIS) per inch 13 volts (RMS) per inch
2.2 megohms- 30 mmt
3.3 megohms

1 megohm-35 mmf
3.3 megohms
(1). Lseful heyond 2 MC ; pulse rise lime 0.6 microseconds.
b. Horizontal Amplifier: $O$ to 250 KC ; pulse rise time 1.2 microseconds.
Sweep Oscillator: 3 to 50 KC .
Power Supply: 105.125 VAC, 50.70 cycles. 65 watts at 115 VAC.
Size: $10^{\prime \prime}$ WV $x \quad 13^{\prime \prime}$ II $x \quad 13^{\prime \prime}$ D. In attractive. Weight: 27 lbs. nret; 35 lbs. ship.

# NEW MODEL 670 OSCILLOSCOPE 

Accurate, Stable, High Sensitivity with<br>AC and DC AMPLIFIERS

Model 670: The more exacting requirements of today's television maintenance have made it necessary for the service technician to have a good 'Scope. The HICKOK Model 670 is designed with DC amplifiers to provide excellent square wave response - even down to DC.

Many TV receivers are so far out of alignment that extreme Scope sensitivity is necessary to properly show the response curve. The 670 provides this extra sensitivity - to 15 MV per inch.
To properly view all TV frequencies a wide band vertical amplifier is necessary. The 670 provides for this need by having a band width useable to beyond 2 MC . Push-pull amplifiers and polarity reversing switches are also new features you will find most useful in the 670 .

## TECHNICAL FEATURES:

Highest practical sensitivity: 0.015 ( 15 millivolts) RMS per inch.
Demodulator sircuit for viewing modulation on RF signal.
Recurrent linear sweep; 3 cycles io 50,000 cycles.
Reversing switches for boih horizontal and vertical deflection.
Fixed sweep frequency for horizontal and vertical wave forms ta TV receivers.
8oth negative and positive synchronizing.
Line phasing conifol (opproximately $180^{\circ}$ ).
Wide band vertical amplifier, useable beyond 2 MC.
Direct coupled, balanced (push-pull) amplifiers for both vertical and harizontal deflection. Provision for Z-axis modulation.
Permits the sfudy and analysis of wave forms, and other electric and magnetic phenomeno. Excellent square wove response.
Provides for the visual testing and alignment of amplitude and frequency modulated receivers, as well os relevision equipment when used with o frequency modulated RF oscillator or sweep generotor.

## RACK MOUNT 'SCOPE with AC-DC AMPLIFIERS and

 llluminated, Calibrated ScreenHere is a high quality Oscilloscope that is engineered to meet the more exacting reguirements of today's electronic equipment maintenance as well as provide a modern tool for the electronic engineer in design work. Identified as the Model 670R, this scope has D.C. amplifiers for excellent square wave response - even down to D.C Push-pull vertical amplifiers, polarity reversing switches, horizontal attenustor and Z-axis (intensity modulation post) on front panel for ar intensity voltages, are additionl time saving features that make this scope a most practical instrument. Attrictive dark gray pinel with white lettering providen a pre rapidly type case that has in popularity.
High Sensitivity: 0.015 ( 15 millivolts) RMS per inch. Demodulator circuit for wiewing modulation on RF signal... Recurrent linear sweep. 3 cycles to $50,(000$ cycles. Reversing switches for both horizontal and vertical deflection. Fixed sweep frequency for horizontal and vertical wave forms of TV receivers. Buth negative and positive synchionizing. Line phasing control (approximately $180^{\circ}$ ). Vertical amplifer useathe beyont 2 MC . Direct coupled. Balanced (push-pult) amplitiers for both vertical and horizontal deflection. Provision for \%-axis modulation. A 3-step attenuator in the horizomal amplifiers circuit operates in conjunction with the remier attenuator control permits a more accurate. adjustment of gain in cases where voltages minder question are cond paratively high. Permits the study and analysis of wave torms.and other electric and magnetic phenomena. Excellent square wase response: Provides for the visual testing and athigment of ampitude and re-
quency modulated receivers. as well as television equipment when used quency modulated receivers, as well as television equipment
with a frequency modulated oscillator or sweep generator.

## H ICKOK

CHOICE
OF
THE EXPERTS
Model 670R: In sturdy stcel, rack mount design! in attractive dark gray finish panel with white lettering. Case size: $83 / 4^{\prime \prime} \mathrm{H}$., $19^{\prime \prime}$ W., $18^{\prime \prime}$ D., 27 Lbs, net, 35 Lbs. s! 1 ping. Test leads are included.

MODEL 19 AC-DC ASTATIC MILLAMMETERS, AMMETERS, VOLTMETERS, WATTMETERS, WATTLESS COMPONENT INDICATORS

Astatic Electrodynamometer movements. Accuracy within $1 / 2$ of $1 / ;$ ar AC $C$ : 1)C. Not affected hi external magnetic fields. Scale length: $5 / / 2$ inches. Wi.:.: meter scales are uniform, others uniformly squared. Mirror scales.

Model 19 portable instruments designed for precision AC and l) meataremente They are of astatic dynamometer type with a greater accuracy than most other: portable AC and DC instruments. Owing tu the astatic design the indication are the same on either AC or B (

Dimensions: $4^{\prime \prime} \times 61 / 4^{\prime \prime} \times 71 / 8^{\prime \prime}$. Weight : $41 / 2$ hs. Case material: Molded plencijz.

## MODEL 13 AC DYNAMOMETER INSTRUMENT

Accuracy $1 / 2$ of $1 / \pi / 4$. Shielded from effect of External Magnetic fields. Amatefs. Milliammeters, Voltmeters. Watmeters - single phase. Mirror scales. Knife Fidge Pointers. Scale length: $51 / 2$ inches.

These instruments are correct on $\Lambda \mathrm{C}$ of any frequency up to 125 cycles. Built: for use on higher frequencies. Deviations from the sinusoidal wave form me: in ordinary testing have no noticeable effect on the calibration of these instr:mints, Voltmeters and wattmeter are self-contained up to 750 volts, designed to perform continuous service.
Dimensions: $31 / 4^{\prime \prime} \times 61 / 4^{\prime \prime} \times 71 / 8^{\prime \prime}$. Weight: $31 / 2 \mathrm{lbs}$. Case material: Phenolic.

## MODEL 14 DC AMMETERS, MILLIAMMETERS, MICROAMMETERS, VOLTMETERS, MILLIVOLTMETERS, VOLT-AMMETERS, THERMO-COUPLE METERS

D'Arsmenal movements, Accuracy within $1 / 2$ of $\mathrm{t}^{\prime \prime}$. Shicherl from effect of ex formal magnetic fichte, [biform scales provided in [ meter with anti-parablas mirrors. Scale length: $5 \%$ inches.
Voltmeters in this morel have a resistance of approximately 1 foot ohms per vol the exact resistance being marked on data card furnished with the instrument-: Model it millivoltiturers are supplied with leads for emnection to external shames, Anuteters are self-contained up to 150 amperes, having negligible tomperature coefficient builtin shunts. The drop across the ammeters is 50 millivolts perature coefficient maters are of the high torque, hive excellent damping, and other rugged characteristics not usually found in high sensitivity instruments.
Dimensions: $71 / 8^{\prime \prime} \times 61 / 4^{\prime \prime} \times 4^{\prime \prime}$. Weight: $61 / 2 \mathrm{lh}$ s. Case material: Polished phenolic. Excellent magnetic damping.


## MODEL 18 DC INSTRUMENTS FOR ALL CLASSES OF

 DIRECT CURRENT TESTING10.Arsmpal movements. Accuracy within $\frac{1 / 2}{}$ of $1 \%$. Shielded from extemad
magnetic fields. Voltmeters, millivoltmeters, ammeters. millimeters. microammeters, and volt-ammeters. L'niform mirror scales engraved on moisture. proof stock. Scale Length: $51 / 2$ inches.
Excellent damping characteristics. This model is so designed that there is only a small overawing to the needle which results in quick and accurate readings. Voltmeters have a resistance of 1000 ohms per volt. Voltmeters are self -contained up to 1000 volts and are designed for continuous use at 1000 volts without demperature error. The Volt -ammeters in this model are especially adoptable for making tests where consecutive volt and ampere readings are desired, such as motor test and battery test. Mendel 18 instruments, except in the higher voltage ranges. will withstand an instantinems overload of double the full scale value without damage or change in calibration.
Dimensions: $7 / 8^{\prime \prime \prime} \times 6 / 4^{\prime \prime} \times 3 . / 3^{\prime \prime}$. Weight: $31 / 411 \mathrm{~s}$. Case material: Molded phenolic.


## HICKOK...Electrical Indicating Instruments



3½" ROUND-250 DEGREE METER
dill DC meters can be supplied with accuracy either 1 or $2 c$ of full scale comper-axide rectifier-type movements, have accuracy within $5^{\circ}$, of fall scale deflection under all comblions. These instruments are as accurate as panel mounting instrimutents of equal size and have the advantage of two and tines longer scale. They are dammed in accordance with American Standards .Association Specification* and their re-somace time is also in acbows reading to be taken quickly and
 how se reacharately

## 2½" 250 DEGREE AIRCRAFT METER

This instrmanot is tho stated in a reginlation aircraft case per Xrus-Xivy dimensional requirements. Has scale approximately 438" long. Quick rearhinity makes them desirable as flight instruments. Aircraft-type dial is an: ill. able. Mechanism specially designed for aircraft service and will meet vibrationresistant requirements, etc.


Meters
For Accuracy and Dependability

3¹/2" SQUARE 250 DEGREE METER SAME AS THE ROUND 250 DEGREE METER


All J)C meters can be supplied with accuracy cither $1 \%$ or $2 \%$ of full scale Juthection. 'The AC: meters, which use copper-oxide rectifier-type movements lave accuracy within $5 \%$ of full scale reflection under all conditions. These instruments are as accurate as panel mounting instruments of equal size and have the advantage of two and one half times longer scale. They ar damped in accordance with American Standards Association Specifications and their resinate time is also in ate cordate with these specifications. N
 mote acentitely

## RUGGEDIZED PANEL METERS

$21 \frac{1}{2 \prime \prime}, 31 \frac{2}{\prime \prime}^{\prime \prime}$ or $41 / 2$
2½" MINIATURE SQUARE PANEL MOUNTING
The hight Hickok standard of quality is now available in "t ruxqeerlizent bC or tent provides the practical answer to relliirements for shock proof meters with dependable accuracy. This highly efficient shock mount design permits printer aud scale divisions to be easily prime and scaler is under vibration read when meter is umber vibration. mentions fexceplionally thick flint nections. Excemitand whir hin hard glass withstands pressure and specifications. Designed for flush specifications. Designed cor be supmalice.


## 3½" ROUND FLUSH MOUNTINGS


#### Abstract

decorate within $1 / 2 \%$. Large opening - m metrically designed admits a maxi mum of light to the dial. Thick flame eliminates danger of breakage and improves appearance. Metal dials with white background are supplied in all stithdard ranges. Special dial designs are supplied on quantity orders, at 111 extra charge. Internal illumination can be furnished.




Flush mounting, phenolic case, wide flange only; and metal cases, wite an m narrow flanges. Accurate within. $1 / 2^{r \prime}$. These miniature panel mounting in. strunients are of the standardized $-/ 2$ size, but have extra long scale lengths by reason of the wide angle of deflect ion and longer scale radius. Five types of cases are available. Lance type point ers regularly supplied, however, small spade printers can he farmisheri.

## 3½" SQUARE FLUSH MOUNTINGS



Accurate within 1 br $/ 6$. large opening Accurate within
symmetrically designed. adroit maxisymmetrically designed. anhui maxmum light to the dial. Thick hats choose proves appearance. Require less panes pace than round hus instrument Metal dials with white backgrotild are -applied in all standard ranges. Speccal dial designs supplied on quantity bracers at un extra charge. Internal it lamination ohtabinale by meath- on hill inserted in a socket through the in trument base.

## HICKOK



FOUR INCH RECTANGULAR PANEL


3 $1 / 2^{\prime \prime}$ RECTANGULAR SEMI-FLUSH
The new lucite window nodel with a acal. length of 3 t/4". Designed as attractive mondernigic replacements for
comsentional $31, "$ rombl or square Aange instrmabents, and cals be wsed in ans space large emongely to accommeslate the standard $3^{\text {t }}$ " meter. This shielleed and availible in most AC and (` range's. Available in clear front or upluated front as shown. . Iso available


## CHARGICATOR PANEL MOUNT

The chargicator is an electrical hydruneter which places no load on the battery and may be left permanently eombected. It has advantages over it hybrmmeter in that the batteries need not be disturbed when the reading is mande at the battery. The chargicator mives an accurate and instant measuremett of hattery conditions on a highly curanded scale suppressed zero volt expinded scale, suppressed zero voltin well as special desigus. and for spe-


## 4" "'P" SERIES PORTABLE INSTRUMENTS



SHUNTS
IIckok Portable l'recision Shntots are of sulficient size to kecp the temperature rise within the limits of $N$. B . M. . A. standards. shmots are acemrately ad justed for 50 millivolt drop at fall entrrent valute. The shunt resistance material has negligible thermoelectrie effect aganst coprer and megligible temperature coeflicient within the limits of equeration of the shunt. Will operate at rated capracite continumaly without impairment of aceuracy. Leads supplied with all -hunt- when wrdered with ammeters


Hiekesk murlger earrent "Ibonti" rlesign - for use with in serted primaries. SERIES 1 is prianarily eonforms to N. E. N. $A$. stanctards fox as to ratio only. SERIVS 2 con form to N. E. MI. $A$. standards $1 / 2 \mathrm{X}$ as
to ratio and phase angle and ive in tended for use with watmeters, alsn many be used with louth wattmeters amd ammeters. Secondary leads are five feet
lenge with suldering lugs made to fit 1/4" din. stud.

## HICKOK...Electrical Indicating Instruments



# "SERVICE-ENGINEERED" TEST INSTRUMENTS 

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON 1, OHIO

## TELEVISION SIGNAL GENERATOR VHF - IF - COLOR

Complete sweep and marker generator plus crystal calibrator for All TV Servicing

Sweep Oscillator-Three convenient ranges 30 KC thru 38 MC : 38 MC thru 108 MC 174 MC thru 216 MC are all fundamentals Large, accurately calibrated dial with the TV channels clearly indicated. Reversible direction of sweep.
Video Sweep-extends down to 30 KC at the low end for adjustment of color tele vision circuits.
Sweep Width-Provided by rugged electro mechanical sweep unit. Adjustable from 0 thru 18 MC in 7 steps for fast resetability. The full 18 MC sweep is essential to cover IF frequencies in color receivers and for sweeping badly detuned tuners.

Marker Oscillator - Accurately calibrated dial ( $1 / 4$ of $1 \%$ ) gives complete marker cov erage from 4 MC thru 216 MC with all the television IF frequencies on highly stable fundamentals. Facilities for using 3 marker pips simultaneously.
Crystal Oscillator-Separate crystal oscilla tor for use either as a marker or as a cali-
brator. Stable circuit oscillates with any crystal fundamental from 3 MC to 20 MC More than adequate for color receivers. Output is controlled by selector switch to provide variable marker, crystal marker or both for calibration purposes. A BE.AT DETECTOR is also incorporated for audible or visual checking of beat between vari able marker oscillator and crystal.

400 Cycle Modulation - Provided for use with either the variable or crystal marker so traps can be adjusted by either audible or ineter method.

Oscilloscope Timing - A phased 60 cycle sine wave timing voltage is provided with PHASE CONTROL to provide adjusiment of double pattern. BLANKING is also available for single pattern trace with ref. erence base line for measurement.

Vidco Modulation-Provision made for in sertion of video signal to modulate the ex. ternal marker output making possible "re broadcasting" of television signals on any

## Model TVG-2


channel, Also an audio signal may be used to produce horizontal or vertical lines for linearity checks.

RF Output-Completely controllable with output control and step attenuator. Output impedance 90 ohms with last tap variable from 0 to 500 ohms. Complete flexibility right at your finger tips.
Size-Same height as other Jackson TV in. struments. Dimensions $13^{\prime \prime}$ high, $81 / 2^{\prime \prime}$ deep. 191/8" wide.

Finish and Weight-An all steel, gray "Jack. sonite" cabinet. Shipping weight 35 lbs .
Dealer Net Price..................... $\$ 259.95$

## DYNAMIC ${ }^{\circledR}$ TUBE TESTER

## Model 648



Simplified Operation - Only three control units to be set-Heater Voltage, Plate Control, and sequence Switch. Only other adjustments are line voltage and shorts test.

Metered Plate Current - four-inch meter shows only the current flowing in the plate circuit. Meter calibrated in Good-Bad, as well as Percent Transconductance.

Husky Filament Transformer - The right voltage for every receiving type from .75 volts to 117 volts including new series string tubes. Ample current capacity for testing even the newest types of high filament. current rectifiers.
Fast, Accurate Shorts Test-Each element completely tested for possible shorts. Easily visible shorts lamp remains lighted only on actual short. No hard-to-understand meter readings. Shorts test made under heated cathode conditions.

Noise Test-Plug in a set of headphones, and you have an audible indication of noisy lubes. Makes it easy to catch those tough ones that give trouble in audio and video circuits.

Correct Test Voltages and Load Settings protects tube under test against overioads. Even low voltage battery types are provided with suitably low operating potentials. Meter is sufficiently sensitive that special "Low-Scale" readings are not required.
Rotary Settings Chart - Quickly provides the correct test settings for every receiving type. Chart is revised frequently. You get one-year free replacement chart service. Information on new types is rushed to your distributor as soon as information is avail able, by super-speed Bullet-In Service.
Life.Line Indicator-an ingenious test that indicates when tube is approaching the end of its life. You can tell when to replace a tube, even before it actually goes bad.
Automatic Line Voltage Indicator-You adjust the line voltage by watching the meter. Control then show's you the actual line voltage. Saves carrying a separate volt meter on house calls.

Rugged Construction - Service-Engineered "Jacksonite" finish. Use the 648 on the bench. Carry it in your truck. Use it on

home calls. It's made to "take a beating" for it's "Service-Engineered" for your kind of work.

Model 648B in bench type steel case, shipping weight 19 lbs........... $\$ 104.50$, net
Model 648P Portable Model in Handsome Wood Case, shipping weight 23 lbs.....
$\$ 109,50$, net
Model CB- 48 Counter Base for bench type case, shipping weight 6 Ibs..... $\$ 8.50$, net

# Five-Inch WIDE-BAND OSCILLOSCOPE VHF - UHF - COLOR Model CRO-2 



Wide Band Amplifier-Flat within 1 db from 20 cycles thru 4.5 MC . This feature is absolutely essential for evaluating color burst signal and the Level of the Color Chrominance signal.
Vertical Deflection Sensitivity-Two ranges with threc positions for each range. Has fully compensated attenuators. Excellent transient response. Each unit completely tested for "tilt" and "overshoot".

Sensitivity Ranges-With a band width of 20 cycles thru 100 KC , the sensitivity ranges are $018, .18,1.8$ R.MS volts per inch. The wide band position 20 cycles thru 4.5 MC has sensitivity ranges of $.25,2.5,25$ RMS volts per inch.
Internal Horizontal Sync.-Positive or negative signal is available to provide excellent stability due to using the best available component of the waveform, such as the leading edge of the horizontal sync. pulse of the standard TV signal. Reversing the pattern vertically will not interfere with the sync.

Horizontal Swecp Expansion - Four times screen width-up to 20 inches of equivalent width. This feature is excellent for enlarg. ing any small portion of the total waseform. For example. the color TV sync. pulse can be spread to easily obserse the 3.58 MC color burst signal so that the individual cyeles can be clearly viewed.
Horizontal Deflection Sensitivity-Push-pull horizontal amplifiers have a sensitivity for all applications of 0.40 R.MS volts per inch.

Vertical Input Impedance-1.5 megohms, shunted by 20 micromicrofarads. Direct to plates balanced 6 megohms, shunted by 11 micromicrofarads.
Horizontal Input Impedance-1.1 megohins.
Linear Sweep Oscillator - Saw tooth wave 20 cycles thru 50 KC per second in 5 steps. Sine wave sweep of 60 cycles also available. Provision for external sweep sync.
Input Calibration - A standard voltage is provided for use in determining unknown voltages. Permits peak-to-peak measurement of all waveforms.

Vertical Polarity Reversal-By merely flipping a switch you can reverse the polarity of the voltage being supplied to the vertical deflection plates.
Return Trace Blanking - A new amplifiertimer combination for blanking return traces, providing a clearer, sharper image at all times. Prevents confusion in waveform analysis.
Synchronizing Input Control-Four input control positions. Internal Positive-Internal Negative-External-60 cycle.
Deflection Plate Connections-Direct connections thru capacitors for AC only to deflection plates of CR tube by means of terminal block at back of instrument.

Intensity Modulation-Either 60 cycle ithternal intensity modulation or external intensity modulation through bituling posts on front panel.

## AUDIO OSCILLATOR Model 655

Provides an audio frequency voltage developed by Resistance-Capacity tuned circuit at fundamental frequency, Permanently locked calibration and highly stable circuit eliminates the necessity for constant internal adjustments.
Freguency Range-20 cycles to 200,000 cycles in 4 ranges: $20-200$ cycles $/ 200-2,000$ cycles $/ 2,000$ to 20,000 cycles $/ 20,000$ cycles to 200,000 cycles.

Calibration-Logarithmic variation of frequency over the scale provides constant percentage accuracy at all frequencies.
Scale Length-Over 33 inches.
Output Loading-Five values of output loading: 10 ohms $/ 250$ ohms $/ 500$ ohms $/ 5,000$
ohms/RESISTIVE. Controlled by selector switch.

Output Power-500 Milliwatts (20 to 20,000 cycles transformer (oupled).
Output Control - Continuously variable from dero to maximum.
Waveform-I.css than $5 \%$ distortion at all frequencies between 30 and 15,000 cycles.
Frequency Characteristics-Plus or minus 1 DB $30-15.000$ cycles using transformer coupled output.
Hun Level-Down more than 60 DB of maximum.

Accuracy- $3 \%$ or 1 cycle whichever is greater.


Accessories - Demodulation Probe, Model DE.M-T atailable for using scope as signal tracing instrument. Low Capacity Cathode Follower Probe, Model LC2-1P with 2 to 1 attenuation ratio and not more than 8 mumf effective input capacitance for use up 1025 volts. High Voltage Low Capacity Probe Model LCl0.IP with 10 to 1 attenuation matio for checking up to 1,000 volts.
Model CRO-2 Oscilloscope, in all-steel, gray "Jacksonite" Cabinet. Shipping weight 32 lbs........ $\mathbf{\$ 2} \mathbf{2} 5.00$, net Model DEM.P.
Shippings weight $6 \mathrm{oz} . . . . .$. . $\$ 9.95$, net
Model LCes.IP,
Shipping weight 10 ot....... \$ 19.95, net
Model LCiollp,
Shipping weight of oz........ $\$ 7.95$, net


# "SERVICE-ENGINEERED" TEST INSTRUMENTS 

THE JACKSON ELECTRICAL INSTRUMENT CO., DAYTON I, OHIO

## Specifications-Model 700

Signal Outputs

1. Composite video of either polarity, adjustable amplitude to $1 \cdot$ volt across 90 ohms. Either luminance or chrominance can be eliminated from the composite signal.
2. Modulated R.F., channels 3, 4, or 5 of 1 volt across 300 chms .
3. Horizontal sync., positive polarity. I volt across 200 ohms.
4. Crystal controlled color subcarrier ( 3.5795 MC ), 40 Millivolts across 200 ohins at burst phase.

## Synchronixing Signals

1. Color burst, crystal controlled (NTSC standards).
2. Standard horizontal sync. and blank. ing signals.

## Color Bar Signals

I. Simultancous bar display with luminance and chrominance levels held to plus or ininus 10 percent, phase angles to plus or minus 5 degrees as follows:

| Color | Relative <br> Luminance | Chrominance |
| :--- | :---: | :---: |
| White | 1.0 | 0 |
| Yellow | 0.89 | 0.44 |
| Cyan | 0.70 | 0.63 |
| Green | 0.59 | 0.59 |
| Magenta | 0.41 | 0.59 |
| Red | 0.30 | 0.63 |
| Blue | 0.11 | 0.44 |
| Black | 0 | 0 |

2. Color Difterence Displays. Bars of zero luminance selectively arailable as follows:
(Phase angles within plus or minus 2 degrees)

| - Signal | Type of Display | Relative <br> Chrominance |
| :--- | :--- | :---: |
| I | single bar | 0.25 |
| Q | single bar | 0.25 |
| I\& Q | simultaneously | 0.25 |
| R-I | single bar | 0.25 |
| B-Z \& B-Y | single bar | simultaneously |
| R-I \& | 0.25 |  |
| (Background for all color difference bars in |  |  |
| black-relative chrominance zero) |  |  |

3. Single Bars - Primary colors - red, green and blue-selectively available. Each bar is approximately $60 \%$ of screen width. Luminance 0.3 , chrominance 0.5 .
Crystal Controlled Sound Carrier-approx. imately $25 \%$ of peak picture carrier, placed 4.5 megacycles from picture carrier. Sound carrier may be turned off or on by panel control switch.

## Panel Controls

1. R.F.Carricr Tuning-channels 3,4 or 5.
2. Video Output Amplitude.
3. Horizontal Lock.
4. Sound On-Sound Off Switch.
5. Video Output Polarity Switch.
6. Power Switch.
7. Color Bar Selector Switch.
8. Horizontal Centering Control.
9. R.F. Attenuator.
10. Luminance-Chrominance Selector.

## Internal Adjustments

1. Burst amplitude.
2. Color Sub-Carrier.
3. Modulation percentage.

## Circuit Operation

I. Color sub-carrier and sound frequen. cies are determined by crystal oscillators. 2. All six color bars-yellow, cyan, green. magenta, red, blue, plus black and white are independently generated. No color mixing or matrixing is required.
3. Color phase angles are determined by an accurate. low impedance delay line. 4. Direce gating of proper chrominance phase is employed for each color bar to attain maximum stability and reliability rather than the usual methods which wilize quadrature encoders.
5. Luminance and Chrominance levels are reliable and stable. No multi-vibrators are employed in generating any bars. 6. No internal or external adjustments are required for proper phase angles, bar widths, luminance, or chrominance levels.

## Specifications—Model 712

Provides similar signal outputs and Color Selection to model 700. Also includes crosshatch and white dot generators for convergence checks on 3.gun tubes. Cross. hatch pattern may also be used for liner. ity and tilt adjustments. Small dot sizeabout $1 /^{\prime \prime}$ on a $19^{\prime \prime}$ tube permits more positive convergence adjustment.

## Accessories

Model 7SC-Attractive Leatherette Cov. ered Carrying Case with Velvet interior lining. For either Model 700 or 712 .
Physical Characteristics Models 700 and 712 Dimensions: $61 / 2^{\prime \prime}$ wide $x 91 / 2^{\prime \prime}$ high $x$ 10V/"' deep. Designed to match other Jackson Equipment both in styling and exterior size. All steel case finished in tough "Jacksonite". For use on 105-12; volts, 60 cycle AC. Complete with alt tubes, crystals and connectors.
Model 700-Shipping weight
30 pounds . . . . . . . . . . . . . . . . $\$ \mathbf{2 9 5 . 0 0}$ net
Model 712-Shipping weight
32 pounds ..................... . $\$ 395.00$ net
Model 7SC-Carrying Case-Shipping weight 12 pounds ..................... $\$ 24.95$ net

## Model 715

Better Readability - Large 4-inch-square meter is easy to read.
Complete Shorts Test-Each tube element is fully tested for possible shorts and leaks. Wide Application - Tests all tubes-over 700 types-including television amplifiers and rectifiers.
Built-in Roll Chart-Indicates tube charac. teristics. One year free supplement service. Finish and W'eight-Finished in gray "Jacksonite" with harmonizing ivory knbbs, meter cover, and pushbuttons. Net weight. 11 lbs. Shipping weight, 14 lbs.
Dealer Net Price. .
. $\$ 79.50$

## JACKSON <br> ธ



# Dynamic ${ }^{\text {® }}$ Cathode Ray 

## Tube Analyzer

Tests completely and accurately, all TV picture tubes, including both magnetic and electrostatically deflected and focused types. Also tests scope, radar and special purpose CR tubes. Beam current test is made to final anode. Grid test determines the ability of the grid to cut off. Test voltage is ample for every tube type. Gas Test is made by measuring gas current to the final anode, with sensitive VTVM circuit. All elements are isolated for individual inter-element shorts and leakage tests. Roll chart is provided for rapid selection of test settings. Entire analyzer is built around a highly sensitive balanced bridge VTVM circuit. A continuously variable line voltage is provided to insure accurate readings. Comes complete in portable case. Shipping weight 26 lbs .
Model 707 CR Tube Analyzer, Net . . . . . . . . $\$ 149.50$

New! Jackson Trace-O-Meter

## Automatic Cable Tracer



Fast, low-cost method of tracing conductors in a cable. Tests up to 9 conductors or pairs at one time. Test blocks are attached to one end. Meter at other end of cable shows the number of the block connected to the corresponding pair. Also shows opens, shorts, voltages in hot lines. Complete with indicating instrument, 9 test blocks, leads, all in portable steel carrying case. Shipping weight 5 lbs.

Model 90 Trace-O-Meter.
Net . . . . . . . . . . . . . . . $\$ 39.95$


## New Tele-Volter VTVM

A portable, large-meter VTVM featuring a $7^{\prime \prime}$ meter and illuminated function windows for greatest accuracy and easiest use. As a DC voltmeter has 11 megohm input resistance. DC Voltage Ranges 0 to $1,5,10,50,100,500$, 1000. Calibrated Zero Center Range, positive or negative: $0.5,2.5,5,25,50,2!0,500$. AC Voltmeter Input Impedance .2 megohms shunted by 150 mmf. Voltage Ranges 0 to $1,5,10,50,100,500,1000$. Frequency Response essentially flat to 4.5 MC thru 100 volts. Peak to Peak ranges 0 to $2.8,14,28,140,280,1400$ and 2800. Meter is electron:cally protected against overload. Ohm Meter provides expanded logarithmic scales in ranges 0 to 1000 , $10,000,100,000$, 1 meg., 10 megs., 100 megs., and 1000 megs. Shipping weight 13 lbs .
Model 70 with Leads, Net . . . . . . . . . . . . . . . $\$ 95.00$
79P High Voltage Prohe to 30 KV . . . . . . . . . $\$ 14.95$
70RFP High Frequency Probe to 200 MC. . . \$ 9.85

## Selenium Rectifier Test Set



Tests all types 90 to $650 \mathrm{MA}, 25$ to 300 volts. Gives positive indication, "good" or "bad" on 3 " meter. Shows voltage drop across rectifier load. Ingenious Sele-Rater enables you to determine ratings of unmarked rectifiers. Complete with test leads and Sele-Rater.
Model 710, net. .$\$ 29.50$

## जITO <br> KITSand INSTRUMENTS

You build EICO KITS in one evening but they last a lifetime!

## EICO NEW Peak-to-Peak VTVM complete vith New Dual-Purpose AC/DC Uni-Probe

EICO's revolutionary new engineering design! The professional peak-to-peak VTVM that beats 'em all-in laboratory precision features AND low prices Measures DIRECTLY p-p yoltage of complex and sine waves: $0-4,14,42,140,420$ 1400, 4200 volts $p-P$. DC/RMS sine voltage ranges: $0-1.5,5,15,50,150,500,1500$ volts (up to $30,000 \mathrm{~V}$. with HVP probe). Resistance ranges: 0.2 ohms to 1000 megs.
7 non-skip ranges on every function. 4 functions: $+D C$ Volts, -DC Volts, AC 7 non-skip ranges on every function. 4 functions: +DC Volts, -DC Volts, AC Volts, Ohms. Uniform 3 to I scale ratio for extreme wide-range accuracy. Large 41/2'" meter in can't-burn-out circuit. Calibration without removing from cabinet. Zero-center for TV-FM discriminator alignment. One zero-adjustment for all functions and ranges. Frequency Response: $30 \mathrm{cps}-3 \mathrm{mc}$. $1 \%$ precision cepamic multiplier resistors. Exceptional circuit stability and accuracy. New satin finish etched panel, and grey wrinkle steel case. Leather handle. New compact size for extra-easy portability: $81 / 2^{\prime \prime} \times 5^{\prime \prime} \times 5^{\prime \prime}$, Ship wt. 7 lbs.
Model 232-K
$\$ 29.95$
$\$ 49.95$
EICO NEW Dual-Purpose AC/DC Uni-Probe
Available separately fop EICO No. 22I and othep VTVMs.
(Pat. Pend.)
Terrific time saver! Only ! probe performs all functions - a half-turn of probe-tip selects DC or AC-OHMS
kIT
$\$ 4.95$
Factory wired
$\$ 6.95$
EICO NEW Deluxe Peak-to-Peak VTVM with 71/2" Meter and Exclusive Uni-Probe (Pat. Pend.)
ALL the outstanding and exclusive features of Model 232 - PLUS the extra convenience and readability of its big $71 / 2^{\prime \prime}$ meter. An ideal bench instrument.
Model 249 K,
$\$ 39.95$
Factory wired
$\$ 59.95$

## EICO Vacuum Tube Voltmeter

The reliable, performance proved EICO VTVM - ever-popular universal instrument for alf TV/radio/electronics servicing. Over 50,000 in use! Large $41 / 2^{\prime \prime}$ meter in can't-burn-out circuit. Zero center for TV/FM discriminator alignment. 4 func tions: +DC Volts, -DC Volts, AC Volts, Ohms. Electronic AC/DC ranges: 0-5, P' peak-to-peak with PTP accessory probe. 5 Resistance ranges: 0.2 ohms to 1000 megs. ${ }^{5}$ DB ranges: - 20 to +55 . DC input resistance: 25 megs. I \% precision cecuracy Rugged grey wrinkle steel case. 3-color etched pisproof panel. and accuracy. Rugged grey wrinkle steel case; 3-color etched pibproof panel; leather handle. Complete
Model 221-K,
$\$ 25.95$
Factory wired
$\$ 39.95$

## EICO Deluxe VTVM with 71/2" Meter

$\$ 34.95$
Factory wired
$\$ 54.95$
ALL the versatility and performance-proven features of Model 221 - PLUS the extra convenience and legibility of its big $7 \frac{1}{2} 2^{\prime \prime}$ meter. An excellent bench instruextra convenience and legibility of its big $7 / 1 / 2$
ment, Size: $9^{\prime \prime} \times 131^{\prime \prime} \times 6^{\prime \prime}$. Ship wt. II Ibs.

## EICO NEW Vacuum Tube Voltmeter Probes

*Vtym peak.to.peak probes: For use with eico or any Vtvm. For direct reading of peak-to-peak yoltages directly on VTVM DC ${ }^{\text {scales. Model PTP. } 11 \text { : }}$ For any il megohm DC input res. YTYM. Model PTP-25: For any 25 megohm VTVM. Size: O.D. s.", L. 6". Ship wt. 4 oz .
Either Model,
$\$ 4.95$
Factory wired
$\$ 6.95$
*TTYM RF Probes: For RF mesurements wo to 250 mc . Accuracy $\pm 10 \%$ Model PRF-11: For any II megohm VTYM, Model PRF-25: For any 25 megohm Model PRF-11: For any II megohm VTVM, M
VTVM. Size: O.D. ${ }^{\text {s }}{ }^{\prime \prime}$, L. $6^{\prime \prime}$. Ship. wt. 4 oz .
Either Model,
\$3.75
Factory wired
$\$ 4.95$
*All the above new probes have ALL these EXCLUSIVE features: Fully shielded. Rugged terminal board mounting of all parts. Shock-mounted floating construction. Easy accessibility of all parts,
HIGH VOLTAGE PROBE: For use with EICO or any VTVM or 20,000 ohms/volt multimeter. Measures up to 30,000 volts DC in TV circuits. New streamlined design and 6 -way safety protection: anti-dirt, anti-moisture design; 2 large flashguards; completely enclosed resistor; insulated grip (no metal touches your hand): anti-corona probe tip; insulated high voltage cable. Supplied with high quality resistor to match your instrument, Size: dia. $21 / 4^{\prime \prime}, \mathrm{L}$. $\|^{\prime \prime}$. Ship wt. $3 / 4 \mathrm{Ib}$
Model HVP-2
Model HVp-I
$\$ 6.95$
Prices 5\% higher on West Coast.

## ELEGTRONIC INSTRUMENT CO., Inc. •Brooklyn II, N. Y.

AND YOU SAVE $50 \%$ !


# न्जाज口 <br> <br> KITS <br> <br> KITS INSTRUMENTS 

 INSTRUMENTS}

Laboratory Precision at Lowest Cost -

## You build EICO KITS in one evening

 but they last a lifetime! AND YOU SAVE 50\%!

EICO 7" Push-Pull Oscilloscope
America's greatest scoop in big-scope value - way up in versatility, way down in price. © Boosted vertical sensitivity, 10 mv rms/inch. Extended flat frequency response, 10 cps to $\mathrm{I} \mathrm{MC}( \pm 2 \mathrm{db})$. - 3-step frequency-compensated attenuator - Cathode follower input. - Internal voltage calibrator. - Directly calibrated screen. © Extended sweep range, 15 cps to 100 kc . © Internal positive or nega modulation., and line sync. - On front panel: sawtooth. 80 eps outputs; intensity modep. Direct connection to CRT plates available ${ }^{\circ} \mathrm{Size} 10^{\circ \prime} \times 15^{\prime \prime} \times 15^{\prime \prime}$ wheep. Direct con Model 470-K
$\$ 79.95$
$\$ 129.50$

## EICO 5" Push-Pull Oscilloscope

All-new laboratory-precision scope with all the extra sensitivity and response fo precise servicing of TV, FM and AM sets. - Push-pull undistorted vertical and horizontal amplifiers. Boosted sensitivity, . 05 to .l rms volts/inch. © Useful to 2.5 MC. TV-type multivibrator sweep circuits, $15 \mathrm{cps}-75 \mathrm{KC}$. - $Z$-axis intensity modulation feature. ©Dual positioning controls mave trace anywhere on scraen. - Complete with 2-6J5, 3-6SN7, 2-5Y3, and 5' C.R. Tube. - 3-calor etched rub proof panel; rugged steel case. 115 v., 60 cycle AC. $8^{1 / 2^{\prime \prime}} \times 17^{\prime \prime} \times 13^{\prime \prime}$. Ship wt 29 lbs.
Modei $\quad$ Kits-K, $\quad \$ 44.95$ Factory wired $\quad \$ 79.95$

## EICO NEW Oscilloscope Probes

*OSCILLOSCOPE DIRECT PROBE: Fully-shielded for TV waveform tracing in low impedance ar low frequency circuits where effect of cable capacity is unimportant and full scope sensitivity is desired. Eliminates stray pick-up and signal

Model PD-K,
\$2.75
factory wired
$\$ 3.95$
*OSCILLOSCOPE LOW CAPACITY PROBE: For TV waveform tracing in high impedance, high frequency or wide-band circuits. Eliminates distortion from overloading or frequency discrimination. Size: O.D. $1^{\frac{5}{6}}{ }^{14}$, L. $6^{17}$. Ship wt. 4 oz. Model PLC-K.
$\$ 3.75$
Factory wired
$\$ 5.75$
*OSCILLOSCOPE DEMODULATOR PROBE: For signal tracing and checking of TV and radio RF and IF stages; for stage-by-stage alignment; and for locating hum modulation, ratio detector marking and marker generator calibration. Demodulates amplitude-modulated carriers between 150 kc and 250 mc . AF response flat from 20 cps to 6 kc . Site: O.D. Th L. $6^{+1}$. Ship wt. 40 oz
Model PSD-K,
\$3.75
Factory wired
\$5.75
*All the above new probes have ALL these EXCLUSIVE features: Fully shielded Rugged terminal board mounting of all parts. Shock-mounted floating construe-

## ssibility of all parts

## EICO Oscilloscope Voltage Calibrator

Makes your oscilloscope a wide-range, accurate, peak-to-peak AC electronic voltmeter. Enables measurement of peak-to-peak voltages of complex and IV sweep circuit waveforms seen on a scope; calibration of Vertical and Horizontal scope amplifiers; defermination of voltage amplitude required for intensity modulation or synchronization. Square wave output at power-line frequency with fullscale readings of $0.1,1.10$ or 100 volts. Output variable from zero, and accuracy $\pm 5 \%$ of full-scale on each range. Size: $5 \times 75 / 6 \times 4{ }^{\circ}$. Ship wt. 4 lbs , Model 495-K,
\$12.95
Factory wired
$\$ 17.95$

## EICO NEW Electronic Switch

Makes your ONE scope more useful than TWO in many cases. Simultaneously observe 2 patterns on I scope's screen: for direct comparison of voltage and current amplitudes, waveforms, frequencies and phase relationships; setting up voltage reference level or zero base line; checking amplifier distortion or crossover networks. Continuously variable switching rates in 3 ranges from less than 10 cps to over 200 cps . Very useful as a square wave generator over same range 5 tubes: 2-6AU6, 2-I2AU7, 1-6X5, transformer-operated. $105-125$ VAC, $50 / 60 \mathrm{cps}$. Model 488-K,
KIT, only
$\$ 23.95$
$\$ 39.95$
ELECTRONIC INSTRUMENT CO., Inc. Brooklyn II, N, Y,
Prices 5\% higher on West Ccast


2 instruction Manuals
Each EICO Kit contains both a Construcion Boak and an Operating Baok step-by-step assembly instructions with easy-to-follaw schematic and pictorial diagrams; and easy application data. All small parts are packed in individu. ally marked envelopes clearly identified in the drawings. Anyone con build the EICO Kitsl

## Dollar for dollar, feature for feature, FICD Instruments and Kits lead the industry!

# जाजि KITS instruuments 

## You build EICO KITS in one evening

 but they last a lifetime! AND YOU SAVE 50\%!

Prices 5\% higher on West Coast.

## 7 GENERATORS TO CHOOSE FROM! NEW! EICO RF Signal Generator

"The Best Generator Buy in the world!" say EICO customers. For IF-RF alignment, signal tracing and trouble-shooting of TV, FM, AM sets all on fundamentals. . marker generator for alignment of new h.f and older l-f'TV IF's. . 400 cps sine wave audio testing lab and experimental work. Extended frequency range: 150 kc to 145 mc on fundamentals in 6 bands; 111.435 mc on calibrated harmonics. $\pm 1.5 \%$ frequency accuracy; $6: 1$ vernier tuning knob and excellent spread et most important alignment frequencies. Etched tuning dial, plexiglass windows, edgelit hairlines. Colpitts RF oscillator, directly plate-modulated by cathode follower for improved modulation. Variable depth of internal modulation $0-50 \%$ by 400 cps Colpitts oscillator. Variable gain external modulation amplifier: only 3.0 volts needed for $30 \%$ modulation. Turret-mounted slug-tuned coils. Fine and Coarse ( $3-s t e p$ ) attenuators, 50 -ohm output Z. RF and AF outputs respectively 100,000 uv and up to 10 v . Tubes: I2AU7, 12AV7, selenium rectifier, xfmr-operated. 5 -way jack-top binding posts for AF in/out; coaxial connector and shielded cable for RF out. Satin aluminum panel and grey wrinkle steel case. $8^{\prime \prime} \mathrm{H} \times 10^{\prime \prime} \mathrm{W} \times 43 / 4^{\prime \prime} \mathrm{D}$. Ship wh. 10 lbs.
Model 324-K, KIT, only
$\$ 26.95$
$\$ 39.95$

## EICO RF Signal Generators

Model 320: For AM-FM precision alignment and TV marker frequencies. Vernier Tuning Condenser. Highly stable RF oscillator, range: $150 \mathrm{KC}-102 \mathrm{MC}$ with fundamentals to 34 MC Separate audio oscillator supplies 400 -cycle pure sine wave voltage. Pure RF, modulated RF or pure $A F$ for external testing. 3 -color etched panel; rugged steel case. Ship wh. 10 lbs.
$\$ 19.95$ Factory wired
$\$ 29.95$
Model 322: In addition to all the outstanding laboratory-precision qualities of the famous EICO Model 320 , the brand new Model 322 features the individual calibration of each of its 5 bands.
Model 322-K, KIT, only
$\$ 23.95$
$\$ 34.95$

## EICO Deluxe RF Signal Generator

Laboratory-precision generator EICO Service-Engineered with $1 \%$ accuracy. Frequency range $75 \mathrm{kc}-150 \mathrm{mc}$ in 7 calibrated ranges. Extremely stable. Illuminated hairline VERNIER TUNING VR stabilized line supply. 400 -cycle pure sine wave with less than $5 \%$ distortion. Tube com plement: $6 \times 5,6 \$ 27,6 C 4$, $V R-150$. 3-color etched panel; rugged steel case. $115 \mathrm{v} ., 60$ cycles AC Size: $12^{\prime \prime} \times 13^{\prime \prime} \times 7^{\prime \prime}$. Ship wt. 21 lbs .

$$
\$ 39.95
$$

Factory wired
$\$ 59.95$
Madel 315-K, KIT, only

## EICO TV-FM Sweep Generator

Covers all TV-FM alignment frequencies, $500 \mathrm{KC}-228 \mathrm{MC}$. Vernier-driven dial. Center of each解 inductive channels manits variable with HF trpe Crystal size: $10^{\prime \prime} \times 8^{\prime \prime} \times 634^{\prime \prime} .5 \mathrm{MC}$ and 4.5 MC Crystals each $\$ 3.95$. Ship wf. 12 lbs .
$\$ 34.95$
Factory wired
$\$ 49.95$
EICO 5 MC and 4.5 MC Crystals
\$3.95 each
EICO Sine \& Square Wave Audio Generator

- Complete sine wave coverage: $20-200,000 \mathrm{cps}$. Complete square wave coverage: $60-50,000$ - 4-gang tuning condenser. All frequency range resistors have $\%$ or befter accuracy. cps. - 4-gang tuning condenser. Alo - Large easy-reading dial calibration: RC oscillator. - Improved cathode follower output from 60 cps to 150 kc . Wien bridge RC osciliator. 14 v at 10,000 ohms and higher, 8 v . at circuif. - Output Voltage: 10 V , at 000 ohms 500 ohms on sine wave; square wave output hishistive. - Continuously variable output attenuload. - Rated load impedance: 1000 ohms resist less than $0.4 \%$ of rated output. - Tubes: ator. ${ }^{\circ}$ Distortion $1 \%$ of rated output. lamp). - 3 -color etched rub-proof panel; rugged $6 \times 5,6537,2$ ck ${ }^{6}$, $50 / 60$ cycles, 50 W . Size: $111 / 8^{\prime \prime} \times 71 / 8^{\prime \prime} \times 75 / 8^{\prime \prime}$. Shipping weight 14 lbs.

Model 377-K, KIT, only

$$
\$ 31.95
$$

Factory wired
$\$ 49.95$

## EICO Bar Generator

Cort Bicture Vertical and Horizontal linearity withoul hard-to-find
 tation-transmitcommodate all screen sizes. Incorporates VHF Osc., RF osc.i. and mutio number to accommodate aibannel 2 to 6. Deluxe 3 -way antenna terminal clip fits any type vibrator. Acrustable including. plug-in type. Output voltage: 400,000號
1.6C4; selenium rectiner. Size. \$14.95
$\$ 19.95$
ELEGTRONIC INSTRUMENT CO., InC.

# KITS insriö̀ments 

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You build EICO KITS in one evening . . . but they last a lifetime! AND YOU SAVE $50 \%$ :

## EICO NEW Flyback Transformer and Yoke Tester

Positive check of all types flybacks and yokes, in or out of set-in iust seconds! Operates on the extremely sensitive grid-dip principle - shows up even 1 shorted turn. Exclusive separate calibration for air core and iron core fiybacks for accurate testing of alf types. Checks any inductance whose impedance is not too low. Large easy-to-read $4 / /^{\prime \prime}$ meter. 3 separate colored scales. Test continuity on yokes, coils, speakers, switches, ete. Smart professional styling-New satin finish etched panel and grey wrinkle steel case. New compact size for extra-easy portability: $8^{1 / 2^{\prime \prime}} \times 5^{\prime \prime} \times 5^{\prime \prime}$. Ship. wt. 5 lbs.
Model 944-K,
\$23.95
$\$ 34.95$

## EICO Resistance-Capacitance Bridge <br> and R-C-L Comparator

This brand new professional resistance-capacitance bridge-type instrument is specially EICO Service-Engineered for extremely wide usefulness. It directly reads 0.5 ohms to 500 megs resistance (4 ranges). 10 mmfd to 5000 mfd capacifance ( 4 panges), and power factor. (Kit includes precision calibrating resistor.) Unique PRECISION COMPARATOR RANGE for pesistance, capacitance and inductance comparison measurement against external standard. Leakage testing of all capaci tors at rated DC working voltage with internal $0-500$ VDC source. Electron-ray tube as both bridge balance and capacitor leakage indicator. 110 v. 60 cps transformer and rectifier. All ranges calibrated on front panel. 3-color etched rubproof panel; pugged steel case. Size: $10^{\prime \prime} \times 8^{\prime \prime} \times 43 / 4^{\prime \prime}$. Ship. wt. 10 lbs.
Model 9508-K.
$\$ 19.95$
\$29.95

## EICO NEW Deluxe Multi-Signal Tracer

Entirely new 5-łube instrument provides high gain RF and low gain audio channels with both visual and aural monitors (electron-ray tube and s'" speaker). Permits RF, IF and audio signal tracing in TV, FM and AM sets. Highly useful noise localizer circuit that applies DC test voltage thru probe to suspected component and simultaneously picks up and amplifies effect. May be connected as test and simultaneously picks up and amplines, amplifier, or output transformer, and has output for VTVM or scope. Excellent for gain-per-stage estimation, null detector, scope preamplifier, utility amplifier, small P.A. system. New satin finish etched panel; grey wrinkle steel case. TO5-125 VAC, $50 / 60 \mathrm{cps}$. Size: $8^{11} \times 10^{11} \times 43 / 4^{\prime \prime}$. 5hip. wt. 10 lbs.
Model 147-K, \$24.95
\$39.95

## EICO Multi-Signal Tracer

Audibly traces al! IF, RF, video and audio from ANT to SPKR or CRT without switching. Response well over 200 mc . $5^{\prime \prime}$ test speaker. Provision for visual tracing with VTVM. Complete with 65.j7, 6K6, $6 \times 5$. Germanium crystal diode probe. 3-color etched panel; rugged stéel case. $105-125 \mathrm{VAC}, 50 / 60 \mathrm{cps}$. Size: $10^{\prime \prime} \times 8^{\prime \prime} \times 43 / 4^{\prime \prime}$. Ship wh. 9 lbs.
Model 145-K,
$\$ 19.95$
Factory wired
$\$ 28.95$

## EICO Dual 6V \& 12 V Battery Eliminator and Charger

Gives you all the electrical power you need for $\delta$-volt and 12 -volt battery charging and auto radio servicing. 2 DC ranges: $0-8$ volts ( 10 amps continuous, 20 amps intermittent). $0-16$ volts ( 6 amps continuous, 12 amps intermittent). Continuous voltage adiustment with variac-type transformer. Separate voltmeter and ammeter. Heavy duty selenium rectifiers. Fused primary; automatic reset circuit-breaker opens secondary circuit upon overload. Rugged, well-ventilated steel cabinet.
Size: $83 / 4^{\prime \prime} \times 101 / 2^{\prime \prime} \times 734^{\prime \prime}$. Ship wt 15 lbs. Size: $83 / 4^{\prime \prime} \times 101 / 2^{\prime \prime} \times 73 / 4^{\prime \prime}$. Ship wt. 15 lbs .
Model lo50-K,
KIT, only........................
$\$ 38.95$

## NEW! EICO RETMA Capacitance Substitution Box

Enables rapid substitution of wide range of RETMA capacitance values from 0.0001 to 0.22 mfd in an operating circuit to determine value for optimum performance and find value of damaged or illegible capacitors. Minimum accuracy $\pm 10 \%$. Uses silver-mica and molded plastic capacitors, most conservatively rated at 600 volts. Convenient 5 -way jack-top binding posts. Size: $33 / 4^{\prime \prime} \times 61 / 2^{\prime \prime} \times 31 / 2^{\prime \prime}$ Ship. wt. 2 lbs
Model II20-K,
$\$ 5.95$
Factory wired
$\$ 9.95$
EICO NEW RETMA Resistance Substitution Box
Enables rapid substitution of resistances from 15 ohms to 10 megohms in decade multiples of $15,22,33,47,68,100$ ohms. Uses 36 standard 1 watt $\pm 10 \%$ RTMA resistors. 5-way jack-top binding post for connection of practically any type of test lead. Rugged, molded black bakelite cabinet; 2-color deep-etched satin aluminum panel. Síze: $31 / 4^{\prime \prime} \times 61 / 2^{\prime \prime} \times 31 / 2^{\prime \prime}$. Ship. wt. 2 lbs.
Model $1100-\mathrm{K}$,
$\$ 5.95$
Factory wired
$\$ 9.95$
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Prices 5\% higher on West Coast.

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Laboratory Precision at Lowest Cost-

## EICO Tube Tester

rand new professional tube tester and merchandiser. EICO Service-Engineered for unbeatable value! Large $41 / \mathbf{T}^{\prime \prime}$ full-vision meter. Tests CONVENTIONAL and tube element. Illuminated "Speed Roll-Chart" 2 grid caps. Short and apenelement tests. Spare socket for new tubes. Protective overload bulb. Electronic rectifier. 3 -color etched panel; rugged steel case. 115 v., 60 cycle AC. Size $121 / 2^{\prime \prime} \times$ $91 / 2^{2} \times 4 / 4 \mathrm{C}$. Ship w 12 lb
Model $625-\mathrm{K}$
$\$ 34.95$
$\$ 49.95$

## EICO Picture Tube Test Adapter

Ifor EICO Models 625 and $625-K$ Tube Testers
With the new Model CRA and your EICO Tube Tester, you check all sizes TV Picture Tubes as fast and easily as any ordinary tube. Model CRA gives a quantitative measurement of cathode emission, and tests for filament continuity and shorts between elements. Comes complete with standard 12 -pin TV tube socket, octal plug-in connector, and extra long 4 -foot cable that enables Pix Fube to remain in set WHILE TESTING
$\$ 4.50$

## EICO Cathode Ray Tube Checker

Easy, fast, dependable testing of all sizes TV picture and oscilloscope type C-R tubes-right in the set or carton. Bridge measurement of peak beam current (proportional to screen brightness) using neon lamp as sensitive balance indicator. Balancing control calibrated directly in terms of tube condition. Detects
 Model 630-K
$\$ 17.95$
\$24.95

## 6 EICO VOLT-OHM-MILLIAMMETERS

EICO New Model 565 20,000 Ohms/Volt Multimeter KIT \$24.95. Wired \$29.95.
Sol Full scale Ranges! - DC/AC/OUTPUT Volss: $0.25,10,55,250,1000$


EICO Model 555 20,000 Ohms/Volt
Multimeter KIT \$29.95. Wired \$34.95.
EICO Model 5661000 Ohms/Volt
Multimeter KIT \$14.90. Wired \$18.95.
RANGES: Same as Model 536 (see below), Plus 7 , output voltage ranges. Large EICO Model 5561000 Ohms $/ \mathbf{V o l t}$
Multimeter KIT \$16.90. Wired \$23.50.
EICO Model 536 1000 Ohms/Volt
Multimeter KIT \$12.90. Wired \$14.90.
 0.50, 1000 K
 EICO Model 5261000 Ohms/Volt Multimeter KIT \$13.90. Wired \$16.90.

## EICO Decade Resistance Box

$0-99999$ Exceptionaccuracy, wide ranqe and easy operation. Extremely wide range of Comp ohms in -ohm steps with 5 decades and $1 / 2 \%$ precision at any setting of the resistance value indicated on the box. Uses acral equivalent component Rugged trouble-free construction on the box. Uses $2 \%$ accuracy 1 -watt resistors. $31 / 2^{\prime} x^{\prime \prime}$, Ship whef construction. Heavy-gauge quality steel cabinet. Size: $12^{\prime \prime}$ $3 / 2$ llil Khip wt. 3 lbs.
Miodel IIIT-K, $\quad \$ 19.95$ Facticy wired $\quad \$ 24.95$

## EICO Decade Condenser Box

Uses only highest quality precision silver-mica capacitors: $\pm 1 \%$ accuracy, 500 VDC rated, . 001 power factor, minimum of 50,000 megs insulation resistance. to 0.111 mf arranged in 3 decades to provide extremely wide range of 100 mmf to 0.11 mf in steps of 100 mm . Smooth-action, positive detent ceramic wafer switches with silver-plated contacts. 5-way jack-top binding posts. Excellent for Ma and circuit development work. Size: $9^{\prime \prime} \times 3,2 \times 31 / 2^{\prime \prime}$. Ship wt. 3 lbs. Model II80-K,
$\$ 14.95$
$\$ 19.95$
Prices 5\% higher on West Coast
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Type 404 Television Laboratory Oscillo-scope-high-gain, wide-band instrument dis. plays TV pulses, waveshapes, and signals on 7 -inch CRO. Sensitivity 10 milivolts mms . Vertical sinewave response flat to 2 me -useful to 4 mc . Highly useful instrument for schools, industry, and TV service as well as the laboratory.

Type 404-\$329.50

OSCILLOSCOPES


Type 403-Television Service Oscilla-scope-Moderotely priced 7 -inch instrument featuring identical high-gain de amplifiers on horizontal and vertical axes, plus advanced features of higher priced models, of special value for TV service, the Type 403 permits de signal level measurements and phase relationship itudy. Two preset television sweeps. Vertical sensitivity- 10 milivolts per inch rms. Frequency response flat to 500 kc with in 2 db .

Type 403-\$269.50

TUBE TESTER

rype 620 Tube Tester - new, portable tube tester tests all common receiving tubes, transmitting and industrial tubes, regardless of basing-also " 600 ma " series string television tubes. In-line controls speed efficienc:. Reads shorts and leakage directly in ohms-asy-toread roll chart-gas test-easy switching for all tube bases. Best dollar buy in service tube testers.

Type 620-\$139.50

## Test Equipment...

## engineered for accuracy and styled for function

 DC volt ranges $0.3,10,30,100,300,1000$; six peak-to-peak volt ranges; 5 RF valt ranges from 0 to 300 ; Ma in 6 ranges from 0 to $1000,0.10 \mathrm{amp} D C$; ohms in 6 ranges to 1000 meg ; db measurements in 6 ranges from -20 db to $+61.4 \mathrm{db}-$ features new 7 " Sylvania meter movement, patented linearity circuit, rf"probe, high input impedance, shielded leads.
Type 301 Palymeter (similar to 302 withouf If probe'

Type 302-\$129.50


Type 304 -voltage Calibrator-Jse with any oscilloscope to measure complex or sim. ple waveforms. Quick accurate peak-to. peak readings or simple measurement of any partion of the signal. Clipped sinewave output with no tilt or overshoot. Singl? connection to calibrate or observe.

```
Type 304-$34.50
```

For specifications on Sylvania's complete line of instruments, write for this Test Equipment Brochure. Address Department J36T.

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## New York 19, N. Y.

In Canada:
Sylvania Electric (Canada) L'd. University Tower Bldg., Mont eal

LIGHTING • RADIO • ELECTRONICS • TELEVISION • ATOMIC ENERGY

## RADIO CITY PRODUGTS CO., Inc. easton pennstivania TESTEQUIPMENT

## Model 657 A . . . RCP Electronic "DO-ALL"

## 62 INDIVIDUAL ELECTRONIC

## RANGE MEASUREMENTS

Never before has there been engineered one instrument to sell for under $\$ 100$ that Never before then measurement built into this can possibly match the versatility, efficiency and speed of measurement bultent instru latest RCP design. Here are combined one instrument a ind in performance ments essential in service-production-development. measuring low freq
sinusoidal waveform
D.C. Voltage: 16 ranges $0 \pm 1.5 \pm 3 \pm 6 \pm 30 \pm 150 \pm 600 \pm 1500 \pm 6000$
D.C. Volłage: Zero Center 14 ranges $\pm .75 \pm 1.5 \pm 3 \pm 15 \pm 75 \pm 300 \pm 750$.
A.C. Voltage: Peak-to-Peak 7 ranges $0<-4.2-8.5-17-85-420-1700-4200$ A.C. Voltage: RMS-7 ranges $0-1.5-3-6-30-150-600-1500$.
A.C. High Voltage: RMS-Range 0.6000 Volts

Ohmmeter: 8 ranges- $0-1000-10,000-100,000$ ohms. 0-1-10-100-1000-10,000 meg ohms. Center Scale 10.
Capacity meter: 6 ranges I micro-microfarad to 1,000 microfarads; $1-10 \mu \mu \mathrm{f}$; 00001 .001 mfd ; . $0001-.01 \mathrm{mfd}:$. $001-0.1 \mathrm{mfd.:} 1.10 \mathrm{mfd}$; 10.1000 mfd .

Years Ahead in Design -

- 81/2'. Easy-to-View Meter provides instant measurement recognition of the several

Scales.

- Simplified Controls save time. Illuminated individual settings of function and
- range.
- Carrying Handle serves as inclinable rest-tilts the instrument for maximum
- HVadability.



Sixe: $143 / 8^{\prime \prime}$ long $\times 75 / 8^{\prime \prime}$ high $\times 57 / 8^{\prime \prime}$ wide.
Weight: $91 / 2 \mathrm{lbs}$.
Finish: Blue-grey hammeroid case, etched satin aluminum panel.

Net \$123.85

## Model 534-DC MIDGETSCOPE

This fine little iob is packed with the latest circuit designs to giva an excellent frequency response over d wide range with fine sensitivity. D.C. Amplifiers make it ideal for color television circuits and all industrial applications and service nceds.

## OUTSTANDING FEATURES:

1. Top Performance assured by use of the "circuits of the future" - D.C. Ampliers for industria use - Undistorted response and elimination of parallax by push-pull deflection - Full Vertica and Horizontal expansion of trace - Automatic Astigmatism control circuit - Linear time base
and sweep - Returned trace automatically blanked.
2. True Portability compact and streamlined for use - Set it up vertically or horizontally - All use frols on front panel for coavenience - Tilted CR Tube for best viewing angle.

## PERFORMANCE AND TECHNICAL SPECIFICATIONS:



## Model 780__INCRA_COLOR__SWEEP GENERATOR

- RCP "Compatible" All Electronic Sweep Generator

For Black and White and Color Television - Plus FM and AM Radio
Years ahead in design - Unexcelled in performance and versatility, the RCP Model 780 is engineered as a completely electronic sweep circuit without any motors or moving parts. Unique electronic unidirectional coupling provides for sweep in one direction only, at a uniform output level (AGC).

## FEATURES:

- 180060 cycle phasing voltage for use on - Anti-parallax, illuminated dial scales on all all oscilloscopes. ranges, with anti-backlash dial mechanism.
Minimum 150,000 microvolts output, terminated with multiple shielded pushbutton attenuator with minimum leakage.
- Detector/Comparitor output to permit comparison of the sweep output on any oscillograph.

Size: $91 / 4^{\prime \prime}$ wide $\times 91 / 4^{\prime \prime}$ high $\times 121 / 2^{\prime \prime}$ deep.
Complete with output, scope, detector/comparitor cables
Net \$189.50
MODEL 780 SPECIAL-Incerporated 34 MC . sweep width having amplititude linearity within
 systems and alignment of front end television circuits.


## RADIO GITY PRODUCTS CO., Inc. EASTON pennstivania TESTEQUEPMENT <br> $\longrightarrow$ 2 18

## Model 655 "DO-ALL" P-P VTVM

Provides for the accurate measurement of complex waveshapes, with peak-to-peak voltages able to be read directly from the scales of the instrument. Serves a variety of industrial opplicotions in the maintenonce of vibrotor power supplies, $A C$ generotors ond industriol equipment utilizing complex woves. Supplied with the New "RCP SOLDERLESS" Test Leads. For operotion on $50-60$ cycle 105-125 V AC.

## Features:

- Peok-to-peak AC measurements of from . 2 V to 4200 V on 7 ranges.
- AC RMS measurements of . 1 V to 1500 V on 7 ranges.
- DC measurements of from .02 V to 1500 V on 7 ronges.
- RESISTANCE meosurements of from 2 ohms to 1000 Megohms on 7 ranges.
- Size $10^{\prime \prime} \times 6^{\prime \prime} \times 5^{\prime \prime}$.
- Wt.: 7 lbs. 12 oz.
${ }_{\text {picte }}{ }^{5} 59^{50}$
HVMP-2—High-valtoge multiplier probe. Extends range to 30,000 V..... $\$ 8.95$



## Model 740A TV "DO-ALL" GENERATOR

HERE-AT LAST! One compact, efficient instrument-which gives the performance of several combined instruments-Each of whict is higher priced and all of which are needed for properly servicing iV and FM Receivers.
Signal Generator
Generates a modulated or unmodulated carrier signal covering every channel (VHF) and Receiver - ALL ON FUNDA MENTALS. It will supply a 360 vale audio signal the audio cycle aut
DATA: RANGE: 9 megacycles to 220 megacycles ALL ON FUNDAMENTALS - bands $9-11$ MODULATION: Internal modulation has been provided. Both 360 cycles and 141.75 kilocycles are available.
TUNING: Dial continuously calibrated thru $340^{\circ}$, giving extremely long calibration scale; enables easy reading and tuning. Each TY channel is precisely spotted on the dial. Accuracy for alignment, achieved by use of fine anti-backlash reducing mechanism. The only single easily partable instrument that provides for testing and checking alignment of: Front Ends, IF's, Horizontal and vertical linearity, syncs, sweeps, size, position, focus coil, deflection coil, ion trap. Unusually fine eircuit design extreme stability, rugged mechanical construction. Smart looking unit with new brushed aluminum etched panel and dial. Size $10^{\prime \prime} \times 6^{\prime \prime} \times 6^{\prime \prime}$. Weight B lbs.
MODEL 740A-COMPLETE WITH OUTPUT CABLE. READY TO OPERATE.
ON 50-60 CYCLE 105-125 V AC

Pattern Generator<br>Produces either horizontal or vertical bars or cross hatch.

# Model 750 UHF and VHF "DO-ALL" TV SIGNAL GENERATOR 

Completely covered
Signal
Marker
Generotor for UHF ond VHF

## Pattern

- Inductuner insures accuracy of within $1 / 2$ of $1 \%$ over the entire range of 9 Mc to 900 Mc . - All VHF frequencies are on fundamentals.

Versatile in concept, the RCP Model 750 can check and test aliqnment of front ends, IF's, sound and pix traps, inearity, syncs, sweeps, positioning, focus and deflection. bench use, the 750 reflects the finest in construc fion and appearance. It is handsomely finished in an attractive brushed aluminum panel with a stee carrying case. For operation on $50-60$ cycle lo5-125

SPECIFICATIONS
BANDS: 9-11 MC, 21-47 MC. 54-220 MC, $465-690 \mathrm{MC}, 650-900 \mathrm{MC}$
TUNING: Special anti-backlash drive combined with the inductuner guarantees the extreme accuracy. Dial is continuously calibrated through $340^{\circ}$.
MODULATION: 360 cycles and 141.75 Kilocycles internal modulation has been provided $\$ 750$ SIZE: $101 / 4^{\prime \prime} \times 61 / 2^{\prime \prime} \times 55^{\circ \prime}$. PRICE: NEIGHT: 9 lbs. Net


## RADIO GITY PRODUCTS CO., Inc. EASton pennstivania TESTEQUIPMENT

## Model 324 - "DO-ALL" Tube and Battery Tester

 Packs Into One Instrument the Performance of four
## Sufficient Focilities to Test:

I. All TV and Radio Tubes-Sockets for all standard 4, 5, 6, 7, octal, loctal, miniature and subminiarure are provided. Tests transmitting, hearing aid, ballast, pilot light, gaseous rectifiers and tuning indicator types. All readings are indicated on a large easily read meter
2. Cathode Ray Tubes-Checks all magnetic deflection types right in the set or carton. Will locate and isolate all shorts or leaks.
3. Batteries-Tests popular partable battery types under load. Indicates true condition of battery under check
All This and a Reactivator Too-Gives extra life to otherwise dim or bad picture tubes.

Adds a professional note to any service bench or store counter. Available in both counter and portable models, complete with CR Tube Adapter Cable. For 105-125 $\checkmark, 50$ to 60 cycle operation.
Two Styles to Meet Your Service NeedsMODEL 324C-Counter model with open style metal case: Size $133 /^{\prime \prime} \times 121 / 4^{\prime \prime}$
$4^{\prime \prime}$ Weight: $10^{\prime \prime}$

Net \$69.95
MODEL 324P-Combination portable-coun. ter model. Smart looking, hand-rubbed carrying case with slip-hinge cover-in-




Model 706A - "Wide Range" Signal Generator This new signal generator is the finest performer in its class. For equivalent performance the model 706 A should be compared only with other signal generators selling from $\$ 90$ to $\$ 125$. It provides continuous coverage from 150 KC to 220 MC in 8 ranges. Six FUNDAMENTAL ranges cover up through 55 Megacycles.

ACCURACY: within $1 \%$ of calibration adjustment.
STABILITY: and constancy of calibration is assured by special electron-coupled circuit design, permability adiusted coils and air trimmer capacitators.
MODULATION: 400 cycle sine wave audio oscillator with modulation continuously variable from $0 \%$ to $80 \%$. Above $80 \%$ has no eractical application. At this point tremendous distortion occurs in all signal generators. Un. modulated signal is available if desired.
SHIELDING: Thorough shielding of all critical circuits and components either individually or in compartment or both.

This includes oscillator tube, coil assembly. attenuator, switching circuit. Transformer is electrostatically shielded.
ATTENUATION: Ladder type step attenuator consisting of a multiplier and fine attenuator control.
AUDIO OSCILLATOR: 400 eycles at 50 ohms output impedance is available for external use - terminals on panel. Eight scales are clearly calibrated - continuous reading from 150 kilocycles to 220 megacycles. Planetary drive gives vernier tuning with no backlash. Tube complement-6BA6, 6SJ7, 6X4.


## Model 808AA

## Improved

'DO-ALL'’ TUBE AND SET TESTER
REVOLUTIONARY DESIGN includes all the features of the famous RCP Dynoptimum Tube Tester plus a cathode ray tube tester and reactivator plus a vacuum tube voltmeter with ohmmeter.

- AN OHMMETER: Reads all Resistance 0.2 ohms to 1000 megohms on 5 ranges. Use this instrument also to check condensors for leakage and shorts. - A REACTIVATOR: Revives and Reactivates many otherwise Dim or gad Television Picture fubes. Can also be used on other tubes.
- A CATHODE RAY TUBE TESTER: Will check all mag
nefic deflection type Television Picture tubes. Locates and isolates all shorts or leaks.
- A VT VOLTMETER (AC.DC) This really outstanding 17 Range instrument is a VT Voltmete for AC as well as DC. Balanced bridge type push-pull circuit. Oraws negligible current due O high impedance of 25 meg ohms. Accuracy $\pm 3 \%$ DC. $\pm 5 \%$ AC. Discriminator alignment
scale with zero center. AC \& $30-6$ to 42 . 14 to 5026 to 62
- A TUBE TESTER: All the teatures of the famous Dynoptimum free point tube tester protected against obsolescence - tests all modern standard, miniature, noval base and subminiature tubes. Easily read on 4 $1 / 2^{\prime \prime}$ meter


Equipped with a double slipproof roll index and enlarged, easy to read letters and numbers, the new RCP gO8AA is so designed as to simplify each operation. Truly a professional instrument for the professional technician



## Model 123 "FLYBACKER"

The answer to fast, reliable testing of flyback transformers ard yokes. Quickly, accurately, check the horizontal output circuit of all TV receivers.

Extremely sensitive, the Model 123 Flybacker immediately shows up a single shorted furn in a flyback transformer or yoke. up a single shorted furn in a flyback transtormer or yoke. in the home.

All tests can be carried out with the components in place in the TV receiver, and call-backs can be prevented by checking all flyback transformers and yokes in stock for opens, shorts, etc, Flybacker tests are also applicable to inductive windings on any transformer, choke, solenoid, relays, etc. where the impedance is not relatively low. In fact the instrument may be used as a proportional AC Ohmmeter

Three "GOOD 8AD" scales.

- One scale for vokes
- Tests low and high impedance yokes.
- Direct reading numbered scale
- Tests while components are in TV receiver.
- Tests high impedance sections of all fransformers.

Complete with test leads with alligator clips and tube and instructicns ready to use. Operates
on $105-125$ volts 60 cycle AC -size $6^{\prime \prime} \times 93 / 8 \times 43 / 4^{\prime \prime}$ —weight $61 / 2$ Ibs.- shipping weight 8 ibs.
\$39.75

## Remember You Can Do More With A "DO-ALL"

## RADIO GITY PRODUCTS CO., Inc. EASTON PENNSYIVANIA TESTEQUEPMENT

## Model 463 - NEW 20,000 PER VOLT MULTITESTER

- Low Enough in Cost so that No One Should Be Without a 463!

Small in size and with the utmost sensitivity, this compact, efficient unit assures dependable measurement for TV. FM, AM and industry. Designed for direct metering. the Model 463 eliminates warm-up time.
DC voltage multipliers are kept within one percent tolerance and are of the deposit type. Meter tolerance is well within two percent.
Light in weight Shipping weight.......................... 32 ounces Small in size $\quad 7^{\prime \prime} \times 43 / 8^{\circ \prime} \times 25^{\frac{5}{5} 0^{\prime \prime}}$

RANGES
DC Voltmeter:
$0.5-50.250-1000$ volts at 20,000 ohms per volt
AC Voltmeter:
$0-10-100-500-1000$ volts
Output Voltmeter: $0.10 \cdot 100-500 \cdot 1000$ volts
DC Milliammeter:
0.1-10.1000 mils.

Ohmmeter:
$0-10,000-100,000$ ohms, $10-1 \mathrm{meg}$.
$0-10 \mathrm{meg}$ $0-10 \mathrm{meg}$
Decibel Meter: -8 to +55 Decibels

$\$ 25.95$


## Model 327P - PORTABLE TUBE TESTER

- Meets All of Today's Tube Testing Neєds. Plus Tomorrow's Color Television Types
Here is a completely new approach in the developnent of a twe te:* Seramlined to meet all possible physical limitations, and yet witt more testine Eerformiares built-in than any related type. Tests all tubes in current radic and televisicy receivert, és well as fest tubes in color TV receivers; will check transmitting hearing aic talles, éseous rectifiers, and tuning indicator types.
A new approach to the tube testing data permits easy and rapid iesertic, ef new information when available. Data is also given on current color TV tutes
It will check CR Picture Tubes both black and white and celer $t$, ute $c$ : CR edapter cable (available at slight additional cosi). Black and white picture tuet: cer: : cecify te reactivated with this tester.

A fine instrument designed for ease of operation and portability. In solid oak carrying case with slip-hinge cover.
Size: $91 / 2^{\prime \prime} \times 11^{\prime \prime} \times 5 \frac{1}{2^{\prime \prime}}$
Shipping Size: $12^{\prime \prime} \times 13^{\prime} 1^{\prime \prime} \times 8^{\prime \prime}$
Weight: $91 / 2$ lbs. Net $\$ 51.95$
Shpg. Wt.: ।l libs. Net

FPCTURE TUEE ADAFTER CABLE - WiA permit checkine ethe rectimation of all magnetic deflect cr tyces wrife in the set or carton.
PTA.1-Fer Blk "Wr: Fic:-e :ubes $\mathbf{\$ 3 . 9 5}$ PTA2-FOR ELTCc C. Ficelre MODEL 456 F \$ $\quad$.95 MODEL 456-F-T.EE LCAERE

Nes Price $\$ 2.85$

## Model 480 - AC-DC MULTITESTER

- Exceptional Performance Achieved with Latest RCP Design Based upon the world-famous RCP 44 Multitester, the Model 480 sets an all-time high in value for an economical, rugged, universal tester that is a must for every laboratory, shop and serviceman's kit.
3' square meter with 800 microampere D'Arsonval movement, gives 1000 ohms per volt sensitivity on DC and AC. 8attery for ohmmeter circuit is readily removable and replaceable without soldering or unsoldering. Special spring contact clips make replacement immediately and easily.
Excellent rectifier characteristics and quality control of components in a very 'arge production result in an unusually low price. Here is a better, vet more inexpensive

Housed in a compact, smart looking custom-molded case and panel, the Model 480 equals in appearance its quality and performance

## RANGES

$D C$ Voltmeter $\quad 0-5-50-250-500-1000$ volts AC Voltmeter Output Voltmeter.
DC Millimmeter... Ohmmeter $\quad 1-10-100-1000$ ener $\quad 1000$ volts
$\quad 1 \mathrm{meq}$ ohms-100,000 ohms
1 meg and 10 meg external

MODEL 480:
Size: $7^{\prime \prime} \times 4 \frac{1}{3} 8^{\prime \prime} \times 27^{5}{ }^{\prime \prime}$
Weight: 20 ozs.
Shipping Weight: 34 ozs.
COMPLETE WITH BATTERY READY TO OPERATE


Model 785, WHITE DOT LINEARITY GENERATOR for Black and White, and Color TV Now Ayailable . . . See Ycur Jobber for
Complete Details and Prices.

## Ask Your Local Parts Distributor For The New 1954 RCP Catalog

## RADIO GITY PRODUCTS CO., Inc. Easton pennstivania TESTEQUIPMENT <br> (10) <br> $5=$

## SERIES 8020

# "DO-ALL" <br> TV SERVISHOP 

"You are in business

## for TV \& FM . . . UHF \& VHF

with a DO-ALL SERVISHOP'"
PORTABLE - COMPACT • VERSATILE


Handles $95 \%$ of your service in the home and in the shop. Check, test and align the set
from antenna to picture tube or speaker. All the instruments for necessary measurements from antenna to picture tube or speaker. All the instruments for necessary measurements right at your fingertips. The Series 8020 includes:

1. Model 750 . . . . . The DO-ALL TV Signal Generator-UHF-VHF
2. Model 534 . . . . . . The Midgetscope
3. Model 808AA . . . . The DO-ALL Tube \& Set Tester
4. Model HVMP-I

Hi-Voltage Multiplier Probe
(See detailed performance and specifications for these units elsewhere in this folder)
IN ONE PRACTICAL PORTABLE CASE
of finely finished natural oak with a compartment far tools, tubes, leads, etc, SIZE: $17^{\prime \prime} \times 141 / 2^{\prime \prime} \times 121 / 2^{\prime \prime}$. WEIGHT: $41 / 2$ LBS.
Series 8020 complete-incl. all necessary leads, ready to aperate.... $\$ 310.00$ Net

- SERIES 8023

Some as the Series 8020-Includes Models 750, 534, 808AA and HVMP-I. PLUS Model 730 SIGNALIGNER AF-AM(RF)-FM Signal Generator. For quickly and easily aligning and checking all circuits in AM and FM receivers. Fits snugly into portable case. (See detailed performance and specifications for this unit elsewhere
in this folder.) Series 8023

## MODEL 8873A • SERVISHOP

- Cathode Roy Tube Tester

A Service Package to Meet

- Cothode Ray Tube Reactivator Your AM-FM, and TV Test
- Tube Tester Needs!
- AF Signal Generator
- Vacuum Tube Valtmeter
- AM Signal Generator
- FM Signal Generator

This unit includes: An up-to-date tube tester for testing and rejuvenating Cathode Ray Tubes as well testing all modern, miniature, noval base and subminiature tubes. Uses the speedy Rollindex Tube Chart. A complete 17 range VTVM with exceptionally high input impedance ( 25 megohms). Check $A C$ and DC volts with negligible loading of circuit. Accuracy $\pm 3 \% \quad D C, \pm 5 \%$ AC. Measures ohms from .2 to 1000 megohms. Includes High-Voltage Probe. The Signal Gererator is a fixed frequency AM. FM generator and Audio Oscillator. Advanced engineering results in the fine performance of the Model 808AA Tube Tester-Reactivator and VTVM in combination with the Model 730 AF-AM-FM Signalignet
Complete with tubes, batteries, leads, etc, in beautifully finished oak portable case, ready to operate on $50-60$ cycle, 105 to 125 V . \$132.95 Net AC. Size $16 \frac{1}{2} \times 12 \frac{1}{4} \times 5 / 4$. Wt. 18 lbs. $\qquad$ MODEL 730- $\begin{gathered}\text { Gniversal Signaliner FM-AM (RF)-FM Signal } \\ \text { Generator }\end{gathered} \mathbf{\$ 2 7 . 9 5}$ Net


## Model 45 3C... New Master Multitester

## - The One Great 20,000 Ohms Per Volt Multitester

A brilliant new completely self contained unit. The Model 453C was designed for direct metering-eliminates warm-up time, grounding, etc. Assures accurate dependable measurements for TV. FM, AM and industry. RANGES:

DC VOLTS: 0-2.5-10-50-250-500-1000-5000 at 20,000 ohms per volt.
AC VOLTS: $0-2.5-10-50-250-500-1000$ volts
DC MICROAMPS: $0-100-$ DC MILLIAMPS: $0-10-100-500$.
OHMS: ${ }^{2-2000-200,000-M E G O H M S: ~ 0-2-20 ~ M e g . ~}$
DECIBEL5: -12 to -3 to 15 , 14 to 29,28 to 43,34 to 49,40 to 55.
Multiplier and shunts selected within $1 \%$ accuracy. Handsome with deeply etched brushed aluminum panel mounted in hand-rubbed shock resistant oak case.
Size $101 / 4^{\prime \prime} \times 67 / s^{\prime \prime} \times 37 / 8^{\prime \prime}$. Wt. $41 / 4$ lbs. Complete ready to operate at
$\$ 3550$


## Remember You Can Do More With A

The MASTER - 20th Edition

## RADIO GITY PRODUCTS CO., Inc. EASTON pennstivania TESTEQUEPMENT

## "RCP SOLDERLESS" TEST PROD NO. 950

A completely new patented solderless design. Alt internal. Assures a better contact electrically and mechanically. Will not cut the wire. Neat smart $51 / 2^{\prime \prime}$ pencil type prod permits entering into tight places. Handles are scived to minimize slippage. No more loose caps, lost caps or broken leads. (When ordering be sure to specify color.)

No. 950
Red or Black
$\$ .27$ each
"RCP SOLDERLESS" TEST LEADS NO. 921
The finest solderless test leads obtainable. Made with the new "RCP Solderless" test prod (No. 950 described above) which assures a neat, solid, dependable internal connection. Test leads are 48' long, pliable kinkless strand \#IBAWG wire insulated for 6000 volts.

No. 921 Standard Phone Tip $\$ 1.08$ pr. No. 921A Standard Alligator Clip .............................. 1.20 pr

No. 923 Insulated Phone Tip $\$ 1.41$ pr.
No. 923A Insulated Alligator
Clip .................. 1.53 pr.

RETRACTO-LEAD NO. 930
A self coiling retractable test lead that will not lose tension. Made with a fine quality heavily insulated stranded wire that has a built-in permanent curl. The prod is the new "RCP Solderless." The Retracto-Lead is needed on every test bench and lab. Extend it for use and then let it pull back and coil itself out of the way. Neat-clean-ready for instant use again. Eliminates tangled lines-shorts-messy benches. Extended leads are $71 / 2$ feet long. Phone tips are insulated No. 930
\$2.95 Pair



## TEST LEAD NO. 901

High quality test leads for professional use under all working conditions. Materials and workmanship are tops assuring dependability and long life. Slim, good looking 5 $1 / 2^{\prime \prime}$ pencil type prod handles are firmly soldered to well insulated kinkless, stranded wire. Leads are $48^{\prime \prime}$ long.

No. 901 Standard Phone Tip.. \$ . 96 pr. No. polA Standard Alligator Clip …...................... 1.08 pr

No. 903 Insulated Phone Tip $\$ 1.29$ pr.
No. 903A Insulated Alligator Clip 1.41 pr .

HEAVY DUTY HIGH VOLTAGE TEST LEADS NO. 910
"Scientific'" High Voltage Test Leads are designed for use up to 30,000 volts with a good safety factor. Attractive in appearance, they incorporate the highest quality materials and construction. Features include- $7^{\prime \prime}$ heavy duty prod-heavy duty hardened steel prod points-triple barrier leakage guardheavy duty kinkless leads 54" long with negligible leakage.
No. 910
$\$ 3.95$ Pair

## HIGH VOLTAGE MULTIPLIER PROBE

A fine, well made hi-voltage multiplier probe to extend the range of our units to 30,000 volts. Absolutely safe for handing high voltage. Streamlined tip is convenient for getting into "tight" places.
HVMP-1-For use with Models 808AA, 654, 345 ..... $\$ 8.95$
HVMP-2-For use with Model 655 ..... 8.95
HVMP-3-For use with Model 657A ..... 8.95
HVMP-C-Universal probe without termination, or resistor. For any VTVM and 20,000 ohm per volt multitester.. ..... 4.95


Kits can be supplied for Model \#480 Multitester, a $5^{\prime \prime}$ Wide Band Oscilloscope, Model \#327K Tube Checker, a Vacuum Tube Peak-to-Peak Voltmeter, and a Geiger Counter. Write for information and prices.

## Remember You Can Do More With A "DO-ALL"



Model 120: complete with batteries, test leadr. and manual. Over-all case dimersions: $53 / 8 \times 7 \times 31 / 8^{\prime \prime}$. Net Price - $\mathbf{\$ 3 9 . 9 5}$
Accessories Available for Model 120 Model TV-2B: Super-High Voltage Safetg Test Probe. Direct reading to 30 KV Model LC-3: Leather Net Price - \$14.75 Custom-crafted of top-grain cowh:de Part No. ST-1: Retractable, snap-on stand, permits convenient 45 degre lable mount. Net Price - $\$ 1.00$

## Series 120 High Sensitivity, Mult-Range Test Set 20,000 OHMS PER VOLT DC - 5,000 OHMS PER VOLT AC 44 Self-Contained Ranges from 1.2 volts to 6,000 volts, 60 microamperes to 12 amperes, $-\mathbf{2 0}$ to $+\mathbf{7 7} \mathrm{db}, \mathbf{2 0 0}$ ohms to 20 megohms

The Model 120 provides a combination of features, ranges and functions that hove been most wanted in a portable, high sensitivity, multi-range test set.

MORE RANGES ... the ' 120 ' has 44 . . . which start lower and go higher than is usually associated with instruments of its size and type.
AN EXTRA-LOW RESISTANCE RANGE . . . a 2 -ohm center scale range, powered by long-lived, internal 1.5 battery source.
AN EXTRA-LOW VOLTAGE RANGE . . . 1.2 volts full scale, AC and DC.
AN EXTENDED LOW CURRENT RANGE . . . a 60 microampere first DC current range. A LARGER and EASIER READING SCALE FACE . . . on a new, extra-large $51 / 4^{\prime \prime}$ meter. SIMPLE, POSITIVE RANGE SELECTION ...an 18 -position, positive-detenting, master range selector with low resistance, dependable silver-plated contacts.
FUGGGED, POSITIVE CONTACT JACKS and PLUGS . . . the ' $120^{\circ}$ incorporates specially designed, low resistance, solid brass, banana type plugs and jacks.

## RANGES and SPECIFICATIONS

* 8 DC Voltage Ranges: 20,000 ohms/rolt 0-1.2-3-12-60-300-600-1200-6000 volts.
- 8 AC Voltage Ranges: 5,000 ohms/volt. -1.2-3-12-60-300-600-1200-6000 volts.
- 8 AC Output Ranges: same as AC volt ranges. Built-in 600 V . blocking capacitor. 7 DC Current Ranges: 0-60-300 Microamperes. 0-1.2-12-120-600 Ma. 0-12 Armps. - 5 Resistance Ranges: self-contained 0-200-2000-200,000 ohms. 0-2-20 megohms. 8 Decibel Ranges: from -20 to +77 DB. $0 \mathrm{DB}=1$ Milliwatt, 600 ohms
- Extra Large 51/4" Rugged 'Pace' Meter: 40 microamp sensitivity. $2 \%$ accuracy.
* $1 \%$ Multipliers and Shunts: wire-wound and high stability deposited-film types.
* Only 2 Plug-Jacks Serve All Standard Ranges: separately identified and isolated jacks provide for extra-high ranges.
* "Transit" Salety Position on master range selector, protects meter during transportation and storage.
- Custom-Molded Phenolic Case and Panel set a new standard for compact, efficient, laboratory instrument styling. Deeply engraved panel characters afford maximum legibility throughout the life of the instrument.



## MODEL 88 VTVM ond ELECTRONIC OHMMETER <br> Complete with 3-Way Universal Test Probe PEAK TO PEAK VOLTAGE RANGES 103200 VOLTS Plus True Zero-Center and Lefi-Hand Zero VTVM Ranges

A compact, wide range instrument for modern electronic circuit checking in the laboratory, on the production line and for general service-maintenance. Many advanced features include specially engineered Peak-to-Peak voltage ranges which afford a new high in P.P reading accuracy of pulsed waveforms encountered in Color or Monochrome TV and similar applications. 7 DISTINCTLY SEPARATE FUNCTIONS with 40 SELECTED, WIDE-SPREAD RANGES

- TRUE-ZERO.CENTER DC VOLTAGE RANGES. Eliminates need for test lead reversal or polarity switching: Constant 262/3 Megohms input resistance. $0 \pm 1.2 \pm 6 \pm 12 \pm 60 \pm 300 \pm 1200 \mathrm{~V}$.
- 5 ELECTRONIC OHMMETER RANGES. Covers wide range of resistance values encountered in modern electronic circuits. AM-FM-TV: $0-1000-10,000 \mathrm{ohms}$.

1. 6 (-)MINUS DC VOLTAGE RANGES: (lett-Hand-Zero) constant 131/3 Megs. input resistance.
$0-12-6-12-60-300-1200$ volts.
16 ( + ) PLUS DC VOLTAGE RANGES: (Lett-Hand-Zero) constant $131 / 3$ Megs. input tesistance.
$0-12-6-12-60-300-1200$ volts.

- 6 High Impedance RMS AC VOLTAGE RANGES:
0-1.2-6-12-60-300-1200 volts.
Input Characteristics:
Up to 60 V Range: 3 Megohms, 90 mmfd. 1200V Range: $4 \mathrm{Megohms}, 67 \mathrm{mmld}$.
- 6 High Impedance PEAK-TO-PEAK AC VOLTAGE RANGES:
0-3.2-16-32-160-800-3200 volts
Input Characteristics:
Up to 160 V Range: $6 \mathrm{Megohms}, 90 \mathrm{mmtd}$. 800 V Range: 1 Megohm, 70 mmid . 3200 V Range: 4 Megohms, 67 mmid .
-5 SPECIAL HF PROBE RANGES: Extends AC RMS reading facility to 300 Mc $0-1.2-6-12-60-300$ volts RMS.
(Requires PRECISION RF-IOA HF Probe.) Probe input capacity:-approx. 5 mm dd. $\star$ ONE UNIVERSAL, COAXIAL AC-DC VTVM PROBE serves all functions other than high frequency probe ranges.
$\star$ PEAR-TO-PEAK "RE-SET" PUSH. BUTTON for rapid "zero" return of electronically damped test circuit
* LARGE 51/4" RUGGED PACE METER: 200 microamperes sensitivity, $\pm 2 \%$ accuracy. Manufactured in PRECISION'S own modern meter plant.
$\star 1 \%$ MULTIPLIERS and SHUNTS: wirewound and deposited-film types
$\star$ CUSTOM-MOLDED PHENOLIC CASE and PANEL: Compact, eflicient, laboratory instrument styling


## The New Deluxe Line of PRECISION Test Equipment...


(VTVM's, Signal Generators, Oscilloscopes, Tube Testers, etc.)
. . . is now available at all leading electronic parts distributors. Models were not yet ready for photography and presentation in this edition of Radio's Master. When it went to press last spring.

The Deluxe line represemts a new concept in electronic instrument design. with brilliamt, functional styling . . satin-bruslied. aluminum pamels with hiyh-contrasting. deep-etched blue and red eharaters . . and cnstom molded, mateled blue control hnobs. Open metal-cased portable models are housed in blue-gray, ripple-tone-finished, heary gauge. hooded steel cahinets with integrated 'snap-flat' saddlestitched carrying handles. Closed portable models are encased in natural, rubbed-finish hardwood cabinets.

The PRECISION line also continues to be available in the popular Standard black models, with matching black panels. Electrically, identical to their Deluxe counterparts.


## 

## Testers

## APPLIANCE TEMPERATURE TESTERS

A NEW IDEA IN TESTERS - The need for scientilic but sturdy portable test equipment in the appliance service field is met by this exclusive line. Here the user profits from J-B-T's wide experience in building field test sets for many well-known manufacturers of ranges, irons, refrigerators, deep freeze units, and similar equipment. All J-B-T testors include the principle of remote reading of temperature, -and temperature measures the real usefulness of the appliance. Although called appliance testers, these handy portable testers have found a multitude of uses for trouble-shooting,
experimenting and research in industry and in laboratories.
 ware. Characteristic of more expensive pyrometers, the $23-\mathrm{JP}-1$ is outomatically compensated for ambient temperature. Thus the tester eliminates calculations, avoids likelihood of serious error os temperatures change inside the instrument itself serious error as proof direct readings. Supplied writh attached SA-116 $51 / 2^{\prime}$ cali brated thermocouple, clip, and convection shield....-

MODEL 32-JP-3. This sturdy, fast reading portable is by far the most widely used oven tester in the country. The rigid outer carrying case $6^{\prime \prime} \times 37 / 8^{\prime \prime} \times 33 / 4^{\prime \prime}$ is covered in black leatherette; the glass-covered indicator fits in a $31 / 4^{\prime \prime}$ flanged metal case. The dial shows $0-650^{\circ} \mathrm{F}$. in $10^{\circ}$
divisions readable to $21 / 2^{\circ}$. Excep-

tionally fast, continuous response. Automatic compensation for ambient temperature is valuable feature whether the tester is used for service work.
sales demonstrations, or inspection. More details on the 32-JP-3 are available in Bulletin JP-103. Price includes attached SA-116 51/2 calibrated thermocouple, clip for attaching to grill, and convection shield for steady read-


## VERSATILE OVEN TESTER

MODEL 32-JP-4. Companion tester to the 32-JP-3 with all the features of that tester, plus a leather carrying strap, and binding posts for quick attachment and interchanging of various thermocouples listed on this page, to check irons, washers, waflle-bakers, toasters, roasters, clothes dryers, etc. Range, $0-650^{\circ} \mathrm{F}$; black leatherette case $6^{\prime \prime} \times 37 / 8^{\prime \prime} \times 33 / 4^{\prime \prime}$. More details on the 32-JP-4 are available in Bulletin JP-104. Price includes SA-116 $51 / 2^{\prime}$ calibrated thermocouple, clip and convection shield.

## IRON TESTER



MODEL 32-J1T. Self-contamed bench type tester; checks all makes of irons; measures thermostat temperatuses; and shows open or short cucuits. Automatically compens ated for room temperature. Also indicates operating temperature of the sole plate (working suiface) on non-electric or cordless :rons. Black metal base; overall size $10^{\prime \prime} \times 12^{\prime \prime} \times 51 / 2^{\prime \prime}$ ' scale $0-650^{\circ} \mathrm{F}, 15 \mathrm{amp}$ fuse, $6^{\prime}$
cord, 110 -volt, $50-60$ cycles......... $\$ 31.65$

## OVEN TESTERS

MODEL 23-JP-1. Latest addition to the widely-known family of J-B-T oven temperature testers is this modern and compact unit. Like the Models 32 -JP-3 and 32-JP-4 described below, this indicating portable pyrometer is designed to save time and furnish reliable information in testing and setting thermostats on electric or gas ranges and other appliances by showing oven temperatures as they change. The same size of dial, $0-650^{\circ} \mathrm{F}$., with $23 / 8^{\circ \prime}$ scale arc reading, is used but covered by an all-plastic instrument front. The indicator is mounted on a black metal panel affixed inside a pocket-sized, black top-grain leather case $41 / 2^{\prime \prime} \times 27 / 8^{\prime \prime} \times 41 / 4^{\prime \prime}$ over hard-


MODEL 61-JRT. This 9-in-1 tester speeds accurate temperature adjustment and current analysis of ranges, reIrigerators, etc. Rapidly reads four cold zones, $-100^{\circ} \mathrm{F}$. to $+80^{\circ} \mathrm{F}$. up to $14^{\prime}$ distant; two heat zones $0-600^{\circ} \mathrm{F}$. up to $51 / 2$ distant; one voltage range $0-300$ AC; and with transformer, two current ranges, $0-30$ and $0-60$ amps, AC. Sturdy, polished walnut case $151 / 2^{\prime \prime} \times 10{ }^{\circ}{ }^{\prime \prime} \times 43 / 4^{\prime \prime}$ with handle and slip hinges. Two-color etched metal panel.
 Separate switches protect
bulb and ammeter circuits. bulb and ammeter circuits. Requires one standard flash-light cell, replaceable in the field. Temperature scale accuracy $\pm 2 \%$ of full scale. Rectified $A C$ readings $\pm 5 \%$. Accessories listed below may be added for testing irons, grills, roasters, washers, eic. Includes two SA-iE? resistance bulbs, two SA-116 thermocouples, necessary electrical leads, and AS-TR-2 built-in transformer.............................................. $\mathbf{\$ 1 0 7 . 2 5}$

For more details, see Bulletin JRT-349.
MODEL 61-JRT (LESS TRANSFORMER). Same unit, same scales, except does not read in amperes; AS-TR-2 transformer assembly omitted

## THERMOCOUPLES

(See next paqe for Resistance Bulbs and Transformers)
SA-116 with SHIELD and CLIP. Standard flexible No. 22 gauge iron constantan, asbestos insulated, $51 / 2^{\prime \prime}$, with attachment clip and convection shield as normaliy supplied with 23-IP-1, 32-IP-1, 32-IP-2 $32-\mathrm{IP}-3$ 32-JP-4; $60-\mathrm{JRT}$ and 61-JR'T Testers. (See SA-199 for extra quality, glass
insulated type). SA-116

SA-170 (REPLACEMENT THERMOCOUPLE for IRON TESTERS 32-JIT and IT-1). Thermocouple and lead, including aluminurn plate and special tip, quickly installed in the field - $\$ 2.10$

SA-175 (PLAIN TIP). For roasters, waffle irons, etc., $51 / 2^{\prime}$ iron constantan tlexible No. 22 gauge, asbestos insulated, with small ball ip; used where clip und shield of SA-116 not suitable; for Models

SA-176 (for TOASTERS, te) 51/' asbestos insulated, with special disc to collect hecti easily asbestos insulated, with special disc to collect heat, easily
attached to $32-\mathrm{JP}-2$ and 32 -JP-4 oven testers, also 60-JRT and attached to $32-\mathrm{JP}-2$ and $32-\mathrm{JP}-4$ oven testers, also $60-\mathrm{JRT}$ and
$61-\mathrm{JRT}$

SA-188 (for AUTOMATIC WASHER TEMPERATURES, otc.)
${ }^{\prime \prime}$ diameter copper tube, $4^{\prime \prime}$ long, encloses thermocouple for nsertion in pipe or sample of water. Has $6^{\prime}$ leads for attachment to 32-JP-2 and 32-JP-4 oven testers, also 60-JRT and 61-JRT...... $\$ 3.85$

SA-199 with SHIELD and CLIP. Same as SA-116 above, except duplex, non-fraying glass braid construction; diameter $115^{\prime \prime}$; recommended for frequent use with these testers at temperatures
above $400^{\circ} \mathrm{F}$. ...


SA-300 (for SURFACE READINGS). Spring-lype iron constantan in Transite tip with handle and 5' No. 22 gauge lead for extremely rapid heat readings: for attachment to 32-JP-2 32-JP-4, $60-\mathrm{JRT}$ and $61-\mathrm{JRT}$ appliance -

SA. 301 (REPLACEMENT TIP FOR SA-300). Transite tip and thermal element only


ACCESSORY IRON TESTER, MODEL IT-1. This attachment it identical with the 32-JIT, except there is no meter. It is easily connected to Models 32-JP-2, 32-JP-4, 60-JRT and 61-JRT. Shows open circuits and shorts, checks sole plate tempera. tures and thermostats on all typet
of trons

# Instruments Testers 

## TEMPERATURE INDICATORS

WHERE TO USE: To determine heat rise of motors, transformers and coils; for laboratory rurnaces, inspection set-ups, for remote indication of infra-red and other oven temperatures; and to check temperatures in indus-
trial processes such as heat treating and annealing. When used with selector switch, permits centralized reading of one to ten thermocouples, as in Diesel exharist manifold applications.

MODEL 32-J
MODEL 32-J PYROMETER IN SN- 7 STAND. Mounted in sloping front black metal sloping front black, metal stand, $41 / 4^{\prime \prime}$ high x $43 /{ }^{\prime \prime}$ deep $x 41 / 8$ Wide. Compensated for ambient temperature. Medium resistance system, dampe, for quick reading on 23/6 scale, assures ruggedness and pointer stability. To reinstallation: accuracy of the installation: use only the mocouple and lead whicher mocouple and lead which are provided; do not cut extra eadcoil it-change in length changes calibration. A protection tubs is not generally required. Many users find at convenient to keep
an extra couple and lead on hand.

MODEL 32-I IN SN-7 STAND (Supersedes SV-3 Stand)
$0^{\circ}-650^{\circ} \mathrm{F}-350^{\circ} \mathrm{C}$, includes SA-91 thermocouple, SA-84
$0^{\circ}$ lead, and CB-1 connector block $1200^{\circ} \mathrm{F}-650^{\circ} \mathrm{C}$ includes SA- 87 SA-82 and CB-1 $\begin{array}{ll}0^{\circ}-1200^{\circ} \mathrm{F}-650^{\circ} \mathrm{C} \text {, includes } \mathrm{SA}-87, \mathrm{SA}-82 \text { and } \mathrm{CB}-1-30.25 \\ 0^{\circ}-2000^{\circ} \mathrm{F}-1100^{\circ} \mathrm{C} \text { includes SA-87, SA-82, and } \mathrm{CB}-1 & 30.25\end{array}$

MODEL. 32-J IN SN-8 STAND (not illustrated). With 3 b nding posts to accommodate flexible extra lead and thermocouple for hard-to-reach locations. (Stand Supersedes SN-5)
$0^{\circ}-650^{\circ} \mathrm{F}$ with SA-91 thermocouple, SA-84 lead, CB-1 comector block, and SA-86 flexible lead and thermorouple............... $\$ 34.10$

## MODEL 60-JPS

MODEL 60-JPS. This partable makes it easy to know temperatures at one to ten locations. Excellent for study of heat in various parts of the same equipment, or in a battery of units. Knife-edge pointer, $5.6^{\prime \prime}$ scale. Heavyduty thermocouple switch has average contact resistance of .002 ohms or less. Automatically compensated for ambient temperature, indoors or outdoors. To retain accuracy of $1 \%$ full scale, use leads and thermocouples equal to resistance and e.m. couples equal to resistance and e.m. which instrument is calibrated Medi um resistance system assures portability. Housed in natural-finish wood ability Housed in natural-finish wood
 enance, and engineering $60-\mathrm{JPS}-0^{\circ}-600^{\circ} \mathrm{F}$ with SA-86, $7^{\prime}$ thermocouple and lead 60 for small apertures $\qquad$ 101.85
10450 $60-\mathrm{JPS}-0^{\circ}-1200^{\circ}$ F with SA-88, SA-82, and CB-1 $\qquad$ 104.50 60 -JPS O $^{\circ}-2000^{\circ} \mathrm{F}$ with SA-88, SA-82, and CB-I 104.50 S0-JP-For one thermocouple only; furnished with thermoroupls and lead same as 60-JPS, but without seletor switch.
 $60-\mathrm{JP}-0^{\circ}-1200^{\circ} \mathrm{F}$, with SA-88, SA-82, and CB-1 $\qquad$ Note: When ordering additional thermocoubles, specify couples and leads as above. Centigrade equivalent scales available on order.

## MODEL 70.J

MODEL 70-J PYROMETER, for accurate, reading at a distance, has full 6' scale and spade pointer, with accuracy of $1 \%$ of total scale deflection. Automatically compensated tor ambient temperature. Molded case mounted in metal protecting shell $73 / 8^{\prime \prime} \times 81 / 8^{\prime \prime} \times 11 / 2^{\prime \prime}$. Connections through bottom of case for wall or front-of-board mounting. When ordering, specify which standard scale range: $0^{\circ}-600^{\circ} F$ for 1938 std. I-C; $0^{\circ}-1200^{\circ} \mathrm{F}$ for $\mathrm{C} \cdot \mathrm{A}$

[^36]

## RESISTANCE BULBS (FOR COLD TESTING)



SA-142. Bulb with $14^{\prime}$ polyethylene ribbon type lead, for use only with Model 60-IRT; calibration is not in terchangeable with SA-162; has no embossed number .......................... $\mathbf{\$ 5} 50$
SA-162. Bulb with $14^{\prime}$ polyethylene ribbon type lead, for use only with Models $50-50$ and $61-\mathrm{JRT}$; has em bossed part number.......................... $\$ 5.50$
CL-90 CLAMP. Metal clamp for holding SA-142 and SA-162 resistance bulbs in contact with surfaces up to $1 / 4^{\prime \prime}$, $\$ 0.28$

## TRANSFORMERS

AS-TR-2. Attachment for compartment of 61-JRT all-purpose tester, completely housed, with jumper lead and panel; reads 30 and 60 AC amp. scales on tester-...._ $\$ 16.50$ AS.TR-3. Attachment for increasing usefulness of 60-JRT all-purpose tester. Includes side rails for attaching inside compartment; fully housed. Reads 30 and 60 AC amp. by dividing volt scale by 10 or 5

## TEMPERATURE ACCESSORIES

LEAD WIRES. To bring the reference junction within the pyrometer, compensating or extension lead wires should always be used. See the instrument dial for (1) the kind of lead and (2) combined resistance of lead and thermocouple. Standard leads include:
SA-82 6' compensating lead for chromel-alumel couples; duplex, stranded; asbestos-insulated, cotton-braid impregnated with moisture-proof and flame-proof compound; terminals a instrument end; other end tinned for connector block..... $\$ 1.55$ SA-83 $26^{\prime}$ compensating lead for chromel-alumel as above SA-84 6' extension lead for iron-constantan, 1938 calibration; duplex; moisture-proof and flame-proof; prepared as above

SA-85 26' extension lead for iron-constantan, 1938 calibration similor to above. SA-86 ${ }^{7}$ iron-constantan thermocouple and lead combined; twisted pair No. 20 Ga., asbestos-insulated-for intermitten use oa $650^{\circ} \mathrm{F}$ scales; terminals at meter end; other end welded. (Resistance not interchangeable with SA-84 or SA-85)


THERMOCOUPLES, For pyrometers and leads above, J-B-T thermocouples are carefully selected, standardized, and tested. SA-87 12" No. 14 Ga. chromel-alumel, 2-hole ceramic beads. fits $5 / 16^{\prime \prime}$ hole; welded tip__ $\$ 3.10$ SA-88 same except $24^{\prime \prime}$ No. 14 Ga. \$3.85 SA-89 12' No. 8 Ga. chromel-alumel, 2-hole ceramic beads fits 7/16" hole; welded tip__ $\mathbf{\$ 3 . 1 0}$ SA-90 same except $24^{\prime \prime}$ No, 8 Ga._._._._._._ $\$ 3.85$ SA-91 12' No. 14 Ga. iron-constantan, 1938 calibration; 2-hole ceramic beads, fits $5 / 16^{\prime \prime}$, hole; welded tip $\$ 2.60$ Flexible Thermocouple, 7 ' length, see SA-86 lead wire.

CONNECTOR BLOCK Model CB-1. Lava connector block, withstands high terrperatures, accommodates all thermocouples up to No. 6 Ga. Heavy brass connectors keep contazt resistance low. Can be | used independent of connector |
| :--- |
| head. |



PROTECTION TUBES. To support, enclose, and protect thermocouples like the above, especially at higher temperature or in damazing atmospheres, various wrought iron or alloy protection tubes are recommended. Please request separate catalog sheet on them, also covering CH-6 connector head.

## Instruments JBI <br> Testers

 (Patented)
## VIBRATING REED FREQUENCY METERS

J-B-T Vibrating Reed Frequency Meters are used extensively in radio, telephone, and television service, on engine generator sets, in laboratories, in many types of electronic equipment, on panel and control boards, in inspection set-ups - wherever constant or known frequency is important to efficient operation of equipment. More than 13 years of continuous experience covering many thousands of these instruments are your assurance of quality for both commercial and defense applications.
The patented, smplified desian used in the J-B-T netel ope: ites on AC or inter:upted DC. Each reed is adjusted to respond by resonance to but one hequency. As the curient excites the driving cosl, the reed "in tune" with the frequency in the coll will :espond by v.brating igpidly because of permanent magne: polarization and induced magnetism fiom the conl. The instrument is adapted to specified operating voltage by a sesies resistor. To determine fiequency, simply read the reed.

The response patterns differ with the increments of frequency between reeds. For example, at 60 cycles, half-cycle steps give the broad response shown below at left, whereas full cycle steps bring the sharp response at right.


CAUTION: lit 60 cycles, trust the meterl Power supne may momentarily be off-frequency due to changing load cond tions. All J-B-T Frequency Meters are accurately cahbrated at the factory, entirely independent of frequency of power supply.
Production and inspection equipment are checked regularly Production and inspection equipment are checked reg
against National Burean of Standards frequency signals.

(Meter operating at 60 cycles)

10 REEDS
Range: $48-52$ and $58-62$ cycles. Double window for ease of reading either range. Often
specified for export. $100-130$ volts; 130 ohms per volt; l watt power consumption. Accuracy
$\pm 0.3 \%$ at reference tempera$\pm 0.3 \%$ at reference tempera-
ture. Flush panel mounting. ture. Flush panel mounting.
See Table of Dimensions, lines See Table of Dimensions, lines 4 and 5.
30-F (illustrated). $48-52$ and 58 ase.
$\mathbf{S 2 7 . 5 0}$ $\begin{array}{ccc}\text { 30-FX. } 48-52 \text { and } 58-\mathrm{b} 2 \mathrm{cy} & 312^{\prime \prime} \\ \text { Molded Case, MIL-M-6A. } & \text { mia. }\end{array}$ $\$ 27.50$

ADVANTAGES: Guaranteed accuracy at reference temperature of $77^{\circ} \mathrm{F}$ is $\pm 0.3 \%$ or better of the AC frequency being measurea, unless otherwise stated. Accuracy on interrupted DC may be somewhat less. High fatique safety factor for continuous opera: :on. Temperature compensations are not required as temperature coefficient of reeds is only approximately 75 parts per million :2er degree F., negative.
All meters are permanently calibrated at the factory and do not . equire subsequent adjustment. J-B-T reeds have relatively high $Q$ characteristics, an especially desirable factor in electronic circuits. Wave form or external magnetic fields do not ordinarily hav an adverse effect. Built with no pivoted parts and with lock washers at every crimal pornt, these rugged meters can toke iougher treatment than many instiuments.


9 REEDS - 60 CY .
Covers a broad frequency band. Nine reeds, $56-64$ cycles, or 1 m hali-cycle steps (accuracy
$\pm 0.2 \%$ ) 58.62 cycles. $100-130$ volts; 130 ohms per volt; 1 watt power consumption. Flush panel mounting. Sce Table of Dimensions, lines 4 and 5 . 34-F. 56-64 cy. 31/4' Metol . 1 , 34-FX (illustrated). 56-64 cy. $31 / 2^{\prime \prime}$ Molded Case, M1L-M-6A 34.F-Z. $58-62$ cy., $31 / 4^{\prime \prime}$ Meta Case, $1 / 2$-cycle steps..... $\$ 28.90$ 34-FX.Z.. $58-62 \mathrm{cy} ., 31 / 2^{\prime \prime}$ Molded

## 18 OR 21 REEDS

Advanced design offers 21 reeds as an interchangeable $31 / 2^{\prime \prime}$ panel meter with 2-cycle intervals for close reading over the band of 380 to 420 cycles per second. Accuracy $\pm 0.3 \%$ at reference temperature. The ieed flag size is necessarily
smaller than the g-reed 400 sycle meter, such as the mode; cycie meter, such as the mode.
$33-\mathrm{FX}$, but the 21 reeds are ocrated in an enlanged window $2^{\prime \prime}$ wide with flacis 3 32" high readab.lity. A revised :nierng:
is mone cirmp assures :u't:d\%here unusurtly clore ind ration of frequency thiourthout the 36-FX-2I $\qquad$ cl.s, 21 reeds, 38 volts, 3 ! S51.60
36-FX.21-115 (ss illusirctec)
volts; 50 ohms per yoli; 2.5 :rgtis power consumption........ 552.80
30-FX-18 (rct ! !us?


[^37]
## Instruments JBI

## 21/2" METERS - 5 REEDS

MODEL 21-FX, illustrated, matcies other $21 / 2^{\prime \prime}$ panel instruments. Meets ASA C39.1-1951 and MIL-M-6A (Type MR 24 or MR 25) in

(Operating at 60 cycles) depth of case and mounting dimensions. Weighs only $41 / 2$ ozs.; 5 reeds; 850 ohms per volt; 0.15 watt power consumption. Also 116 to 124 cy .; 250 ohms per volt; 0.5 watt power consumption. 390 to 410 cy .; 100 ohms per voli; 1.3 watts power consumption. Flush panel mounting, see Print MD-20, also Table able $380-420 \mathrm{cy}$.
21-FX, 58-62 cy., 2-11/16" Molded Case, 1 cy. steps..... $\$ 22.55$ 21-FX, 116-124 cy. $2-11 / 16^{\prime \prime}$ Molded Case, 2 cy. steps..... $\$ 25.30$ $\begin{array}{ll}\text { 21-FX. } \\ \text { Molded Case, } 5 \text { cy. } & \text { steps. } \\ \text { 2-11/1 } \\ \$ 27.50\end{array}$

## ELAPSED TIME - FREQUENCY METERS

31-FE SERIES. To conserve panel space and centralize information, this panel instrument combines the with frequency running time meter wh requency reeds. It is used on motor generalor sels and on electrical equipment where maintenance routine calls for periodic servicing; The J-B-T design, proved by years of field experience, uses a separate exciting coil for the reeds to achieve close control of reed amplitude and frequency. Reads 0-9,999.9 hours, 100-130 volt operation. self starting $100-130$ volt operation; self starting. Tenths shown in red, all other numerals in black. Black metal case with front mounting per Table cf Dimensions, line 6. Power consumption is 3.5 watts. For variations having
such as Model 34 -FE, see revised print SK-45.
31-FE, $31 / 4^{\prime \prime}$ metal case.... $\qquad$ $\$ 33.00$ 31-FEX-1, (כer print §K-44-not regularly stocked) like Model 31-FE, except with $31 / 2^{\prime \prime}$ metal flange permanently attached for MIL-M-6A front mounting per line 7. Table of Dimensions.... 534.10

## RUGGEDIZED FREQUENCY METERS

The inherently sturdy construction of vibrating reed meters usually does not need further ruggedization. Sealed meters can be supplied, on special order, to meet extra severe shock and vibration requirements. Such reed meters carry the suffix RUG.


## NOTE ON METER VOLTAGE

J-B-T Vibrating Reed Frequency Meters of all sizes ncrmally are made with two studs and are designed to be cornected across one phase of a multi-phase line. The single phase voltage where the meter will be used thus becortes the voltage to be specified for the meter. Special meters with extra studs are made only for the purpose of reading two or more voltages, not additional phases.

## 31/2" SEALED METERS

FHXX TYPE sealed meters, glass-to-metal construction with solder terminals and detachable flange, supersede the former FHX sealed meters (Frint SK-24). While JAN-I-6 and MIL-M-6A (Type MR36) do not refer to frequency in-
dicators, the FHXX series dicators, the FHXX series uses the front mounting dimensions, and meets or exceeds the sealing and electrical requirements including Mounting dimensions are Mounting dimensions are shown below. Slamard volt age is 100-130. Electrical are the same as for corresponding models without the HXXX designation. Every meter tested in water where the absolute pressure of the air above the water is reduced to 2.5 inches of mercury (cpprox. $57,000 \mathrm{ft}$ altitude) and is maintaned for one rinute While not regularly stocked, these meters are in production. Fo:
dimensions, see Table, line 8 .
$30-\mathrm{FHXX}, 10$ reeds, $48-52 \mathrm{cy}$. and 58-62 cy ................. $\$ 34.30$ 31.FHXX, 5 reeds, 58-62 cy................................................................... 30.45 33-FHXX, 9 reeds, $380-420 \mathrm{cy} . . .$. 34.FHXX, 9 reeds, $56-64 \mathrm{CY}$...................................................................... 34.05 34-FHXX-11, 11 reeds, $55-65 \mathrm{cy}$. 34-FHXX-Z-11, illustrated, 11 reeds, $57.5-62.5$ cy.............................. 37.90

## 21/2" SEALED METERS

As instruments available on special orders, J-B-T will supply $21 / 2^{\prime \prime}$ sealed frequency meters with mounting per Trpe MR 26 of MIL-M-6A. See 21-FHXX, line 3, Table of Dimensions.

## 11/2" SEALED METERS

(Military specifications covering this size of instrument pending) MODEL 15-FHAC. Widely used as the frequency standard on audio-oscillators, the model illustrated operates 2 reeds, 60 and 400 cycles, at approximately $8-10$ volts on 0.04 watts for a cathode follower circuit. Accuracy $\pm 0.5 \%$ at $77^{\circ} \mathrm{F}$. Steel case has telephone black case, solder terminals. Barrel is $11 / 2^{\prime \prime}$ diameter; 2-3/32"' detachable flange FL-4 covers glass-to-metal seal. See Table of Dimensions, line 1 15-FHAC $\qquad$ $\mathbf{\$ 2 0 . 3 0}$ 15-FH-5 METERS (lower photo) also use the $11 / 2^{\prime \prime}$ black metal case with $2-3 / 32^{\prime \prime}$ detachable flange and glass-to-metal seal. The $15-\mathrm{FH}-5$ series features 5 reeds in a row for 100-130 volt operation. Specified where size and weight are important. Same $100 \%$ inspection for approx. 57,000 ft. altitude as FHXX types. Standard meter, but not regularly stocked. See Table of Dimensions, line 1 . 15-FH-54, 5 reeds, 390-410 cycles,
watts power consumption $\mathbf{\$ 2 5 . 8 5}$ 15-FH-56, 5 reeds, $58-62$ cycles, 0.25 watts power consumption-...... $\$ 21.45$


FREQUENCY METERS, TABLE OF DIMENSIONS, INCHES


## Instruments JBI

Testers

ELAPSED TIME METERS; 4" AND
ELAPSED (OR RUNNING) TIME METERS - 60 Cycles
 MODEL 31-EX. To recard operating tquipment, this self-starting synchronous iristrument registers in $1 / 10$ hh hour steps to $9,999.9$ hours, then automaticcrly ro-sets. Shows then automaticaly ro-sets. Shows blick. Black molded case per diaquency meters, and fully encloses fit pary met 1 -B-T engmeers recommend AC elapsed time meters for superior widely. Popular for tube life, TV equipment, punch presses, vary veyors, oil Eurners, maintenance schedules, etc. Types for 99,999 hours or for 50 cycles are available on special order. $31-E X, 60 \mathrm{cy}, 110-125$ volts $\qquad$ $\$ 15.95$ MOXEI 31.ES CY' MODEL ${ }^{\prime \prime}$ 1-E, (Square Case), Name as 110 , case $3^{\prime \prime} \times 3^{\prime}$, per print SK-34; 60 cy., $110-125$ volts (not regularly
stocked). .217 .05

ELAPSED TIME METERS-Tenths of Minutes
MODEL 31-EXM, 60 cycles, $110-125$ volts, reading $0-9,999.9$ minutes; for short-run applications or readings at cioser intervals than 31-EX. Tenths of minutes in red, minutes in black numerals, other wise identical with 31-EX .....................................................................


Model 31-EX Molded Case, meets type MR-34 or MR-35 flange dimensions of MIL-M-6A, also JAN-I-6 and ASA C39.1-1951
$3^{11 / 2 "}$ SEALED ELAPSED TIME METER- 60 Cycles
 MODEL 31-EHXX. Where rugged requirements make a completely able, this glass-to-metal construction, with flat glass front and $31 / 2$. diameter separable flange, often is
specified. Heavy-duty solder terspecitied. Heavy-duty solder terminals are supplied. Every insiryment is checked limensions and appearance match the FHXX series sealed frequency meters per drawing on precedincy page. See print The meter registers in $1 / 10$ hour The meter registers in $1 / 10$ hour
steps to $9,999.9$ hours, then automatically re-iets. Tenths indicator is in red, all others in black.

21/2" SEALED ELAPSED TIME METERS—60 Cycles MODEL 21-ELXX. This new $21 / 2^{\prime \prime}$ sealed meter, with front mountng dimensions the same as Type MR-26 electrical indicating instruments in MIL-M-6A, nevertheless offers a full-size counter reading $0-9,939.9$ hours in $1 / 10$ th hour steps and a rugged selfstarting synchronous motor. Glass-to-metal seal makes the instru-
ment completzly tamper-proof. Please ask for mounting diagram 21.EHXX, 60 :ycles, $110-125$ volts .. $\$ 24.75$

## SEALED ELAPSED TIME METER-400 Cycles

MODEL 33-EHXX. Meeting a long-felt need for a slable 400 -cycle elapsed time ineter compact enough to fit in a $31 / 2^{\prime \prime}$ flanged case, Whith all parts enclosed, is this new 400 -cycle elapsed time meter. The instrument now is being produced only in sealed construction, glass-to-metal, with separable flange, heavy-duty solder terminals, and fat glass front. External appearance matches FHXX series and Mosdel 31 -EHXX sealed, 60 -cycle, elapsed time meter. A slightly larcjer case is used per drawing SK-61.
33-EHXX, 400 cy., $0-9,999.9$ hours, $1 / 10$ hour steps, $110-125$ volts.

## PORTABLE FREQUENCY METERS

## 400 CYCLE BROAD AND YERNIER INDICATOR

 MODEL 41-FX. This 2 -window frequency meter is widely used for commercial and military applications. The lower window shows broad range of $300-500$ cycles, with reeds in lo-cycle steps. The uppect with i3 reeds a vernier $380-420$ cycles in 4 -cycle steps with 2-cycle increments in the critical range of $396-404$ cycles. Housed in black molded case with and 2 炤" deep behind panel over
 studs, the instrument blends well with or $100-130$ volt operation. Also avaith other panel meters. Made 115, and 30 volts as used in aircraft awalyers sluds for 200-240, tion is 2 watts at 30 volts, 4.6 watts at 115 volts, 7.7 watts at 200 volts. Full dimensions on drawing MD-38.
41-FX'

## PORTABLE FREQUENCY TESTERS

## METAL CASE ITS-328A/U, 33-FP-9M, 34-FP-9M

 meets the exacting meets the exacting test requirements of aviation, signal and communication equipment. Its accuracy of $\pm 0.3 \%$ results from the J-B-T reed construction, based on 13 years of field and laborature and thorough in manufac permanent thorough run-in for permanent calibration. The sturdy, light-weight case of ano dized aluminum with gray pronot in use. The detachable when is the use. The detachable cover leads sub-panel and portion; sembly are permanend meter asCase dimensions are 63 " Case dimensions are $638^{\prime \prime}$ long attached D-ring for belt or carrying strap, Panel and meter barrel are molded in one piece to exclude maisture and dirt; coil and electrical connections are fungus treated. When made to Govern 420 cycle model is known as exterior as the widely used TS-297/U. multimeter. Sene print 33-FP-9M-380-420 cy., 9 reeds, $100-130$ volts, 70 ohms p.r volt l.75 watts power consumption; commercial quality and packing

34-FP-9M-60 cycle portable same as abcve, except 9 \$49.25 $56-64$ cy., $100-130$ volis, 130 ohms per volt, 1 watt pow er con-
sumpt.on, commercial quality and packing.......................... $\mathbf{S 4 2 . 3 5}$ MOLDED CASE (33-FP-9L, 34-FP-9L)


Handy, compact, portable instrument of same $\pm 0.3 \%$ aczurcey and electrical characteristics as above. Foused in sturdy molded
 carrying case $6-3 / 32^{\prime \prime} \times 41 / 4^{\prime \prime} \times 23 / 4^{\prime \prime}$ and $4^{\prime}$ leads complete ${ }^{\prime \prime}$ ith sharp $5^{\prime \prime}$ insulated test picks and banana plugs also supplied. This model is especially popular for laboratory and engineering tests. ${ }^{3}-\mathrm{FP}$-9L- $-380-420 \mathrm{cy} ., 9$ reeds, $100-130 \mathrm{vc}$ lts...
34-FP-9L-56-64 cy., 9 reeds, $100-130$ volts.... $\$ 47.60$
$\mathbf{S} 40.70$

If the Uranium's there YOUCAN'T MISS IT
NGA MULTIPLIER TUBE

## A Revolutionary Improvement Over Scintillation Counters <br> because- <br> - Greatest response to lower energy gamma rays from the more deeply buried uranium ores.

- It increases geiger counter sensitivity 50 to 500 times, at considerably lower cost than scintillalion counters.
- More rugged than scintillation detector - no fragite components such as crystals or photomultiplier tubes.
- More reliable - not affected by voltage changes (over a range of $150-200 \mathrm{~V}$ ) or temperature changes ( $-40^{\circ}$ to $+100^{\circ} \mathrm{C}$ ).
- Can be attached to any commercial geiger counter. We recommend NCA Model RM2NA which has an extra fast meter response essential for automobile and airplane surveys.
- More sensitive - over $500,000 \mathrm{cpm} / \mathrm{mr} / \mathrm{hr}$.
- Can be used for airplane and automobile surveys as well as in drill holes.
- Provides directional detection - acts as radiation compass.

SPECIFICATIONS

| MODEL NUM8ER | 86A | 868 | B6C |
| :---: | :---: | :---: | :---: |
| Sensitivity cpm/mr/hr | 70,000 | 200,000 | 500,000 |
| Background count unshielded at Factory, Brooklyn, N. Y. | 400 | 1,000 | 3,000 |
| Life in counts | $10^{6}$ | $10^{\prime \prime}$ | $2 \times 10^{41}$ |
| $\begin{aligned} & \text { Plateau slope } \\ & \% / 100 \mathrm{~V} \end{aligned}$ | 3 | 3 | 3 |
| Operating Voltage | 900 | 900 | 900 |
| Threshold Voltage | 780 | 780 | 780 |
| Base Connections | Anode Pin \#1 Cathode Pin \#3 | Same | Same |
| Base Type | 3-Pin Amphenol 91.MC3M | Same | Same |
| Dimensions | $2{ }^{1} 1{ }^{\prime \prime} \times 61 / 2^{\prime \prime}$ | $21{ }^{17}{ }^{\prime \prime} \times 121 / 4^{\prime \prime}$ | $3{ }^{1 / 6^{\prime \prime} \times 121 / 4}{ }^{\text {a }}$ |



Ore-Lokator
One of the most popular tap-quality geiger counters. Used for many years by professionals and serious amateurs.

- Exclusive llevice for shecking meter accuracy.
- Constant geiger tube voltage, largely independent of
battery voltage.
- Low drair circuit - approximately 400 hrs. useful battery lifs.
- Sensitivity is $2000 \mathrm{cpm} / \mathrm{mr} / \mathrm{hr}$. Detects both hard beta and ganmis radiation - sersitive to as little as $.003 \%$ uranium.


## SPECIFICATIONS

NEON PANE LIGHT-indicates when instrument is on -flashes in response to radiation.
PROBE-with super-sersitive, thin-walled, olug-in NCA M5 geiger tuse.
METER-has easy-readirg. $2 / 2^{\prime \prime}$ scale face.
RANGES-500-5000-50,000 counts per minute; reads radiation dossge from 0 -.25-2.5-25 mr/hr.
HEADPHONE-plug-in type, reacts to radiation with audible click.
SWITCH-ON-OFF, meter range and geiger tube check. RUGGED CASE-non-caroding, custom-drawn watertight aluminum finished in hammertone blue. Probe and carrying handie heavily chrome plated. Tropicafized electrical circuit.
BATTERIES REQUIRED-2-67.5V and 3-1.5V flashlight cells.
OVERALL CASE DIMEWSIORIS-7\%/8" $\times 4^{\prime \prime} \times 41 / 2^{\prime \prime}$.
WEIGHT LESS BATTERIES-approximately 5 lbs.
MODEL AMZN-Cormpete with magnetic earphone, carrying strap, sacioactive calibrating source, sample pans (planchets), and instrutition manual. MODEL RM2iNA - Identical to Model RM2N but with extra FAST-SL\&W response neter circuit for use in airplane and automobile surveys.

GUARANTEED FOR ONE YEAR


Lightweight, Rugged
NCA
URANIUM FINDER
(pat. pend.)
Sensitivity equal to high priced instruments . . . perfect for prospecting, industrial, scientific, and civil defense applications.

## SPECIFICATIONS

SENSITIVITY: 2,000 cpm/ $\mathrm{mr} / \mathrm{hr}$. Detects and measures the intensity of hard beta and/or gamma radiation. Highly sensitive response to as little as $.003 \%$ uranium in rock samples.
GEIGER TUBE: NCA Model M5 mounted inside of instrument.
INDICATION: Flashing of neon panel light: clicks in earphone plugged into phone jack.

CONTROL: $0 n$-off switch conveniently located in front of carrying handle.
CASE: Rugged, watertight cast aluminum finished in hammertone blue. Tropicalized circuits.
BATTERIES REQUIRED: $2-67.5 \mathrm{~V}$, and 2.1 .5 V flashlight cells.
URANIUM FINDER Model RDN: Complete with earphone, carrying strap, and instruction manual.

GUARANTEED FOR ONE YEAR


## SPECIFICATIONS

SENSITIVITY: [betects and measures as little as $.01 \%$ measures as little as . $01 \%$ uranium. $2000 \mathrm{cpm} / \mathrm{mr} / \mathrm{hr}$. GEIGER TUBE: NCA M3. mounted insile of case. CASE: Corrosion resistant aluminum tuse poith attrac. aluminum tuse with attrac
tive finish.

The only geiger counter with real professional sensitivity real professional sensitivity $\$ 50.00$. Held like a flashlight, $\$ 50.00$. Held like a flashighe.: the Geiger Flasher is excelcivil for amateur prospectors. civil defense and educational use. Unexcesled as a spare oeiger counter for the professional prospector.

BATTERIES RECQUIRED: $2-67.5 \%$, and $1-1.5 \mathrm{~V}$.
GEIGER FLASHER Model RFN: Complete with shoulder strap equipped, battery case and instruction manual. Accessory Magnetic Earphone optional.

GJARANTEED FOR 90 DAYS
Mfrs. of a Complete Line of
GEIGER TUBES
Since 1948
Nucleonic Company of America

## SUPERIOR <br> The New Model TV-11 <br> SPECIFICATIONS



The model TV-11 operates on 105.130 Volt 80 Cycles A.C. Comes housed in a beautiful handrubbed oak cabinet complete with portable cover.

* Tests all tubes including 4, 5, 6, 7, Octal, Lock-in, Peanut, Bantam, Hearing Aid, Thyratron, Miniatures, Sub-miniafures, Novals, Sub-Minars, Proximity fuse types, etc.
* Uses the new self-cleaning Lever Action Switches for individual element testing. Because all elements are numbered according to pin-number in the RMA base number ing system, the user can instantly identify which element is under test Jubes having tapped filaments and tubes with filaments terminating in more than one pin are truly tested with the Model TV-11 as any of the pins may be placed in the neutral position when necessary.
- The Model TV. 11 does not use any combination type sockefs. Instead individual sockets are used for each type of tube. Thus it is impossible to damage a tube by inserting it in the wrong socket
* Free-moving built-in roll chart provides complete data for all tubes
* Newly designed Line Voltage Control compensates for variation of any line voltage between 105 Volis and 130 Volis.
* NOISE TEST: Phono-iack on front panel for plugging in either phones or external amplifier will detect microphonic tubes or noise due to faulty elements and loose


## EXTRA SERVICE

The Model TV-11 may be used as an extremely sensitive Condenser Leakage Checker. A relaxation type oscillator incorporated in this model will detect leakage even when the frequency is one per minute.


FOR ELECTRICAL CONTRACTORS AND MAINTENANCE MEN The New Model 640


The new Model 640 provides all the measuring services required for electrical maintenance, development, testing and repair work Model 640 operates an a self-contained standard battery and is therefore always ready for use. No external source of current is required.

## Feafures

Precision Calibrated External Shunt for High Currents. An accurately calibrated external shunt enables exact HIGH CURRENT measurements up to 75 amperes.
Automatic Current Measurements. The Model 640 wilt measure the actual current consumption of any electrical device while the unit is in operation and without breaking any connections. 5 pecificasions
A.C. VOLTAGES: $0-15$ Volts, $0-150$ Volis, $0-750$ Volis.
D.C. VOLTAGES: $0-15$ Volts, $0-150$ Volts, $0-750$ Volts RESISTANCE: $0-1,000$ Ohms, $0-10,000$ Ohms.
CURRENT: 0-7.5 Amperes, 0.15 Amperes, 0.75 Amperes Manufactured by

NEW YORK 67, N. Y.

# SUPERIOR <br> TEST EQUPMENT 



The New Model 770-A

## The FIRST Pocket-Sized VOLT-OHM MILLIAMMETER

## USING THE NEW "FULL-VIEW" METER

## $71 \%$ MORE SCALE AREA!!

Yes, olthough our new FULL.VIEW D'Arsonval type meter occupies exactly the same space used by the older standard $21 / 2^{" 1}$ Meters, it provides $71 \%$ more scale area. As a result, all calibrations are printed in lo ge easy-to-read type and for the first time it is now possitle to ob*oin measurements instead of approximations on a popular priced pocket-sized V.O.M.
fEATURES
Compart - measures $31 / 8^{\prime \prime} \times 51 / 8^{\prime \prime} \times 21 / 4$

* Uses "Full View" $2 \%$ accurote, 850 Microampere D'Arsonval type meter
Housed in round-cornered moded case
Beautiful
perut black etched panel. Cepressed letters filled with permanent white, insures long-life even with constant use.

The Model 770-A comes complete with self-contained
batteries, test leads and all operoting instruction

## Specifications

6 A.C. VOLTAGE RANGES: 0-15/30/150/300/1500/3000 volts.
D.C. VOLTAGE RANGES: 0-7.5/15/ D.C. $/ 150 / 750 / 1500$ volts. RESISTANCE RANGES: 0-10,000 Ohms 0-1 Megohm.
OC. Ma. 0-1.5 Amps. Ma., 0-1.5 Amps.
DECIBEL PANGERS: -6 db to +18 $b d,+14 \mathrm{db}$ to $+38 \mathrm{db},+34 \mathrm{db}$ $10+58 \mathrm{db}$
${ }^{\text {s15 }}$ 路


A COMBINATIJN VOLT.OHM MILLIAMMETER PLUS CAPACITY REACTANCE INDUCTANCE ANO DECIBEL MEASUREMENTS

## SPECIFICATIONS:

D.C.VOLTS: 0 to $7.515 / 75 / 150 / 750 / 1,500 /$ 7,500 Voits
A.C. VOLTS: 0 to $15 / 30 / 150 / 300 / 1,500 / 3,000$ Volts
OUTPUT VOLTS: 0 ta $15 / 30 / 150 / 300 / 1,500$ 3,000 Volis
D.C. CURRENT: 0 to $1.5 / 15 / 150 \mathrm{Ma}$. 0 to 1.5 /15 Amperes

RES15TANCE: 0 10 1000 /100,000 Ohm 0 10 Megohms
EAPACITY: . 001 to 1 Mfd .11050 Mfd . (Quolity test for electrolytics)
REACTANCE: 50 to 2,500 Ohms 2,500 Ohms to 2.5 Megohms
NDUCTANCE: 15 to 7 Henries 7 to 7,000 Henries

+34 to +58 ADDED FEATURE:
The Model 670-A includes o special GOOD-BAD scole for checking the quality of electrolytic condensers at a test potentiol of 150 Volts.
The Model 670-A comes housed in a rugged, crackle-finished steel cabinet complete with test leads and operat ing instructions.
s28 $91 / 2^{\prime \prime} \times 41 / 2^{\prime \prime}$.

The new
mosel ru-so GENOMETER
A versatile all-iriclusive GENERATOR which provides All the outputs for servicing: A.M. Radio - F.M. Radio - Amplifiers - Black and White TV • Color TV

## 7 Signal Generators in One!

R. F. Signal
Generator for A.M.
R. F. Signal
Generator for F.M.
Audio Frequency
Generator

Generator for A.M. R. F. Signal

Generafor for Generator
$\checkmark$ Bar Generator
1 Cross Hatch Generator

- Color Dot Pattern Generator
$\checkmark$ Marker Generator

F SIGNAL GENERATOR: GenerR. F. SIGNAL GENERA
ates Kilocycles to 60 Megocycles on fundamentals and from 60 Megocycles to 180 Megacycles on powerful hormanics.
VARIABLE AUOIO FREQUENCY GENERATOR: Provides o variable 300 cycle to 20,000 cycle peoked wave audia signal (also fixed 400 crcle sine wave).


CROSS HATCH GENERATOR: Pro* jects o crosshotch pottern on ony IV picture qube. Poftern con. sists of non-shifting, horizontal and vertical lines, interlaced.

OOT PATTERN GENERATOR (FOR CO'OR TV): The OOt Pattern projected an any color TV Receiver fube by the Mod.l TV-50 will enoble vos to adiust for proper color convergence.
marker generator: The Madel IV50 includes all the most frequently needed marker points. $189 \mathrm{Kc.}$, $\mathrm{Kc.}_{\text {. }}$ 456 Ke., $600 \mathrm{Kk.} ,1000 \mathrm{Kc.}$,
 3579 Kc., 4.5 Mc., 5 Mc., 10.7 Mc.,
( 3579 Kc. is the color burst frequency)

Cames absalutely com plete with shielded leads and operoting
\$4750

Manufactured by


## NEIU EMC MODEL 600 OSCILLOSCOPE






 - Mas : $\frac{2}{2}$ stip




## SPECIFICATIONS

 rat: : $3-1 \pm . \mathrm{IV}^{\circ}$ ( (rett. \& luriz. ampli-
 tifier tuhes: 2-bic: (pollase splitter ambl lotanking amplifier): 1-12.AT (hurizuntal amplificre).
Power Requirement: $10.5-130$ pults ill tion eyrles Ac-iol watts.
Dimensions: 8 多" witle $x ~ i t$ " high $\times 101 / 20$ derp-weight 29 lhs.

## VOLOMETER*

## EMC MODEL 102

A sturdy. durable pocket instrument from EMC's economy line housed in a moldedbakelite case. This instrument features a three-inch, accurate to within $2 \%$ - 800 microamperes IJarsonval-type meter with three AC current ranges; and the same zero adjustment for both resistance ranges.

> SPECIFICATIONS:

 RESISTANCE RANGES: 11 t" 10101 whms: 0101 megnil MODEL 102—Weight 1 Ib. 5 oz.: Size $33^{\prime \prime \prime} \times 6 \frac{1}{4 \prime \prime} \times 2^{\prime \prime}$


## VOLOMETER* <br> EMC MODEL 104-

A valuable addition to EMC's economy line is this accurate, precision-engineered instrument. This model features a $41 / 2$ inch, 50 microampere meter, with alnico magnet... housed in a molded-bakelite case: with three AC current ranges to 3 amps and three resistance ranges to 20 megohms.

SPECIFICATIONS


 MODEL 104 - With carrying strap. Wt. 2 lb. 5 oz. Size: $51 / 4^{\prime \prime} \times 63 / 4^{\prime \prime} \times 27 / 8^{\prime \prime}$ MODEL HVT-30.000 Volt Probe for MODEL 104 Size: $51 / 4 \times 63 / 4 \times 27 / 8^{\prime \prime} \ldots \ldots . . . . . . . . . . . . . . . . .$. line. tradu mark fur zalt-chn! miliamutern 104 . 7.95


## VACUUM TUBE YOLTMETER

CHECK THESE FEATURES:



## EMC MODEL 103 <br> VOLOMETER*





SPECIFICATIONS




Ir MrREST-3 RANGES: 0 to $30-150-600 \mathrm{ma}$



MODEL 103—Weight 2 lb .3 oz . Si.e: $51 / 4^{\prime \prime} \times 63 / 4^{\prime \prime} \times 27 / 8^{\prime \prime} \ldots \ldots . . . .$.
MODEL 103-S: with plastic carryinj strap



## EMC MODEL 700 <br> RF-AF-Crystal Marker - TV Bar - Cenerator

Only the limC Model 700 gives you all of these outstanding features:
(omplete rowerage from 18 eycles to 10 megaceeles on fundamental:
bar generatur fur TV aljustment with a bar ferberator for Tr aljustment with ariathe momber of hars ariblable for horizuntal or reptical alignmant.
Symare Wink eipmeratop $t=20$ kibocyeles
Wien l'ridge AF uscillator with sine wase untuut from 1.v ryches to 300 kilurycle
(roystal marker and amplitule control. MODEL 700
6. Indirictually tuned coils
7. Constant RF uutput impeldance
8. Stopucel IRF attenuator
9. Filectrostatically shiclded transturmer
10. Thuroukla shisting
11. Colpitts EF uscillatur from 300 KC for 10 s megaryeles on fundamentials - up to $2 / 6$ megaryches out fundamentits
12. Variable porcentare of modulation.


## EMC MODEL 500

R.F. Signal Generator

This precision-engineered instrument, recognized as the leader in its class, offers he following high quality features:
 matically shorted cont. - Drobisiun for external modulations. - Covers range from 150 KC to sh
 and rase. 100 'sele internal molulation available

MODEL 500 Illustrated
MODEL 500 In rit Form
19.75

ELECTRONIC MEASUREMENTS CORP. 280 Lafayette Street - New York 12, N. Y. EXPORT DEPT. - 370. BROADWAY, N. Y. 13, N. Y. Cable Address: INTEX-COM


## MUTUAL CONDUCTANCE TUBE TESTER <br> EMC MODEL 206





 - theteds both shorted and when elements (complete switchimg flexihility allows all present and future fulms in lew tested, regardless of loration of elements on tuhn hase. Tests tubes for radia frequeney and other noise
 fould (athonle magic eve, wultage regulator, hallast resistors - Instrument fuse is easily replared from banm fromt - Individual suckets fur ach tuhe hase thpe climinates phassible errers o (hecks incividual sections of
 Mand with durahle harthrinkle finish Euilt-in roll chart.

 and is homed in a ham-ruhher, jortahls nak carrsing case with removahe hinged enver.

- Tests all tubes inclusing Snral and subminiatures © Completely flexible switching arrangement oftecks hafterios under rated luad on "reject-good" scale - Individual sockets for each type of tulbe hase Tests all tulies from . 75 volts t 1117 filament volts - Tests cold crathode, magic eye, voltage regulator and ballast tuhes - Has pilot light indicatar - Checks for shorts and leakages - Jine poltage control compensates for line variations lofween 105 and 135 wolts Huilt-in roll chart protected hy non-breakable transparent plastic © Checks robudaser leakage to 1 megolm (heoks resistance mit in 4 megolms - ('hecks capracity from . 01 tol 1 mfil. MODEL 204 C . Stoper ping bant
MODEL 204P——With hand-rubbed oak carrying case (illustrated) .......................................................... $\mathbf{\$ 5} \mathbf{5 4 . 9 0}$ MODEL CRA—Cathode ray tube adaptor.


## TUBE-BATTERY-OHM <br> CAPACITY TESTER

EMC MODEL 204

## TUBE TESTER

## EMC MODEL 205

In this durable, accurate instrument EMC offers a nodel that gives easy, direct readings for all tubes through the standard emission method of lesting. It uses four-position lever-type switches and is housed in either a hand-rubbed. portable oak carrying case with removable hinged cover; or in a sloping counter case.

CHECK THESE FEATURES

- Tusts all fubes including Noval and subminiatures - Completely flexilhe swibehing arrangement o Indiidual sorkets for wach type of tube base - Tests all tuhes from. 75 volts to 117 filament rolts o Tests all cold cathode, magic eye. roltage regulator and ballast tules - Has pilot light indicator oine veltage central compensates for line rariations hetween 105 and 135 wilts - Checks for shorts and leakages - Tharee polor hammertone panel

MODEL 205C-Sloping counter case.
MODEL 205P-With hand-rubbed oak carrying case (illustrated)
MODEL CRA - Cathode ray tube adaptor.


## EMC MODEL 207 <br> Tube-Battery-OHM-Copacity-Tester

 Hocurate instmathi that efors eass. direct readings for afl tubes throurh the standard amishion



- Tests all tubes iurluding Xural and sulminiatures - lompletcly flexible switching arrangement o "heck: latterbes under fated luad thl "ruject-ginm" scale - Individual sockets for each type if mhe base o Tests all tube from , is whts to $11 \%$ filament volts o Tests all cold rathode magic eye, voltage regulator abil hallist tuhes - Has pilot light indioator - (hechs for shorts and leakages bine waltage control compensates for dine yariations hetwern 10.5 and 135 wolts - Muilt-in poll chart protected by non-breakable fransparent plastic © Checks condenstr leakuge to 1 megumi ("hecks resistance up pu 4 megohns - (herks rapacity from . 0 ) fol 1 mfd . - "litrece color hammertome punel

MODEL 207C—Sloping counter case (illustrated) \$6.............................
MODEL 207P-Portable case, removable cover

# ELECTRONIC MEASUREMENTS CORP. <br> 280 Lafayette Street • New York 12. N. Y. EXPORT DEPT. - 370 BROADWAY, N. Y. 13, N. Y. Cable Address: INTEX-COM 

## SUPREME

I.eading manufacturers select Supreme meters and meter movements as components of their products because they are fuality built and dependable. Supreme meters for initial eduipment uses are made in a variety of sizes and designs with or without special dials and cases. Send a sketch or clrawing of the meter you need and Supreme will promptly advise prices and delivery schedules.


MULTI-RANGE MINIMETERS


These handy, high quality multi-range. single-function instruments are small enough to lit in a man's dress shirt or vest pocket. About the size of a cigarette pack, they have the same quality construction found in the larger multi-meters. Two popular types are listed below. Other functions available for special applications. Let Supreme know the type you need in your work.
Model 440 Ohmmeter with test leads............ $\$ 12.90$
Model 405 Millivoltmeter with test leads.... $\$ 12.05$

ARE YOU RECEIVING THE SUPREME
TEST INSTRUMENT BULLETIN?


New Settings for SUPREME TUBE TESTERS

New Instrument Application Data

New Supreme Product Announcements

The Supreme Test Instrument Bulletin is mailed FREE.
Ask to be put on our
MAILING LIST.

## MULTI-METERS

 543 are the same size (approx. $6^{\prime \prime} \times 3^{\prime \prime} \times 2^{\prime \prime}$ ) and are available in either the moulded (Type 3) case illustrated above or in the (Type Mi) metalic case with meter protctor shield and leather handle shown below. Mosel 542 has 6 functions and 24 ranges and Model 543 has 4 functions and 12 ranges.


## Other Supreme Instruments:

- FOR ELECTRONIC TECHNICIANS - Tube Testers, Oscilloscopes, Signal Generators, Vacuum Tube Voltmeters.
- FOR MANUFACTURERS, COMMUNICATIONS \& UTILITY GROUPS - Special maintenance equipment designed and built to your own specifications.
- FOR A PROMAPT REPLY to your inquiry write SUPREME, INC., Box 5526, GREENWOOD, MI5SISSIPPI.

Since 1927
"Supreme by Comparison"

## Instruments IN KIT \& WIRED FORM Precise above all clse

## 12,080 HOURS OF ENGINEERING TO BRING YOU THE NEW AMAZING PRECISE MODEL \#300 COLOR OSCILLOSCOPE

The Oscilloscope you've been seeking. $\qquad$ No other oscilloscope at any price - high or low - with these desirable features - in both Kit and Wired Form: SPECIFICATIONS: PRECISE MODEL 300 OSCILLOSCOPE -
VERTICAL: Vertical-flat ( 3 db ) DC through 5 megacycles with sensitivity of greater than 10 millivolts push-pull ( 3.94 Millivolts $/ \mathrm{cm}$ ) ; Constant Resistance; Push-pull input immediately converted to single-ended normal or reverse phase by stiorting bar at inputs 1 and 2; Frequency rompensated vertical stepping attenuator selects AC or DC inputs; Push-pull DC amplifiers from input through output; Internal electronic mixing through inputs 1 and 2 ; five-way binding posts.
POSITIONING: Bridge type positioning on vertical and horizontal does not vary tube claracteristics.
HORIZONTAL: Frequency compensated stepping attenuator in horizontal amplifier; Push-pull Horizontal out.
BLANKING: Internal (return trace blanked), external (retum trace not blanked), 60 cycle or 120 cycle Blanking through Blanking amplifier circuit. SYNCHRONIZATION: Extemal. Internal POSitive, Internal Negative, Internal 60 cycle or Internal 120 cycle synchronization.
SWEEP RATE: Driven or non-driven linear sweeps from 1 cycle to 80 KC in five ranges ( $1-10$ cycles uses external $C$ circuit): Trigger potentiometer. cycle to 80 KC in five ranges MAGNIFIER: Electronic magnifier and magnifier positioner.
magnified up to ten times (equivalent to 70 inches of horizontal deflection) a signal to be CALIBRATION: Internal square wave calibrator inches of horizontal deflection).
VTVM on Peak to Peak measurements calibrator and potentiometer for using oscilloscope as a
CALIBRATION SCREEN: Edge-illuminated scale and graticule may be turned on or off: filtered screen.
OUTPUTS ON FRONT PANEL: Plus Gate output; Sawtooth output: 60 cycle phasing output; 60 cycie unphased output: Calibration output
OCUSING: Astipmatism, focus and intensity control
CRT: NEW 7" Tube, normally supplied is medium persistency type 7VP1, or 7JP1 may also be used (oscilloscope green trace) - high persistency types available at additional cost.
INTENSITY MODUL ATION. Z modulation rear of cabinet.
GENERAL: LOW loss components; Orer-designough modulation amplifier
Geeply etched aluminum panel. New orer-designed fused power supply for additional circuitry: Deeply etched aluminum panel. New parts from original manufacturers - (NO SURPLUS): Steel cabinet; $11^{\prime \prime} \times 14^{\prime \prime} \times 17^{\prime \prime}$; complete with instruction book and all components: Accessories: Model 912T (MM) Demodulator Probe and Model 960 Capacity Attenuator Probe availThere are many additional features and plifitions on following pages.
Model 300 . Please write us for descriptive Jiterature.


300K
300W
kit om ${ }^{\text {s. }} 94^{95}$
factory wired $\$ 199.50$


- NEW PRECISE $81 / 2 "$ COLOR OSCILLOSCOPE MODEL 308

Big Screen Scope
An oscilloscope unique in the industry
THE ONLY $81 / 2^{\prime \prime}$ stope on the cammercial market
All the general specifications of the time proven PRECISE Model $\# 300$ : over 85 sq. inches of viewing space provided by its NEW 81 ' 2 " tube: ANODE INTENSIFIER; FREQUENCY SYNCHRONIZATION CONTROL TO ELIMINATE HORIZONTAL JITTERS (this and other features not found in other scopes at even greater sost) PLUS FULL VOLTAGE REGULATION.

Weight.............................. 35 lbs. Size..............................11" $\times 14^{\prime \prime} \times 19^{\prime \prime}$

308 K
kit form
${ }^{5} 129^{50}$
308W

## factory wired $\$ 229.50$

- NEW PRECISE MODEL UPA-IN AND UPA.IP ULTRA PREAMPLIFIER

The PRECISE Model UPA-I preanmplifier is an ultra-modern presentation of true high fidelity, set off in a heautiful rach brushed brass colored panel, designed to enhance a living area. - It embodies the most modern circuitry with separate controls for Bass Boost. Treble Boost and Roll-off, Volume. Record Compensation which also includes the latest AES curves (this year), a main Selector switch which connects to Phono. Microphone, Radio Television and an auxiliary position (4 separate innout jacks are mounted on the rear chassis), a separate On-0ff switch also operates the Convenience outiet at the rear of the instrument. - The instrument is designed so that it is completely self-contained or, if desired it may lie mounted directly into a console panel. In the latter case, no addditional hardware is required because of a unique cabinet and chassis design. The cabinet dimensions are $12 \times 4 \times 4$ and it weighs approximately six pounds. - The input gain and amplifier latitude is more than ample for Reluctance or crystal inputs Long lines may be used with the cathode-follower output.

The UPA-I is ovoiloble in two eircuits:
UPA-IP has its own transformer supply and


UPA-IN does not include a power supply. Power is taken directly from the main amplifier. It does. however. have its own filtering circuits.

UPA-INK Kit Form : $\$ 19.95$
UPA-IMW - Wired Form - $\$ 34.95$

## PRECISE DEVELOPMENT CORP. - oceanside, n. y.

## Instrumente IN KIT \& WIRED FORM

 Precise above all else

## - PRECISE MODEL 630 RF-AF-TV and Marker Generator

The very first kit to reach 110 MC on fundamentals. 330 MC on harmonics. The first kit to offer a complete factory preassemhled and calibrated RF head. *Pre-tuned RF Head; Audio: 20.20 .000 cycles; variable percent modulation: cathode-follower jutput: stepping attenuator: external modulation; speech amplifier: crystal marker: crystal amplitude control; RF \& AF stand-by; Wien Bridge AF Oscillator; Colpitts RF Oscillator; Drum Dials: Coaxial fittings: individually tuned coils: constant output impedance; filtered line; Vermier tuning on RF \& $A F$ Sepa.ate RF Section: Complete shielding.
RF FREQUENCIES: BAND 1-300KC to 1MC FUNDAMENTALS - BAND 2-1MC to 3MC FUNDA MENTALS B BAND 3-3MC to 10MC FUNDAMENTALS - BAND 4-10MC to 30MC FUNDAMENTALS BAND 5-30MC to LIOMC FUNDAMENTALS - BAND 5A-60MC to 220MC 2nd HARMONIC BAND 5B- 90 MC to 330 MC 3rd HARMONIC
AF FREQUENCIES: Band 1 - 20 to 40 Cycles - Band 2-40 to 200 Cycles - Band 3-200 to 2 K Cycles * Band 4-2K to 20 K
$8^{\prime \prime} \times 11^{\prime \prime} \times 5^{\prime \prime}$; leather handie; wrinkle steel cabinet; deeply etched aluminum panel; amphenol type connectors; wt.: 10 lbs.
630K
$\$ 33^{95}$
*630KA
$\$ 38.95$
Factory Wired $\quad \$ 53.95$

- PRECISE MODEL 610


## Newest RF Signal Generator for AM, FM and TV

The first low-priced RFF Sional Generator to reach 110 MC on fundamentals. 330 MC on harmonics. with the accuracy and stability of righ-priced equipment. PRECISE achieves this by slug and capacity tuning of the coils, along with complete isolation of the Colpitts Oscillator by a Cathode Follower Buffer Output.
The first lit to offer. complete factory ore-assembled and pre-tuned RF Head, Cathode. Follower Output: External Modulation; Speech Amplifier; Bridge Type AF Oscillator: Colpitts RF Oscillator: Orum Dial; Coaxial Fittings; Individually Tuned Coils: Vernier Tuning: Separate RF Section: Orum Dial; Coaxial Fittings; Individually Tuned Coils; Vernior

## RF FREQUENCIES:

BAND 1-300KC to IMC FUNDAMENTALS BAND 2- 1 MC to 3 MC FUNDAMENTALS BAND 3- 3MC to 10MC FUNDAMENTALS BAND 3- 3MC to 10MC FUNDAMENTALS
BAND 4- 10MC to 30MC FUNDAMENTALS BAND 4- 10MC to 30MC FUNDAMENTALS
BAND 5- 30MC to 110MC FUNDAMENTALS BAND 5- 30 MC to 110 MC FUNDAMEN TAL BAND 5A-60MC to 220MC 2nd HARMONIC BAND 5B-90MC to 330 MC 3rd HARMONIC
$8^{\prime \prime} \times 11^{\prime \prime} \times 5^{\prime \prime}$ : leather handle; wrinkle steel cabinet: deeply etched aluminum panel: amprenol type connectors; wt. 10 Jbs. TUBE COMPLEMENT: 6C4 $12 A \times 7,6 \times 5$.
$\$ 23^{95}$
$610 K$
. $\$ 28.95$
610W (factory wired)... $\$ 39.95$


- PRECISE MODEL 909 Vacuum Tube Voltmeter

WHAT BETTER WAY TO BUY THAN BY MAKING A COMPARISON!
Ceramic precision resistors-1 \% OR BETTER: deeply etched panel; steel cabinet: Amphenol type DC connector: special. separate 5 V . AC scale for accuracy on low voltages; 250 V . scale enables you to read line voltages accurately.

FREQUENCY RANGE: Up to 250 megacycles with PRECISE 912 Probe (available at additional cost).
VOLTAGE RANGE: Up to 30.000 V. with PRECISE 999 High Voltage Probe (available at additional cost).
FM \& TV: Special true zero alignment scale for FM \& TV discriminators; Burn-out proof circuit; 25 Megohm input impedance on DC; complete with test leads and internal battery; oversize $41 / 2^{\prime \prime}$ meter; 105-120V., $50-60$ cycles, AC; wt.: 10 Jbs.; $91 / 2^{\prime \prime} \times 6^{\prime \prime} \times 5^{\prime \prime}$.
RANGES: +DC: $0 \cdot 5-25-250-500-1000$ Volts: -DC: $0 \cdot 5-25 \cdot 250 \cdot 500-1000$ Volts; AC: 0-5-25-250-500-1000 Volts Ohms: Rx1-Rx10-Rx1000-Rx10,000-Rx1.000,000 ohms; from .2 Ohms to 1 Biltion Ohms; DB; From -20 to +55 DB.

909K
\$25.98 - Factory Wired
$537^{50}$


## - NEW PRECISE MODEL 9071

Voltage Regulated VTVM
Special $71 / 2^{\prime \prime}$ meter - $1 \%$ CERAMIC PRECISION RESISTORS - FM zero alignment scale - Coax DC connector - Burn-out proof circuit - DC input 25 Meg. Power transformer operated (no selenium rectifier used) - 4 tube circuit - Compact design . Size: $8^{\prime \prime} \times 11^{\prime \prime} \times 5^{\prime \prime}$.
$9071 \mathrm{~K} . . . . \quad$ kit form $\$ 35.95$ • $9071 \mathrm{w} . .$. factory wired $\$ 495$

## T1 - TRANSISTOR KIT — Only \$17.95 ANOTHER NEW EXCLUSIVE KIT BY PRECISE

PRECISE makes it possible to build your own experiments with the most remarkable kit you've ever seen ... the new PRECISE TI TRANSISTOR KIT. Components include transformer, chassis. TRANS!STORS, germanium diode, wire, etc. - everything you need for experimental construction PLUS the finest step-by-step instruction book.

## PRECISE DEVELOPMENT CORP. OCEANSIDE, N. Y.



Weight........................ . 24 Ibs.
Size...............14" $\times 16^{\prime \prime} \times 6^{\prime \prime}$

ENGINEERING DESIGN CONSIDERATION: To understand the Model 111 Mutual Conductance and Emission Tube Tester, it is perhaps best to spend a moment with the original design considerations. Basically we recognize the fact that

1. A GM or Emission type tube tester actuaily reads a goodly percentage of tube troubles-BUT each alone missed a great many. We could not say with any degree of assurance which type of tube test was the best. Certain applications required GM. while others required Emission. PRECISE Solution: The Model 111 checks Gm and Emission separately. It indicates on the roll chart the most important single test for normal applications. It is, of course, desirable to make both tests.
2. In AC.DC equipment: or series filaments arrangements, which are daily enjoying greater popularity, the "Voltage Sapper" (a tube which developed too much filament voltage as compared to the other tubes) was a constant trouble. PRECISE Solution: The Model 111 allows the filament current to be measured directly on the meter.
3. A whole series of different test voltages (sweeping from zero voltage up) was required. PRECISE Solution: The Model 111 sweeps from 0 through the normal testing range when making measurements. This nives an average evaluation for the tube over an extended range of operation,
4. Short tests usually require elaborate switch manipulation. PRECISE Solution: The Model 111 uses a single rotary switch which checks each element against every other element. No conversion chart is required to ascertain which pins are shorted. This test may be made at any time hot or cold without changing any other switches.
5. The instrument would have to be rugged to stand the "trunk of a car" type of abuse. PRECISE Solution: In the Model 111 a heary steel cabinet houses the entire unit. The panel is deeply etched aluminum.
6. Tube Bias, being an important consideration, should actually be measured on the meter. PRECISE Solution: The Model 111 measures tube bias directly on the indicating meter.
7. The instrument should be simple to operate. PRECISE Solution: The Model 111 uses different type knobs, a no-backlash roll chart, and a sectionalized design setting off each section.
8. There should be a provision for new tubes. PRECISE Solution: The Model 111 is one of the simples type tube testers to set up for new tubes. The pin connections and function positions may be taker directly from the tube manual. The instrument already includes provisions for testing many color tubes.
9. It should check all modern tubes. PRECISE Solution: The Model 111 is provided with sockets for testing the following type bases. Large 4 prong, large 5 prong, large 6 prong, large 7 prong, medium 7 prong, miniature 7 prong, in-line 7 prong (sub-miniature), Octal, Noval, sub-miniature 8 prong CRT and Loctals,
10. The instrument should check Cathode Ray Tubes. PRECISE Solution: The Model 111 also checks cathode ray tubes with CRT adaptor. Model PTA-K $\$ 2.95$. PTA-W $\$ 4.25$.

- PRECISE MODEL 760


## Volłage Regulaled Power Supply

The Model 760 is an extremely versatile electronically regulated power supply capable of delivering an assortment of different viltages. It is invaluable in general repair and laboratory use.
REGULATED VOLTAGE
Range- 75 volts te over 450 volt.
$\%$ Regulation-Withim I ${ }^{\text {cr}} \mathrm{c}$ at specified current duration
$\%$ Ripple- 01 or at ipecified :urrents.
Max. Current- $1 \mathbf{C O}$ ma depending on voltages.
Metering-Voltage and current are both metered by switches.
High Voltage-Uncegulated variable to 1000 volts DC positive or negative. Voltage is metered. Maximum current of 1 ma
Low AC Voltage-Unresulated 6.3 volts $A C, 4$ amperes capacity.
High AC Voltane- 375 volts AC, 50 ma, DC Capacity, Unregulated
V.R. Tube Referente DC Veltage- DC reference voltage. low current, available for reference or screen operation.
All voltages ae capable of being used simultaneously except for the plus or minus 1000 volts. Either plus or minus may te usec hut not simultaneosly.

## GENERAL

The instrument is housted in a sturdy steel cabinet with a deeply etched aluminum panel. A rugged $41 / 2^{\prime \prime}$ meter movement is used for all metering. Shunt and multiolier resistors are within $1 \%$ accuracy. A leathre carrying handis is porided. 5 Way binding posts are used for the regulated outputs. All other veltages are svailable by pin jacks. The high and low voltage supplies each have a standby position ard the roltage reeered is indicated by a jeweled pilot light for the HV and LV. Basically the PRECISE 760 is a geseral purpose source of regulated voltages for substitution and experimental work No returss are mace to the cabinet allowing the instrument to be used for $\mathrm{AC} \cdot \mathrm{DC}$ applications.
Weight
Size.........................11 lbs.
$\times 5^{\prime \prime}$

## - NEW PRECISE MODEL \#SWK

## Custom Switch Kit

Contains all necessary parts and special tools to make production switches. The rotors may be cut to designers' specifications. Short and Long Clips may be placed as desired. Saves weeks of waiting for samples or replacement parts since it duplicates factory switch. Also usable for modifying and repairing other switches.
$\$ 29.95$
Note: Replacement part Kits also available without tools.
WRITE FOR 1955 CATALOG - RM


Prices Slightly Higher in the West - P
COR...OCEANSIDE, N. Y.

## Iustrumente IN KIT \& WIRED FORM

 Precise above all else

## - PRECISE MODEL 635

Universal AF Sine, Square and Pulse Generator Efficiently and effectively astertains all Audio and Video troubles
Sine wave:; square waves; Wien Bridge Oscilfator; Pulses; variable impedance output; voltage replation insures a veritably constant output; cathode follower output; Minimum overshoot \& round-off through 50,000 cycles Cn square waves and pulses; sme waves hrough 2f10,000 cycles.
$8 \times 11 \times 5^{\prime \prime}$; leather handle; wrinkle stetl caboet deeply etched aluminum panel; amphenol type comnectors; wt.: 10 lbs
TUBE COAPLEMENT:
1-6AUE: 3-SSN7: $1-6 \times 5: 1-6 S 6$
RANGES: $20-40$ cycles . $40-200$ cycles $\cdot 200-2000$ cycles $2000-20.000$
cycles - 20.000-200.000 cycles.
$635-W$
Factory wired \$52.50 • 635K
4

## - PRECISE NEW MODEL 468


$33 / 4^{\prime \prime} \times 6^{1 / 4} 4^{\prime \prime} \times 2^{\prime \prime}$

## Resistance Decade Box

precise again leads the field with its new Low-Priced Resistance Decade Box. Compact in size for Bench Drawers and Tool Boxes.
5 Separate Switches, 11 Positions on Each; plu or minus $1 \%$. Readings from 10 OHM to $1,111,110$ 0 HM in 5 Decades. $1 \%$ Dep. Carbon Non Ind. asove 10 HMM . Binding Posts permit quick substitution of equiyalent hesistors ind Complete with Simplified Construction Manual.

468K
468 W . $\qquad$
kit form \$18.95
factory wired \$24.95

- PRECISE MODEL 478


## Newest Capacity Decade Box

PUTS 10,000 CAPACITORS IN YOUR POCKET . first in the low price field to reach over 1 MFD at $1 \%$ accuracy... Four decades from 100 MMFD to 1.1111 MFD ( 100 MMFD steps) 10 TIMES THE CAPACITY RANGE Capatitors well within $1 \%$ : SILVER MICA. except for highest values which are special low-drift. for highest values which are special olow-drift. for highest ranges rated 400 volts. ... All capacitors fully tested, including: leakage resistance tors fully tested. including: Reakage resirtance
(thousands of megohms): accuracy measured on (thousands of meyolms): accuracy measured on standard bridges: voltage breakdown tested; power
factor, temperature cycling and aging. - STURDY factor, temperature cycling and aging. - STURDY
HIGH IMPACT BAKELITE CASE REDUCES GROUND CAPACITY AND INSURES LONG LIFE.


GROUND CAPACITY AND INSURES LONG LIFE.
$478 \mathrm{k} \quad \ldots \mathrm{kit}$ form $\$ 1 \mathbf{8 . 9 5}$
478W
factory wired \$24.95
$334^{\prime \prime} \times 6 \frac{1}{4} 4^{\prime \prime} \times 2^{\prime \prime}$


- FREQUENCY RANGE: Through 100 MC . flat throuth normal commercial ascilloscope frequencies.
- READINGS: Attenuated by a factor of ten to one.
- MAXIMUM A.C.: 1000 Volts.
- INPUT CAPACITY: Less than $\bar{y}$ mmfor
- Each probe may he individually calibraten
- Non hydro-scopic insulation.


## - PRECISE MODEL 912 R.F. Probe

Individually calibrated at 75 megatycles for accuracy. impedance and thunt capacity. The lowest priced, wired. calibrated R.F. Probe.

- FREQUENCY RANGE: RMS ruadings from AF through 250 megacycles. Ve:itably flat through 100 megacycles.
- BLILT IN 600 VOLT BLOCKING CAPACITATOR.
- INPUT CAPACITY: The approsimate input capacity is less than 3 rmfd usually about 1.2 mmfd .
- INPUT RESISTANCE: Approx. 200,000 oirms at 1 HC . Approx 150.000 ohms at 10 MC . Approx. 25.000 ohms at 100 MC .

4


## PRECISE MODEL 999

High Voltage Probe
The PRECISE MODEL 999 High Voltage Prolie was desinned for high voltage mieasurements with special emplaasis on SAFETY, OPERATIONAL SIMPLICITY AND RUGGED CONSTRUCTION. First in the industry to include any one or more of the following features:

- MULTIPLE INSULATION: The only probe with at least three individual media must be menetrated before voltage breakdown can occur.
- MECHANICALLY SHOCKPROOF CONSTRUCTION: The only probe to utilize a double spring suspension system in order to protect the Ceramic high wattage multiplier resistor.
- INTERCHANGEABLE TIPS: The only probe where two tips are suppliedone. the comentional type for probing; the other, att alligator clip for connecting permanently to the circuit.
- SWIVEL LEAD CONSTRUCTION: A special-fixed slip-ring arrangement is provided which prevents the test lead cable from snagging or developing high straius at the junction of the cable and probe handle.
- INTERCHANGEABLE RESISTORS: To match your instrument.


## PRECISE DEVELOPMENT CORP. - OCEANSIDE, N. Y.

## FREED Test Instruments

## TYPE 1030-A LOW FREQUEVCY'"Q" INDICATOR <br> USES

The rype 1000-A bow Frequency "(Q" Indicator measures directly the " $Q$ " factor of coils. The instrument arn also be used to measure the indurtance of coils, distributed capacity, impedances. and dielectric losses. The "Q" Indicator can be used to study the magnetic properties of iron, such as stability of iron cores in function of applied voltages, and iron losses as a function of the frequency.

## FEATURES

The main and essential feature of the instrument is that the " $Q^{\prime \prime}$ factor is read directly without any complicated computations. The possibility of measuring " $Q$ " through the whole audio and supersonic frequency range is provided. The setting up and the measuring of the " $Q$ " of coils is practically instantaneous. The instrument is unaffected by line voltage variations, is entirely self-contained and A.C. operated. Both meters ("multiply-by" and " $Q$ ") are protected against overloads and cannot be burned out. The frequency range for " $Q$ " measurements is 20 to 200,000 cycles. The terminals of the variable decade condensers are available directly on the front panel of the instrument. The condensers. therefore, can be used as high quality precision variable condensers To reduce the residual capacitance a link is providod on the front panel of the instrument which disconnects all but the 100 mmfd variable air condenser. When the link is closed five decade capacitors and the air variable are connected across the condensar ferminals. The total capacitance range is from 10 mmfd to 11.11 mfd so that an extremely wide range of inductors may be tested at any desired frequency without adding external caparitors which introduces

large errors. The $R$. $C$. Oscillator and variable impedance amplifier can be used as a separate low fremuency genelator with an output power of five watts into a bit ohm load. The " $Q$ " scale is calibrited from "to 101. A high accuracy of measurement is obtained, since " $Q^{\prime}$ " variations from 0 to 100 are read on a 4 inch metrer. "(?" factors of coils can be measured with ap to 100 vols across the coil. and theretore maines it possible to cetermine the stability and the variations of the " $Q$ " factor" of coils in function of the applied voltage. The voltage fed into the series circhit is variable from 10 volts to . 11 volt.

Range of "Q" Measurements: The ramer. of "d!" fartars is fiom 1.1
 ant A-ruracy of is \% .

Osciflator Frequency Range: Nimtimmully bali.llily liom 20 to $\because 111.010$ rgelts in foms rituses.





 (.1) . 1 ohm jmumbate - ane V' output Voltage

Variable Condenser: 'The sariahle combenser is exmpusen of at lu it





Weight: ? ? 1 lhs

[^38]Copyriuht by U. C.I'.Ide.

## FREED Test Instruments

## TYPE 1020-B MEGOHMMETER

## USES


 mont matly usofal in the laturators on for grobluction testing of the leakage resistance of insulat ion mathrials. mondensers, wathes, motors and transformer winting


#### Abstract

FEATURES   discharmed to ground in all positions of multiphier switch. Maximum short circhait    of sot) wolts 1.(4, potential? 


## SPECIFICATIONS

 multiplier switeh.


Voltages on Unknown: The voltare applied to the unknown terminals is foo wolm 1.C: and is inderendent (less than $1 / \%$ ) of the value of the unknown.

Stability: $\quad$.ine voltare variations from $1050-12$ volts will rause less than $2 \% /$ fariation in the moter reablint.

Dimensions: ! $1 / 2 \times 101 / 2 \times \times$ inclus.
Net Weight: is :ommbs.

## TYPE 1620 MEGOHMMETER



## CONTROLS

1. Pianser selortor and caljaratinu switch.

2 Taro andiat control for setting mether scale to intinity.
3. I'ush hutton switch for activating the relay which alplies trst voltage to terminals - when rileased. Wischaresz capnetise rompment armss the unk:mwn terminals.
4. Variabla li.C. andust - for setting the D.C. test woltalus at der read level.
5. A.C. on. ot switch.

## DESCRIPTION

 variable b. ('. test potential inclumenk as part of the unit. The b.C. Test pertential ist variallo foom 50 to 1001 volfs and is inticated ly a four inch meter.

The insulation resistance is measured in six owerlaphing ranges and is indicated by a fome inch meder, proterted atainst werload. A relay, gperated from the front panel. discomeets the hish woltate from the test larminals ant eliminates all danger of show dun to expened high potential. In the stantlig pasition (when push button is




## SPECIFICATIONS

 multiuliser switch.
Accuracy: Irlus ar minus $5 \% /$
Voltages on Unknown: The voltase appled to the unknown terminals is contimuously: wariable from 50 volts to 1000 volts. A $4^{\prime \prime}$ meter indicates the voltare applime to Hus unk nown

Terminals: Four terminals are provided, two for eonneeting the unknow, one guar athel me wround.
Power Supply: $1(16-125$ volts A. $\%$ - 50.60 cycles.
Cabinet: $155^{\prime \prime} \times 9^{\prime \prime} \times 71 / 2^{\prime \prime}$.

## FREED Test Instruments

## TYPE IOIO－A COMPARISON AND LIMIT BRIDGE <br> USES




 arourate rompononts ars rembirel．

## －EATURES





## DESCRIPTION


 witch is proviled which combeets rither a hiyh or low imperlaner windiag arress the


 wain selective ampliter imdicates the halance of the hridere．The werneral method of test－ the is the combarison of an unknown combonont with a standard combonernt of the kame
 in the arms of the bridere．The use of a hirh wain amplifier and adequate intertal shidu．
 ius ansureg a very sharp and distinet balanere．



SPECIFICATIONS




 Range：Two comparison ranges aru provided．5\％and obr\％．The breentame diffremee is read directly on a calihrated dial．


Condenser Measurements：（＇undensers from 50 mintod ta 10 mid are

 ungrinand switch is it the hngrembin fosition．

 Ithon henrias．
 withis an at＂elloate of $\pm 0.1 \%$ ，

Voltage Applied to the Unknown：Two enotrole are providiol fin wart tho voltare acruss the unkmown．A special low impedanco wimling is usal when measurimg amall imperlances and the voltamb across
 pertance the voltage nay twe variocl from ib to 1 in wolts．

Portable：（＇arrying \｛athinal all methl mantristiom．
Dimensions： $101 / 2 " \times 12^{\prime \prime}$ a $13 "$ ．
Net Weipht：1；llis

## TYPE 1870 INCREMENTAL INDUCTANCE COMPARISON BRIDGE



USES





## DESCRIPTION



 101 よ世 mis！lat used

## SPECIFICATIONS

Inductance Range：$\because \mathrm{ml}$ tu $\because \mathrm{il}$ h

 is thesirel a jark is froviltal for commerting an extermal uscillatom．
Voltage Applied to Unknown：Variahl．from of tel 1 \％：volls．
 （1）－10い mat．（1－500 ma．

 rulles．Eblotit）revelos．


## FREED Test Instruments

## TYPE IIIO-A INCREMENTAL INDUCTANCE BRIDGE

## U 5 ES



The Incremental tmbatince Bridee is designed for moasuring the inductane on
 measured with a superimpused direct current, therefore, the hridee will masure the incremental inductaner of coils. The bridee can be used for sheterminatian of storate factor, "Co", dither at a wiven ireducney in function oi the applish woltas"
 nseyl hy the mamifachurers of iron core components, such as filure chokes, hich If coils, and iron eore andio and supersonie freoprotey components. blu to its wors


## SPECIFICATIONS

 durtance values are reat diverts from a four dial decatle and a mult inlime switul The last ratuse may be extemed to 10,000 lempies throush the lise of im "vernal resistance.

 reriprocal of the A.I: resistance of the coil.
"Q" Range: "Q" is measured as the produrt of Inductance (L), Frequency (W) and conductance ( $(\mathrm{B})$. The ranse of "(l" measured on the bringe is 0.5 io 1110 Meakurement of indurtaner is inderembent of the values of " 4 ."
Accuracy: $1 \%$ hrongh thre frequency range from 60.1000 cycles $2 \%$ for the



Frequency Range: The hringe is malibated and adjusteal at woth fio
 cycles. Errors resuliry from stray capacity increase with frequelicy
A compensated bridge with lower stray capacities is available for making more accurate inductance measurements of large inductors at higher frequencies. Order Freed Model 1110A-B.
Range of Superimpased D.C.: On multipli.r switelamenitin I. X 100 the D.t: in limitidit in ma
(\#n the pasition I, X 10 . the I).C. is limired to 2.50 mas faductars 1 ul 1011 Hamins may he measural with 1. Amp DeC throush tham.
Mounting: The hridse is smpitiod in a walnut cabinct or on sheral order for stimdard rack momotins.


Net Weight: Rack: 87 lls. (ahinet: fis lhe

## TYPE 1150 UNIVERSAL BRIDGE


 bame of capacitance, indactance, imperlance, and phase angle measurnmont can he made throughont the frimuney spectomin from 20 eycles to 20,000 varles. Decale resistors in the variahle arms allow the unknown to be measural to fone siznificant fistures.
Opreration is simple ator both tominals and controls are armanemp for ranvenience and east of masurembuts.

## SPECIFICATIONS

Freauency Range: The bridge can be user at frequencies from 211 [ycles fos 20.1100 cycles.

Accuracy: All resistors of the brible amm are adjusted to $0.1 \%$. The abmolnte ateraracy of measurement will depemal unon the accuracy of stamiards nsed.
Inductance Range: The brilue will masure inductamce of coils from 0.1 mh to 10 no hemries with an accuracy of $0 . \bar{\prime} \%$ at 1000 cycles.
Capacitance Range: Comlusirs irom . 001 mi to 1 mi can be measureit to within
 sulstitution methoul.
 staudard rack mounting.


Weight: Rark: 32 lhs, (abhimet: 13 has


## TYPE 1180 A.C. SUPPLY




Weight: 131 , His

## FREED Test Instruments

## TYPE NO. 1170 D.C. SUPPLY

 direst chrrent for the Inctomental Inductance Brider Type No. 1110 - A. The
 storiate hattery.

## DESCRIPTION

 sunhly. Four independent control "ircuits purovibe four curcest ranges, mamely 5 miliampres, 55 milliambers, 100 milliampures and 500 milliamperas. The output ramemt is inclicatem ly a maltirange in moter.

## SPECIFICATIONS

Current Ranges: Fonur current rampes Voltage Ranges: The maximum no load voltants compobumding to the fome cur-

 with the control set to zero. the outbut woltame is inderendent of the lomd.

 than $\pm 11 / 21 / r$
Power Consumption: [udur 5un M. full load the prowt consumption is 300


 Several other power supplies are available having current ratings from 70 ma
to 1 ampere, with output voltages from 0 to 400 volts. These supplies are to 1 ampere, with output voltages from 0 to 400 volts. These supplies are
available as current and voltage regulated supplies. Send your power supply available as current
requirements to us.


Mounting: The instrument is supplied for nombting on a 1 b-inch relay rack or for coblinet mounting.


Net Weight: Radel Mounted bik lbs. In Catinet s: lls.

## tYPE 1210-A NULL DETECTOR AND VACUUM TUBE VOLTMETER

## USES


 Incidere, and the Vacumm Tuhe Voltmeter indicat's the voltage across the unkmown twa lerminal or four terminal motwork. 'l'he three silentive cirenits provinle means for shargly tuminer the instrument to ablio freatuencies commonly ased
 autio Vacuam lathe Voltmeler.

## DESCRIPTION

The TVp $1210-A$ Null Votector and Vacumm Tube Voltmoter is a combination

 feed twon subarate $4^{\prime \prime}$ maters.

## TYPE 1140-A NULL DETECTOR-AMPLIFIER

## USES





## DESCRIPTION

Functinatly the instrumsht comsists of a high wain linar amplifier with a 30 dh. imput





SPECIFICATIONS



Output Voltage: 40 wolts 1.m'istomend into 1 mugrom luans. Io volta into 20.000 ohms.
Power Supply: 105-125 vols. 50-fio cyelen. 35 watts consumption, Mounting: ' P las instrument ran be supplied in cabimet model (Typo No. 1140-1才 or if a stamatirl relay rach monnt with dust cover ("Ype No. 1140-AR).
 Weight: 4 lus

Nulf Detector Sensitivity: . It 1 ho. 1 on microselts will give a $15 / /$ meler deflertion. Hum \& Noise Level: With the selloctive filters mit. Ires than dif nicurolts referred to the innut, with 1 ke filter lass that is microvolts.

 amd 20) kc. may lice
Output Impedance: Aproximatily 50.000 olims.


Input Impedance: 1 merohn in parillel with e.f mmi.
 m ant juniton.


 Selective Amplifier: 26 dh sucomil harmonid atloblation at for 400 and 1000
 VACUUM TUBE VOLTMETER
Voltage Range: . 01 volts to 100 volts in fonr rantes - ( $0.1,1,10,100$ volts at full s(all.).


Waveform Error: Tly instrmment is a fall wave averate moter ind is frod oitwomar dfects. For sxiail amomuts


 Input Impedance: Equivalint to 50 merohme resistance

Meter Scale: I, coraribmid Voltare Scalo calihraterd from 1 to 10 fliss a lintar dhescab calibrated from 0 to 20 db.










## FREED Test Instruments



TYPE 1040 A.C.-V.t. VOLTMETER

## 」SES





 loudspakers. Befanse of the high sensitivity of the instrument. for voltmeter ean be advantareonsly

 bosistors. An output jack is provilend so that the instrument may lur used as an amplifier.

## FEATURES


 line voltage variations and chanfos in tuhe characteristits. I very important foature of the instrument is the lowarithmic voltage soale of the motor. With this tape of soale. the percentare aceuracy of readine is unform ower the entire scale. . Inother advantame of the bourithmic seale is that it provides a uniform deeibel scale which is a very baluable foature in sonmi and eommonication modurements.
 when switchiner from one raner to another. The time constant of the instruments is adjusted in order to



## SPECIFICATIONS

Voltage Ranges: . 001 qults to 100 velts in tive ranges (0.01, 0.1 1.4, 10 and 100 volts full scale).

Accuracy: $2 \%$ or̃ full scale on all five ramenes, on sinusolilal voltaress.
Catibration: Average reading meter calibrated to read rms value of sine wate. logarithmic voliage scale ealibrated from 1 to 10 plus litrar decilel scale calıbratid from 0 db to 20 db

Frequency Ranges: 10 to 250,000 eveles, 1 (th, variation from 20 eycles tor 150,000 evcles; . 5 in db. variation from 10 eveles to $2.00,000$ cycles.

Input Impedance: lifluivalent to 500,000 ohm resistance in parallen with a 1 Emmf. emblenser.
Stability: Fifect of variation in line voltage from 100 volts to 10 es volts is 1 \% Fiffect in whates of tubes is less than $.5 \%$.
Scale: Ianarithmir voltage scala calitrated from 1 to 10 plus a linear docibel scale calilivated trem 0 dit), to 20 db.
Meter: $4^{\prime \prime}$ shlpresseil zuro 1 M. 1 meter protected against overloads.
Power Supply: The instrument is entirely self-contained and operatrs


Weight: 12 polums.


SPECIFICATIONS
Fvequency Range: 20 he tu 1 mc
 (plus caparity of input cable) wit all ranires but the 0.1 volt range, Tho shunt rapaicity on lhis rance is kit) minfil
Accuracy: Harmonic Distertjom ratr low masured ato curately to 0.1\%.
Sensitiv ty: listortion levels of $0.1 \%$ can her read ad rurately for a siemal imbit as low as 0.2 volts. Maximum input siprial is $\overline{\mathbf{1}}(0,00$ volts rms.
Elimination Chacacteristics: Eliminates fundamental conn


Power Supply: 105.1.5n wots, 50-fil cycles.

Net Weight: 60 pmunis.

## TYPE 1410 DISTORTION METER

## USES

 testing of racuivrs. amplitiers ant oseillatore.

## DESCRIPTION

The insumment ennsists of a cabreitive innut attembator, a low imperance outbut preamplifier, a mull $T$ network and a hirl gain vacum tube voltmeter. The simmal to be moasured is apmled to the eapacitive input atenuator, whien reduces it sufficiontly so that it may be fer into a thare stace alistortionlass amplition. The output imperlane of this amplifier is 1 olam due to the hiwh amount of inverse femd back applied. In order to provent the amplifier from

The allonnatol stanal is fed into a mull $T$ notwork which completely eliminati: the fumdamental. The residual simal comsists wholly of harmonios anm mone athe this is measural by the vacham tuhas voltmeter.
 attenuated by a calibrated resistibe divider. When the voltmeter indicates ti,
 lirectls.

## FEATURES

 simmals as fow as 0.2 volts to an aconracy of $0.1 \%$. Simbals as himh as 1 onon bolt.


 *ircuits, so that dislominn measurements can be made on fundamental freguene io: up to 1 mc .
 fradhach, through the grwer lime

## FREED Test Instruments

## TYPE 1060 VACUUM TUBE VOLTMETER <br> USES


 -actimimenter for




 amplitiers.
 microphomess amb lonutsperakers.







## FEATURES









## SPECIFICATIONS

 10 and 100 volin full seale).

Waveform Error: The instrmmant is a fall whw avorace muthr, ath is from of thrmover ehfects. For small amonate of distorthon the an


Frequency Range: 20 exclus to 300.000 racles


 with is 1 ह mmfil combernstr.

Stability: Vffert of variation in liac voltase from 100 volte 10 , 2 g
 Dimensions: $11^{\prime \prime \prime} x x^{\prime \prime} \times 8^{\prime \prime}$.

## TYPE 1580 DB DECADE AMPLIfIER

## USES





## DESCRIPTION






## SPECIFICATIONS


Accuracy: $2 \%$ of 1111 -ath f1l all ralleres





 Dimensions: $11^{\prime \prime}$ a 1 " ${ }^{\prime \prime \prime} 11{ }^{1}$

## FREED Test Instruments

TYPE 1560 DIfferential VOLTMETER

## USES

The Freed Type lisin Differential Voltmeter monares differemee in voltage leweds as low as $0.01 \%$ regardless of their phake relation. It is extremely usetill when checking response and atternation of filters, transformers, amplifiers and other aprliations where a small differeme in two whtages is to be measuren. Reatase of its exellent stability and high sunsitivity the differemtial voltmeter may also bu used to ohserse drift in amplifiers, meters, and filters.

## DESCRIPTION

The A.C. ingut fiamals are amplified then rectitide athl momparme so that accurate come parison mas he obtainct remaraless of the blase of the input siganls. Foltage differences as low as $.01 \%$ can he observed throurh the use of a hirb pan amplifier and are indicated un a four inch \%orn center meters.

## SPECIFICATIONS

Difference Voltage Range: - $10 \%$ to plus $5 \%$ in $.01 \%$ increments.
Input Voltage Levels: From , 1 vilts to 100 wits.
Frequency Range: 30 cps to 20 kc .


Input Impedance: 500 k olims.
Power Supply: The instrument is ritirely self containel and merates from a 115 volt, $50 / 40$ eycle line.

## TYPE 1660 PHASE SENSITIVE NULL INDIATOR USES

This instrument is userul as a visual null indicator in equal arms bridze measurements. Through the use of a zero meter this mull indicator simplities bridge balancing procedures since the direction of null is directly imbicated. If any bridge is to be used as a production instrument this null detector may be set up as a so indicator and the bridge set up as a limit bridse.

## DESCRIPTION

The instrument consists of a hirh fain stable amplifier, a phase encitive detection circuit and a phase refernee network. Thre filter frequencies are availahe, $60,400,1000$ eycle selecterl ly a front banel switch. lis use of extemal capacitors the filter can be adjusted to other selective frectuencios.

## SPECIFICATIONS

Sensitivity: lun micro-molts mer division of ibffection
Reference Voltage: $1 \cdot 6$ volts.
Input Impedance: 250 k ohms
Maximum Input Voltage: 100 volts.


Power Supply: 11.5 volts, 5o/i0) celes.

## TYPE 1670 DC NULL DETECTOR

USES
This instrument is desipned to pive rurped performance while still maintaining the exect-
 lent sensitivity of a galsanometer. It is extremely useful as a mull indicator givinge instantaneous polarity indication in any tyue of D.C. bridge measurements. It will find barticular application in stran measurement, ferometre, conductivity and insulation westing. flow measurement and null detection.

## DESCRIPTION

The instrument consists of a filter in the innut cireuit, a chopper and a high gain ad amplifier.
The sensitivity of the instrument when not using the fitter is greater than 10 microvolte per divisiun with an input impedance of 1 merolm. The filter when used supreses ang in evele piekup ley mor, than 50 db . The sensitivity when using the filter is rellowell to 100 mieruvolts per division.

## SPECIFICATIONS

Input Impedance: 1 merohm
Null Detector Sensitivity: 10 microvolts per .livision without filter. l00 microvolts throush filter.
Scale: t' $^{\prime \prime}$ zero center.
Power Supply: 115 volté, $50-60$ cycles.
Dimensions: $8 \frac{1}{2} \mathbf{" 1}^{\prime \prime} \times 10^{\prime \prime} \times 11^{\prime \prime}$.

## FREED Test Instruments

## TYPE 1940 INTERSTAGE FILTER

## USES

This filter may be used with the Freed Type $1140-1$ Null Deteetor and Type 1210.1 Sull betector VTVM or similar amplifiers. It can be set to any one of $\bar{i}$ fixed frequencier to reduce noise and harmonics when making bridge measuremems.

## DESCRIPTION

The filters are paraliel resonant circuits. and are desioned in he ued in the plate circuit of the amplitier. 1.C. current through the inductor is limited to 3 ma. Terminals are provided for



## FEATURES

1. Each of it tuned frequencies is quickly availathe
2. Any resonant frepuenes between 50 eps and 20 he faln the obl fained with external capacitors.
3. Sharp anti resonant tuning
4. Can be used directly in plate cirmit

## SPECIFICATIONS

Frequencies: $100 \mathrm{cps}, 90 \mathrm{chs}, 500 \mathrm{cms}, 800 \mathrm{crs}, 1200 \mathrm{cms}, 2000 \mathrm{cps}$ and 10 kc aljusted to an accurac! of $=2 \%$
Discrimination us. end harmonic approximately 23 dh
Terminals: Shiclded cord and plue for comection to null detocem Bincling posts for connectine extornal capacilors.
Dimensions: $\mathrm{F}^{\prime \prime} \times \mathrm{m}^{\prime \prime} \times \mathrm{K}^{\prime \prime}$.


## SERIES 1950 NULL ‘'t’’ FILTERS




 give a minimum of so dhatientation of the mull frembencs

The null frequency is arijusted to a tolerance of $\pm 2 \%$;

## For PRECISIIIN Jesting You can rely on FREED LABDRATIRY TEST INSTRLMENTS

## Engineered for Application! Ruggedly Built! Performance Proven!

## FREED Test Instruments

## FREED DECADE CAPACITORS

Freed decade capacitors are high quality capacitors designed for use in wave filters, tuned circuits and equalizers for andio and supersonic frequencies where a rather large variable capacitance is desired. Their stability, accuracy and low dissipation factor make then especially useful during the preliminary design period when capacitance values are determined experimentally.

Each decade is variable from 0 to 10 by use of 11 position selector switch. The losses in the switches and mountings are kept low by the use of special low loss, impregnated switch wafers. A positive detent mechanism allows the switch to be set accurately The accuracy is $\pm 1 \%$ at irequency of 1 kc .

No. 1415 is a $1 \mathrm{mfd} /$ step mylar capacitor. Total capacitance 10 mfd .
No. 1416 is a $0.1 \mathrm{mfd} / \mathrm{step}$ polystyrene capacitor. Total capacitance is 1 mfd .

No. 1417 is a $.01 \mathrm{mfd} /$ step polystyrene capacitor. Total capacitance is 0.1 mfd .

No. 1418 is a . $001 \mathrm{mfd} /$ step polystyrene capacitor. Total capacitance is .01 mfd .

No. 1419 is a $100 \mathrm{mmfd} / \mathrm{step}$ mica capacitor. Total capacitance is .001 mfd .

No. 1250 is a three section decade capacitor. The type 1416,1417 and 1418 are assembled together in a single wooden cabinet to give a total capacity of 1.110 mfd in .001 mfd steps.

No. 1350 is a five section decade capacitor. The type 1415,1416 , 1417 and 1418 are mounted on one panel with a 1000 mmfd precision air variable condenser.

No. 1351 is a six section lecade capacitor. The type 1415, 1416, 1417. 1418 and 1419 are mounted on one panel with a 100 mmfd precision variable condenser. The 100 mmfl may be used singly in which case the stray capacity is less than 10 mmfil or it may be used in conjunction with the other decades by siuply closing a shorting link.

The capacity is continuously variable from 10 mmfd to 11.11 mfd in 100 mmfd steps with $\pm 1 \%$ accuracy.

The maximum voltage that may be applied to these decades is 500 D.C. working volts.

The dissipation factor of the polystyrene units when measured at 1 kc . is less than .0002 . The dissipation factor of the $1 \mathrm{mfd} / \mathrm{step}$ decade (nyylar) is less than . 005.

## FREED Test Instruments

## FREED DECADE INDUCTORS

＂rimarily desifned for use in wave tilters，thmed roircuits and equalizers for andin and subersonice frequeneit＇s．The stalility＂，aecuracy and hirh valne of＂Q＂makes these Decalle lmbuetors invaluable lahoratory instruments．

> FREQUENCY RANGE 30 TO 2000 CYCLES $$
=50 @ 200 \text { CYCLES }
$$

；＊Type 1164 Decade Inductor－ 171 Ittnry total in stops of .1 ifenry．

$$
\begin{aligned}
& \text { FREQUENCY RANGE } 100 \text { TO } 2000 \text { CYCLES } \\
& \qquad=80 @ 500 \text { CYCLES }
\end{aligned}
$$

中＇Type 1347 Decade Inductor－ 100 Henry total in steps of 10 Henry．

$$
\text { FREQUENCY RANGE } 500 \text { TO 20,000 CYCLES }
$$

$$
\mathrm{Q}=60 @ 1000 \text { CYCLES }
$$


\＃Tyue 1160 Decade Inductor－ 11.1 Hunry total in steps of 0.01 Menry． \＃Type 1163 Decade Inductor－ 1.11 Henry total in steps of 0.001 Henry． $\ddagger+$ Fivu 1260 Decadi Inductor－ 11.11 Hingy total in steps of 0.001 Henry．

$$
\begin{aligned}
& \text { FREQUENCY RANGE } 500 \text { TO } 20,000 \text { CYCLES } \\
& \qquad Q=160 @ 1000 \mathrm{CYCLES}
\end{aligned}
$$

+ Type 1220 Decandr Inductor－ 0.01 Ifonry total in steps of 0.001 Menry． + Tym 1230 Decable Inductor－ $0 . ?$ Henry total in stens of 0.01 Henry．

 \＃Type 12do Decarle lmathetor－ 1.11 Heqry total in steps of 0.001 Henry． ＊＇lvur 1290 Derade Inductor－ 1111 Ilenry total in staps of 0.001 Hanry． ＊TVM 1310 Jecade Inductor－ 11.1 Henry total in sten sof 0．01 Menty．

$$
\begin{aligned}
& \text { FREQUENCY RANGE } 500 \text { TO } 50,000 \text { CYCLES } \\
& Q=200 @ 10,000 \text { CYCLES }
\end{aligned}
$$

\＃Type 1161 Decarle Imductor－ 1.11 H （enry total in steps ai ．001 Menry．
FREQUENCY RANGE 10,000 TO 300,000 CYCLES

$$
\mathrm{Q}=200 @ 100,000 \mathrm{CYCLES}
$$

$\ddagger$ Type 1162 Jecadu Incluetor－ 0.111 Henry tutal in stops of .1 Millihenry．

| ACCURACY OF INDUCTANCE |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Inductance per Step | 1 mh | 10 mh | 100 mh | 1 h |
| Accuracy | $\pm$ 土 \％ | 士1＇／9 | $\pm 0.5 \%$ | $\pm 10 . \pm 5 \%$ |




## TYPE 1905 WIDE－BAND AMPLIFIER



This amplitier is particularly valumbe for filter work where the output of the test oscillator is inadequate for the reguired signal voltage levels．It is extrembly stahle and will deliver 15 volts to a 600 whm lual at vary low distontion over a wide ranire of frequencius．

## SPECIFICATIONS

Frequency Response： 10 rycles to 3.5 Mc．$\pm \mathrm{dh}$ ．
Output Voltage： 10 volts across fion olum loarl
30 volts aeross 10,000 ohm loade
Distortion：Less than $.2 \%$ total harmonic at rated butput．
Voltage Gain： 15 dh．
Source Impedance：fi00 ollm．
Load Impedance： 600 ohm mir．imum
Power Supply：Sclf－contained， $105-125$ volts，50－60 eycle input．
Dimensions： $5 \not y^{\prime \prime} \times 03 / 4^{\prime \prime} \times 43 / 4$


## WHEATSTONE BRIDGE

- A carefully engineered bridge made for all around use in lab., plant, or field. All models contain own $41 / 2$-volt battery power supply and galvanometer. lrovision for external batteries and galvanometer if desired. All models have ratio dial settings of .001, .01, .1, 10, 100 , and 1000 as well as built-in resistance standards of $1,10,100$, and $1000-$ ohn decades. Ratios are guaranteed to $.05 \%$ tolerance. Resistance dial resistors to $.1 \%$. Selfecleaning. fom-leaf phosphor bronze wiper switches with detent mechanism mounted below panel. Galvanometer of well-known moving-coil type. Separate binding posts for use of external galvanometer if desired, and for use of bridge as resistance decade. Hardwood case with removable cover. $91 / 4^{\prime \prime} \times 71 / 2^{\prime \prime} \times 6^{1 / 4} \mathrm{~h}$. lit. $91 / 4 \mathrm{lbs}$. net; $121 / 4$ lbs. shipping.
MODEL RN-1. Standard Portable Wheatstone Bridge, complete with hatteries

Net Price $\$ 138.00$ MODEL RN-2. Standard Portable Wheatstone Bridge with Murray \& Varley Loons

Net Price $\$ 154.00$ MODEL RN-3. Same as RN-2 but with additional ratio settings of $1 / 9$, $1 / 4$ and $1 / 1$ and varying galvanometer sensitivity control.

Net Price $\$ 198.00$

## RESISTANCEDECADES

- Available in standard models with resistance ranges of .9 to 999,990 ohms total. Accuracy to $\pm 0.1 \%$. Self-cleaning, four-leaf phosphor bronze wiper switches with detent mechanism mounted below the panel. Hardwood case. Morlels llk-1A to DR-4. $51 / 2^{\prime \prime} \times 3^{\prime \prime} \times 41 / 2^{\prime \prime} \mathrm{h}$.: wt. 4 lbs. net; 6 lbs. shipping. Models DR-10 to DR-14, $41 / 8^{\prime \prime} x^{\prime \prime} 6^{\prime \prime}$ $41 / 2^{\prime \prime}$ h.: wt. 3 lbs. net; 5 lbs. shipping. Models DR-50 to DR-52, 87/8" x $6^{\prime \prime} \times 41 / 2^{\prime \prime} \mathrm{h}$.; wt. 5 lbs. net; 7 lbs. shipping.

| $\begin{aligned} & \text { Model } \\ & \text { No. } \\ & \text { DR-1A } \end{aligned}$ | $\begin{gathered} \text { Total Resistar } \\ \text { Ohms } \\ 99,000 \end{gathered}$ | $\begin{gathered} \text { Decade Steps } \\ 9 \times(1,100+10,000+100.000) \end{gathered}$ | Accuracy $\pm .1 \%$ | $\begin{gathered} \text { Net } \\ \text { Price } \\ 70.00 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| DR-2A | 99.910 | $9 \times(100+1.000+10,000)$ | $\pm .1 \%$ | 56.00 |
| DR-3 | 9.990 | $9 \mathrm{x}(10+100+1,000)$ | $\pm .1 \%$ | 54.00 |
| DR-4 | 099 | $9 \mathrm{x}(1+10+100)$ | $\pm .1 \%$ | 50.00 |
| DR.10 | . 9 | $9 \times .1$ | $\pm .1 \%$ | 22.00 |
| DR-11 | 9 | !x1 | $\pm .25 \%$ | 22.00 |
| DR-12 | 90 | 11810 | $\pm .1 \%$ | 22.00 |
| DR-13 | 900 | $5 \times 100$ | $\pm .1 \%$ | 22.00 |
| DR-14 | 9.000 | $9 \times 1,000$ | $\pm .1 \%$ | 25.00 |
| DR-50 | 9.999 .9 | $9 \mathrm{x}(.1+1+10+100+1,000)$ | $\pm .1 \%$ | 83.00 |
| DR-51 | 99.999 | $9 \mathrm{x}(1+10+100+1,000+10,000)$ | $\pm .1 \%$ | 88.00 |
| DR-52 | 399.990 |  | $\pm .1 \%$ | 110.00 |



## CAPACITANCEDECADES

Instrument calibrated directly in capacitance so that reading from left to right, the dial settings will give the exact value in
 microfarads. Progressive adjustment in $.01, .001$, or .0001 mfd . steps depending on model. . 001 to 11.1 mfd. can be obtained by group assembly. All units employ paper or mica capacitors of highest quality and stability. Enclosed in hardwood case. DK-4, DK-10 and DK-2A, $8^{\prime \prime} \times 51 / 2^{\prime \prime} \times 71 / 2^{\prime \prime}$ H.; wt. 8 lbs.; 10 lbs. shipping. DK-5A. DK-11A, $1033^{\prime \prime} \times 73 / 4^{\prime \prime} \times 71 / 2^{\prime \prime}$ H.; wt. 10 lbs . net; 12 lbs . shipping.

| Model <br> DK-5A | Capacitance Mid. Steps 11.1 in . 01 | A | Dielectric Section | P.F. | Peak Volts | $\begin{gathered} \text { Price } \\ \$ 85.00 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $1 \%$ | . 01 Mica | . $2 \%$ | 700 DC |  |
|  |  | 3\% | . 1 paper | 1\% | 400 DC |  |
|  |  | 3\% | 1.0 paper | $1 \%$ | 400 DC |  |
| DK-4 | 1.11 in . 001 | $1 \%$ | . 001 mica | . $2 \%$ | 700 DC | 70.00 |
|  |  | $1 \%$ | . 01 mica | . $2 \%$ | 700 DC |  |
|  |  | $: \%$ | . 1 paper | 1\% | 400 DC |  |
| DK-2A | 1.11 in . 001 | 1\% | Mica | . $2 \%$ | 700 DC | 150.00 |
|  |  |  | throughout |  | 500 AC 60 cycle |  |
| DK-10 | . 111 in . 0001 | $\begin{aligned} & .5 \% \\ & 10 \mathrm{mmfa} . \end{aligned}$ | Mica | . $2 \%$ | 700 DC | 100.00 |
|  |  |  | throughout |  | 500 AC |  |
|  |  |  |  |  | 60 cycle |  |
| DK-11A | 11.1 in . 01 | . $5 \%$ | . 01 Mica |  | $\{700 \mathrm{DC}$ |  |
|  |  | . $5 \%$ | .1. mica | . $2 \%$ | (500 AC | 165.00 |
|  |  | 2\% | 1.0 paper | $1 \%$ | 400 DC |  |

INDUSTRIAL INSTRUMENTS, INC.



The Model 82 provides extremely wide frequency coverage designed for audio frequency ond rodio-frequency measurements of $A M, F M$ and TV receivers, and for many other ofp'ications.

## STANDARD SIGNAL GENERATOR Model 82 <br> 20 Cycles - 50 Mc .

FREQUENCY RANGE: 20 cycles ta 200 kilacycles in faur ranges. 80 kilacycles ta 50 megacycles in seven ranges, plus ane blank range.
FREQUENCY ACCURACY: Each range is individually calibrated. 20 cycles ta 200 kilacycles, accurate to $\pm 5 \% .80$ kilacycles to 50 megacycles, accurate to $\pm 1 \%$.
OUTPUT VOLTAGE AND IMPEDANCE: 0.50 volts across 7500 ohms from 20 cycles to 200 kilocycles. (The output voltage and impedance in this range can be reduced by an externol ottenuator). 0.1 microvalt to 1 volt across 50 ohms over most of the range fram 80 kilocycles to 50 megocycles.
MODULATION: Continuously voriable $0.50 \%$ from 20 cycles to 20 kilocycles from internal varioble ascillotor or external source.
HARMONIC OUTPUT: Less thon $1 \%$ from 20 cycles to 20 kilocycles; $3 \%$ or less from 20 kilocycles to 50 megacycles. LEAKAGE AND STRAY FIELD: Less thon 1 microvolt from 80 kilocycles to 50 megacycles.
POWER SUPPLY: 117 volts, 60 cycles. 75 watts. DIMENSIONS: $15^{\prime \prime}$ high $\times 19^{\prime \prime}$ wide $\times 12^{\prime \prime}$ deep averall. WEIGHT: 50 paunds.

## STANDARD SIGNAL GENERATORS Model 80 $2 \mathrm{Mc}, 400 \mathrm{Mc}$. $5 \mathrm{Mc},-475 \mathrm{Mc}$.

FREQUENCY RANGE: (Model 80) 2 to 400 megocycles in 6 bands. (Madel $80-R$ ) 5 to 475 megocycles in 6 bands.
FREQUENCY ACCURACY: $\pm 0.5 \%$
OUTPUT ACCURACY: At 0.1 volt, $\pm 10 \%$ from 2 Mc to 200 Mc. From 200 Mc to $400 \mathrm{Mc}(200$ to 475 Mc for Madel $80-\mathrm{R}$ ) at 0.1 volt, $\pm 15 \%$.
OUTPUT VOLTAGE: Continuously variable from 0.1 to 100,000 microvalts.
OUTPUT IMPEDANCE: 50 ohms.
MODULATION: Amplitude modulotion is continuously variable from 0 to $30 \%$. Madulation depth is indicoted by a meter on the panel. Internal modulation of 400 or 1000 cycles is ovailoble. Modulation moy also be opplied from an external source. Pulse modulotion moy be opplied to the oscillotor from on externol source through a special connector. LEAKAGE AND STRAY FIELD: Attenuotor leokoge less thon 0.1 microvalt. Power line leokage less than 0.5 microvolt. Stray fields less thon two microvalts.

## PULSE GENERATOR • Model 79B

The Model $79-$ B generotes voltage pulses of variable width and frequency for use with ossocioted equipment such os the Model 80 Standard Signal Generator. FREQUENCY RANGE: 60 to 100,000 pulses per second.
PULSE WIDTH: Continuausly voriable from 0.5 to 40 microseconds.
OUTPUT VOLTAGE: Approximately 150 to 200 volts peok positive with respect to ground.
"SYNC" OUTPUT: 35 valts positive with respect to ground. Disploced by $1 / 2$ seriod from pulse output.
"SYNC" INPUT: MOy be synchronized with os little os 2 valts peok from an externol source.
POWER SUPPLY: 117 volts, 60 cycles. 115 watts.
DIMENSIONS: $10-13 / 16^{\prime \prime}$ high $\times 14 \frac{1}{2 \prime}$ " wide $\times 11-9 / 16^{\prime \prime}$ deep, overall.
WEIGHT: Approximately 31 pounds.

## MEASUREMENTS CORPORATION

BOONTON • NEW JERSEY


STANDARD SIGNAL GENERATOR • Model 84 - 300 Mc. $=1000$ Mc.

FREQUENCY RANGE: 300 to 1000 megacycles in ane band;
 individually calibrated direct reading dial.
FREQUENCY ACCURACY: $\pm 0.5 \%$.
OUTPUT VOLTAGE: Continuously variable from 0.1 ta 100,000 microvalts.
OUTPUT IMPEDANCE: 50 ohms.
MODULATION: 0 to $30 \%$ within $\pm 20 \%$ as determined by DC meter. Internal sine-wave ascillatar; chaice of 400, 1000 , or 2500 cycles is pravided. External modulation up ta 30 kilocycles may be applied.
PULSE FREQUENCY: 60 to 100 Kc in three ranges, 60.1000 , $600-10,000$ and $6000-100,000$ pulses per secand.
POWER SUPPLY: 117 volls, 50 to 60 cycles.
DIMENSIONS: $13^{\prime \prime}$ high $\times 26^{\prime \prime}$ wide $\times 12 \frac{1 / g^{\prime \prime}}{}$ deep, overall. WEIGHT: Approximately 135 pounds, including external line voltage regulator.

## U.H.F.-TV STANDARD SIGNAL GENERATOR • Model 84-TV • 300 Mc. - 1000 Mc.


leakage: Negligible.
DIMENS:ONS: $115 \%^{\prime \prime}$ high $\times 19 \frac{8^{\prime \prime}}{}$ wide $\times 103 / 4^{\prime \prime}$ deep, overall.
WEIGHT: Approxirately 40 pounds.

Mocel 84-TV Standard Signal Generatar has been developed to meet the need far a reliable signcl saurce for the UHF Television band. Research requirement: as well as production lesting needs are met with accuracy, stability and ease of aperation.
FREQUENCY DATA: 300 ta 1000 megacycles, in one band. The individually calibrated dial reads directly in megacycles, and is accurate to $\pm 0.5 \%$.
MOJULAFION: Cantinuously varioble from zera to $30 \%$ from an internal 1000-cycle oscillator. Provision is made far applying external modulation from 50 to 20,000 cycles. Approximately 5 volts r.m.s. across 100,000 ohms are recuirea for $30 \%$ modulation.
OUPPUT VOLTAGE AND IMPEDANCE: The corrier output voltage is continu. ously variable from 0.1 microvolt to 1.0 volt across 50 ahms. The full 1 valt outfut, however, may not be possible above 900 megacycles. Output imped. ance, as seen at the panel connector, is approximately 53 ohms resistive.
POWER SUPPLY: Optimum performarice is obtained from a 117 volts, 60 cycle pawer supply. The power consumption is 120 watts. An external step-dawn transfarmer for 220 volt, 50 cycle operation is available on special order.

## STANDARD SIGNAL GENERATDR • Model 65-B • 75 Kc. - 30 Mc.

FREQUENCY RANGE: 75 kilocycles to 30 megacycles in 6 push button
 ranges.
FREQUENCY CALIBRATION: Individually calibraled direct reading dial, ior each range. Accurate to $\pm 0.5 \%$.
OUTPUT VOLTAGE: Continuously variable from 0.1 microvolt to 2.2 volts. OL'TPUT IMPEDANCE: 5 ohms to 0.2 volt, rising to 15 ohms at 2.2 volts. MODULATION: Continuously variable fram 0 to $100 \%$; indicated directly by a meter on the panel. Modulation may be obtained either from an internal source of 400 or 1000 cycles ar from an external source.
EN•ELOPE DISTORTION: $4 \%$ at $100 \%$ modulation at 1 megacycle; $8 \%$ at $100 \%$ modulation at 15 Mc ; $1 \%$ at $30 \%$ modulation.
LEAKAGE: Less than 0.1 micravalt leakage with attenuator set for 0 cutput.
POWER SUPPLY: 117 volts, 60 cycles. 115 watts.
DIMENSIONS: $117^{\prime \prime}$ high $\times 20-5 / 16^{\prime \prime}$ long $\times 101 / 2^{\prime \prime}$ deep, overall. WEIGHT: Approximately 55 pounds.

The Madel $65-8$ provides accurate test signals for the measurement of the sensitivity, selectivity, overload, distortion, noise and
stage gain charazteristics. In design and operatian, it mests the exacting requirements for laboratory use and production testing.

## MEASUREMENTS CORPORATION

BOONTON . NEW JERSEY


## SQUARE WAVE GENERATOR • Model 71



POWER SUPPLY: 117 volts, $50-60$ eycles. 100 watts. DIMENSIONS: $73 / \mathrm{B}^{\prime \prime}$ high $\times 15^{\prime \prime}$ wide $\times 878^{\prime \prime}$ deep, overall. WEIGHT: Approximately 20 pounds.

Recommended for television testing and many different applications in developing AM, FM and TV equipment where square-wave analysis is of great importance.

FREQUENCY RANGE: Continuously variable from 6 to 100,000 cycles per second.
WAVE SHAPE: Rise time less than 0.2 microseconds with opproximotely $5 \%$ overshoot of 75 peak volts autpul. At 5 volts or less rise time is less thon 0.1 microsecond.
OUTPUT VOLTAGE: Step ottenuotor giving 75, 50, 25, $15,10,5$ peak volts fixed and 0 to 2.5 volts continuously varioble.
SYNCHRONIZING OUTPUT: 25 volts peok.
R. F. MODULATOR: 5 volts maximum carrier input. Translation gain is approximately 0.1 . Oufput impedance is 600 ohms.

FM STANDARD SIGNAL GENERATOR • Model 78-FM • 86 Mc. - 108 Mc.


FREQUENCY RANGE: 86 to 108 megocycles, individually colibrated dial. Accurote tc $\pm 0.5 \%$.
OUTPUT VOLTAGE: Continuously variable from 1 to 100,000 microvalis. LEAKAGE: Less than 1 microvolt.
MODULATION: 400 and 8200 cycle internol audio oscillator. Can be modulated from an external source providing 7 volts across 5000 ohms. FIDELITY: Flat within two db from DC to 15,000 cycles. Distortion is less than $1 \%$ at 75 kilocycles deviation. Transient response is excellent. POWER SUPPLY: 117 volts, 50 to 60 cycles. 36 woths.
DIMENSIONS: $103 / 4^{\prime \prime}$ high $\times 14 \frac{1}{4}$ " wide $\times 75 / 8^{\prime \prime}$ deep, overall.
WEIGHT: Approximotely 25 pounds.

## I.F. CONVERTER • Model M-275



For use with the Model 78-FM Standard Signal Generator to provide carrier output at the IF frequencies used in FM and Television receivers.

FREQUENCIES: 4.5, 10.7, 21.7 Mc. Provision for one extro frequency. FREQUENCY ACCURACY: $\pm 0.5 \%$

OUTPUT VOLTAGE: 10 microvolts to 1.0 v . when used with Model 78-FM. BAND WIDTH: $\pm 250 \mathrm{Kc}$. from center frequency.

AMPLITUDE MODULATION: Up to opproximotely $80 \%$, combined with or exclusive of FM. There is negligible spurious FM due to $A M$. The envelope distortion is less than $10 \%$ at $80 \%$ modulation.
POWER SUPPLY: 117 volts, 50 to 60 cycles, 45 wotts.
DIMENSIONS: $10^{\prime \prime}$ high $\times 13^{\prime \prime}$ wide $\times 7^{\prime \prime}$ deep, overall.
WEIGHT: 15 pounds.

V.H.F. RADIO NOISE and FIELE STRENGTH METER • Model 58



POWER SUPPLY: Built-in regulated dual power supply for operation from either 117 valts $A C$ ( 55 watts) ar 6 valts DC.

This versatile, portable instrument is useful in measuring signal-to-noise ratios, noise levels and for field strength surveys on TV, FM and AM transmitfers.
FREQUENCY RANGE: 15 ta 150 megacycles in five bands -dials directly calibrated in megacycles ta an accuracy af $\pm 2 \%$.
INPUT VOLTAGE RANGE: 1 ta 100,000 micravalts induced in antenna. 1 ta 100 micravalts an semi-lagarithmic autput meter, balanced resistance aftenuatar with ratias of 10,100 and 1000 ahead of all fubes.
GAIN STANDARDIZATION: Internal "shat naise" diade pravides calibratian standard. Special dial eliminates need far charts.
CIRCUIT: Superheteradyne circuit with funed RF amplifier reduces image respanse.
BAND WIDTH: 150 kilacycles @ 2X dawn.
DIMENSIONS: $9^{\prime \prime}$ high $\times 16^{\prime \prime}$ wide $\times 11^{\prime \prime}$ deep. averall WEIGHT: 35 paunds.


VACUUM TUBE YOLTMETER • Model 62

RANGE: Push bultan selectian of 5 ranges-1, 3, 10,30 and 100 volts full scale $A C$ or DC.
ACCURACY: $\pm 2 \%$ of fulf scale an each range, bath $D C$ and sine-wave $A C$ of line valfage af 117 v .

INDICATION: Linear far DC and calibrated ta indicate RMS values of a sine-wave or $70.7 \%$ af the peak value of a complex wave an AC.
FREQUENCY ERROR: Less than $10 \%$ fram 30 cycles to aver 150 megacycles. Resonant frequency af the probe with input terminals sharted is 300 megacycles.
INPUT IMPEDANCE: The input capacitance is appraximately 7 mmf . The input resistance is a function of freavetcy.
POWER SUPPLY: 117 valts, 60 cycles. 24 watts.
DIMENSIONS: $7-3 / 16^{\prime \prime}$ high $\times 43 / 4^{\prime \prime}$ wide $\times 9-3 / 16^{\prime \prime}$ deep, overall.
WEIGHT: Approximately $\&$ pounds.

## PEAK-TO-PEAK VOLTMETER • Model 67



Cesigned for audio and vides level measurements and the measurement of audio electrical interference. The Model 67 is ideally suited for uses where the indication of true peak values is required.
VOLTAGE RANGE: 5 ranges; .0005 to 300 valts peak-fa-peak. (Approximately . 0002 to 100 r.m.s. volts).

SEMI-LOGARITHMIC SCALES: Hard calibrated: 0 ta 30 peak-to-peak and 0 to 10 i.m.s. volts.
FREQUENCY RANGE: 5 ia 100,0CO sine-wave cycles per secand.
INPUT IMPEDANCE: 1 megohm stented by 30 mmfd.
ACCURACY: Far sine waves $\pm 5 \%$ from 5 to 100,000 cps.

STABILITY: Less than $2 \%$ error with line varia. tions from 110 volts to 120 volts.

RECORDER TERMINALS: Self-shorting type for external ane milliampere graphic recorder or milliammeter.
POWER SUPPLY: 117 volts; 50.60 sycles, 35 watts.
DIMENSIONS: $71 / 2^{\prime \prime}$ high $\times 7^{\prime \prime}$ wide $\times 93 / 8^{\prime \prime}$ deep, overall.
WEIGHT: 10 lbs .


TELEVISION SIGNAL GENERATOR • Model 90


The first commercial wide-band, wide-range Signal Generator to be developed to meet the exacting standards of high definition television use.

## CARRIER FREQUENCY:

RANGE: 20 to 250 megacycles, in eight ranges.
ACCURACY: Built-in Crystal Frequency Standard permits setting to $.01 \%$ Dial scale may be set to $0.1 \%$.
STABILITY: Warm-up drift less than $.05 \%$. Less than $.01 \%$ after warm-up LEAKAGE: Less than 10 microvolts.

MODULATION: Continuously variable from zero to $100 \%$
ENVELOPE: Sinusoidal, or composite television. Bandwidth to 3 db is 4 Mc . Rise time from $10 \%$ to $90 \%$ modulation 0.15 microsecond. Overshoot less than $5 \%$. Slope less than $5 \%$ on 60 -cycle square wave
INPUT IMPEDANCE: 75 ohms $\pm 10 \%$ (RMA Standard).
INPUT LEVEL: 1.5 volts peak-to-peak minimum level for $100 \%$ modulation. Black negative polarity.
MODULATION PERCENTAGE: $15 \%$ to $110 \%$; within $\pm 2 \%$.

## OUTPUT:

LEVEL: Continuously variable from 0.3 microvalt to 0.1 volt balanced to ground (measured at $100 \%$ modulation level).
IMPEDANCE: (a) 107 ohms line-to-line (balanced).
(b) 53.5 ohms line to ground (unbalanced).
(c) Suitable pads may be employed to alter these impedances.

## DIMENSIONS:

OVERALL: Height- $60^{\prime \prime}$; Width— $273 / 4^{\prime \prime}$; Depth— $25^{\prime \prime}$
WEIGHT: Model 90-302 pounds. External Voltage Regulator: 92 pounds. POWER SUPPLY: With regulator, 117 volts, 60 cycles. 825 V.A.; without regulator, 117 volts, 60 cycles. 600 V.A.

## INTERMODULATION METER • Model 3I

FEATURES:

- Compact, completely self-contained unit withTest Signal Generator, Analyzer, Volimeter, Power Supply
- Direct-reading meter indicates percentage of intermodulation.
- Accurate metering of input voltage to analyzer.
- Easy to operate.
- Quick, accurate measurements.
- May be mounted in standard 19" relay rack. (7" relay rack panel space).
- Connection for oscilloscope.

USES:

- Insuring peak performance from all audio systems.
- Correct adjustment and maintenance of $A M$ and FM receivers and tronsmitters.
- Checking linearity of film and dise recordings and reproduc tions.
- Checking phonograph pick-ups and recording styli.
- Checking record matrices.
- Adjusting bias in tape recordings.
- for quality control of all oudio components and equipment.

ANALYZER:
INPUT VOLTAGE: Full scale ranges of 3,10 and 30 volts RMS. less than one volt of mixed signal is sufficient for operation, INPUT IMPEDANCE: Greater than 400 K ohms.
INTERMODULATION: Full sca'e ranges of 3,10 and $30 \%$. ACCURACY: $\pm 10 \%$ of full scale.
POWER SUPPLY: 117 volts, 60 cycles. 30 watts. DIMENSIONS: $71_{4}^{\prime \prime}$ high $\times 19^{\prime \prime}$ wide $\times 31 / 2^{\prime \prime}$ deep.
bE:GHT: 16 pounds.

## SPECIFICATIONS:

## GENERATOR:

LOW FREQUENCY: 60 cycles.
HIGH FREQUENCY: 3000 cycles.
LF/HF VOLTAGE RATIO: Fixed 4/1.
OUTPUT VOLTAGE: 10 v . max. into high impedance or +5 DBM matched to 600 ohms.
OUTPUT IMPEDANCE: 2000 ohms.
RESIDUAL INTERMODULATION: $0.2 \%$.


## MEGACYCLE METER • Model 59

This versatile instrument consists of a compact oscillator unit, calibrated for direct reading from 2.2 Mc. to 400 Mc ., connected by a small flexible cord to the power supply.

As a "grid-dip" meter the Model 59 has many uses such as for resonating all the tuned circuits of a transmitter or receiver, including oscillator and antenno, with the power off, and many other applications.

The Megacycle Meter will prove an indispensable instrument for anyone engaged in electronic work-engineer, serviceman, amateur or experimenter.

FREQUENCY RANGE: 2.2 megacycles to 400 megacycles with seven plug-in cails.
FREQUENCY ACCURACY: Individually calibrated dial, direct reading ta an accuracy of $\pm 2 \%$.

OUTPUT: CW ar MCW. Madulation fixed at appraximately $30 \%, 120$ cycles.
DIMENSIONS: Pawer unit: $55 / 8^{\prime \prime}$ wide $\times 7-13 / 16^{\prime \prime}$ high $\times 83 / 8^{\prime \prime}$ deep, averall.
Weight: appraximately $61 / 2$ paunds.
Osciliatar unit: $33 / 4^{\prime \prime}$ diameter, $2^{\prime \prime}$ deep.
Weight: appraximately 1 paund.
POWER SUPPLY: 117 valts, 60 cycles, 20 watts.


## U.H.F. MEGAGYCLE METER • Model 59 UHF

The Modei 59 UHF Megacycle Meter is speciolly designed to cover the UHF television band plus the many mobile and fixed communication services through its wide frequency coverage of 430 to 940 megacycles in a single range. It incorporates all of the quality features and the excellent performance of the popular Model 59 plus a unique design resulting in a maximum of convenience in use. It is on indispensable instrument for electronic engineers, researchers, experimenters and radio servicemen. FREQUENCY RANGE: 430-940 Mc. in a single band. FREQUENCY ACCURACY: $\pm 2 \%$ (individually calibrated). OUTPUT: CW ar 120 -cycle madulatian. POWER SUPPLY: 117 valts, 60 cycles. 30 watts.
DIMENSIONS: Oscillatar Unit: $4 \frac{5}{6} 8^{\prime \prime} \times 21 / 2^{\prime \prime}$.
Pawer Unit: $5 \frac{5}{8} 8^{\prime \prime}$ wide $\times 7-13 / 16^{\prime \prime}$ high $\times 83 / 8^{\prime \prime}$ deep, averall.


GRYSTALS CALIBRATORS

## - Model III .25 to 1000 Mc .

and Model III-B . 1 to 1000 Mc .

These instruments have been designed as dualpurpase calibratars. They nat anly pravide a test signal of crystal-cantralled frequency, but alsa have a self-cantained receiver af 2 microwalts sensitivity. A new circuit arrangement with quartz

FREQUENCY ACCURACY: $0.002 \%$.
POWER SUPPLY: 117 valts, 60 cycles. 18 watts.
crystal cantral ultilizes the crass-madulation praducts af three separate oscillatars. The fundamental frequencies of Madel 111 are .25, 1.0 and 10 megacycles, while thase of the Model 111-B are .1. 1 and 10 megacycles.

DIMENSIONS: $6^{\prime \prime}$ wide, $95 / 8^{\prime \prime}$ kigh, $51 / 8^{\prime \prime}$ deep, overall.
WEIGHT: 4 paunds.


> Featuring small sixe, light woight and austanding performance the HIGH, WIDE and TWIN POCKETSCOPES have become the "triple threof" of the ascillascope field. Their incomporable versatility, raliability and occuracy have skyrocketed this team of truly portable insiruments inta unparalleled demand. Each ascilloscope feotures DC coupled ampliflers in both verlical ond harizontal channels.


The S-14-A HI.GAIN POCKET SCOPE provides the optimum in oscilloscope flexibility for analysis of low-level electrical impulses. Extremely light weight ( $123 / 4 \mathrm{lbs}$.), compact in size ( $12 \times 53 / 1 \times 7$ in.). dependable and accurate in performance. Vertical and horizontal channels: 10 mv rms/inch with response within $2 D B$ from $D C$ to 200 KC and pulse rise of $1.8 \mu \mathrm{~s}$ non-frequency discriminating attenuators and gain controls with internal calibration of trace amplitude...repetitive or trigger time base with linearization from $1 / 2$ cycle to 50 KC with $\pm$ sync or trigger.


| TUAE | physical data |  | static voltage |  | DEFLECTION: |  | IIGNT OUTPUT** |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | FACE | tencth | ${ }^{4} 3$ | $\mathrm{A}^{2}$ | VErt | NOR |  |
| 3.P1 | 3" | $10^{\prime \prime}$ | 3000 | 1500 | 111 | 150 | 352 |
| 3 MPI | $3^{\prime \prime}$ | $8^{\prime \prime}$ |  | 750 | 99 | 104 | 33 |
| 3RPI | $3^{\prime \prime}$ | $9.12^{\prime \prime}$ |  | 1000 | 61 | 86 | 44 |
| 3SP1 | $1.5 \times 3^{\prime \prime}$ | $9.12{ }^{\prime \prime}$ |  | 1000 | 61 | 86 | 4.4 |
| $3 \times P 1$ | $1.5 \times 3^{\prime \prime}$ | 8.875" |  | 2000 | 33 | 80 | 218 |

## RAYONIC CATHODE RAY TUBES BY WATERMAN

*Deffection of wolts per inch. **Light output of an element of a raster line (one mm long and not exceeding . 65 mm in uridth) in microhsmeas.

Write for your complimentary copy of "POCKETSCOOP" - Official Waterman publicatian.


The PULSESCOPES are calhode ray tube oscillascopts that portray the atiributes of The pulse: shape, amplitude, dueation and time displacement. All PULSESCOPES have Internally generated markers with the basic difference thaf in the SAR PULSESCOPE the markers initiote the sweep while in the others the sweep starts the markers.

BROAD The S-6.A BROAD BAND Scope is a in performance, POCKETSCOPE in size. The instrument measures DC as well as AC signals. Unique DC calibration methods permit rapid measurements of either positive or negative, AC or DC signals. Vertical amplifier sensitivity of $0.2 v \mathrm{rms} / \mathrm{inch}$, and response to 5 mc within $3 \mathrm{DB} .$. pulse rise time of $0.1 \mu \mathrm{~s}$. . . internal markers from 1 to $1000 \mu \mathrm{~s}$. . . repetitive or trigger sweep from 5 cycles to 500 KC with A. sweep expansion . . . sweep, marker and DC *alibrating voltage a a ailable externally. Size $81 / 2 \times 63$ $\because 1: 3^{3} \mathrm{in}$. Weight 22 lbs. Operates from 50 to 400 cycles at 115 volts AC.


The S-5-A LAB PULSESCOPE is a JANized (Gov't Model No. OS-26) portable, AC, wide band-pass, laboratory o:scilloscope ideal for pulse as well as gensral purpose measurements. Internal delay of 0.55 . s permits observation of pulse leading edge. Intludes precision amplitude calibration, 19 X sweep expansion, ers, internal tigger generators and many other fratures. Video amplifier 0.1v p to p/inch . . . pulse rise time of $.035 \mu \mathrm{~s}$ or response to 11 mc . 1.25 to $125,100 \mu_{\mathrm{s}}$ triggered or repetitive swe p . . . internally generated markers from 0.2 to $500 \mu \mathrm{~S} \ldots$ trigger generator from 50 to 5000 gering. Operates from 50 to 400 cycles at 115 volts AC.

The S-4-C SAR PULSESCOPE is a JANized (Gov't Model No. OS-4) portable instrument ( 31.5 lbs .) for precision pulse measurements for radar, TV and all electronic measurements. Portrays all attributes of the pulse... internad crystal controlled markers of 10 and $50 \mu \mathrm{~s}$ available for self-calibration... in R operation a small segment of the A sweep is expandable for detailed observation with a direct-reading calibrated dial accu:ate to $0.1 \%$. Video amplifier band-pass up to 11 mc . . . optional video delay 0.55 $\mu \mathrm{s}$. . . pulse rise and fall time better than $0.07 \mu \mathrm{~s}$. . . R pedestal (sweep) 2.4 to $24 \mu \mathrm{~s}$. . vider sensitivity of 0.5 v . p to p/inch. Easily convertible from $\mu \mathrm{s}$ to yards. Operates from 50 to 400 cycles at 115 volts AC.


Because the panel is only $7^{\prime \prime}$ high and fits any standard rack, the S-12-B RAKSCOPE admirably fills the need for a small oscilloscope of wide versatility. With all the features of the S-11.A POCKETSCOPE, the RAKSCOPE is JANized (Gov't Model No. OS-11), and has many additional advantages; the sweep, from 5 cycles to 50 KC , is either reperitive or trig. gered..vertical and horizental amplifiers are 50 mv rms/inch with bandpass from 0 to 200 KC ... sf ecial phasing circuitry for frequency comparison.


PHILADELPHIA 25, PENNA., U.S.Ā.
TATERMAN PRODUCTS
CABLE ADDRESS, POKETSCOPE, PHILA.
Manufacturers of POCKETSCOPES® - RAKSCOPES® - PULSESCOPES@ and RAYONIC®TUBES

## SPECIALISTS in Sub-Miniature Panel Meters

FIRST in U.S. to manufacture $1^{\prime \prime}$ diameter meter. FIRST to produce $l^{\prime \prime}$ and $11 / 2^{\prime \prime}$ illuminated meters.

F|RST to produce $1 \frac{1}{2^{\prime \prime}}$ self-contained DB and VU meters.
F|RST to produce Miniature Side Indicators.


## SIDEINDICATORS



MODEL 1145 single horizontal mounting

- Greoter readability - Smaller Panel Space
- Horizontal or vertical mounting, singly or with scales together.
TWO SIZES AVAILABLE:
Model 1120 Scole length $1.3^{\prime \prime}$ Anodized aluminum cose.
Model 1145 Scale length $2.75^{\prime \prime}$
Plastic case. Front external zero adjuster.



## MINIATURE MULTITESTER

Tests resistances and voltages. Sensitivity: 8000 ohms per volt on a.e ranges; 10,000 ohms per volt on de ranges. Accurate to $\pm 2 \%$ of full scale deflection on d.c, $\pm 5 \%$ on a.c.

ENGINEERING DATA SHEETS COMPLETELY DESCRIBING THESE INSTRUMENTS ARE AVAILABLE. WRITE FOR YOUR COPIES TODAY.


## intermational instruments

## The Dual Marker Injector SAVES TIME


... in alignment jobs
. . . in adjusting broad-band amplifiers
. . . in critical marking in color and monochrome TV
... does not disturb circuits being adjusted
. . . offers more accuracy

SCALA DUAL MARKER INJECTOR (SMI-53X) (patent applied for)Nothing else io buy-if works with your fresent marker generator. sweep generator, and oscilloscope.
Made by Scala, developers of the original bypass marker injector system.
The simplest, most legible, and most economical marker injectorand it requires less than 2,000 microvolts of signal!

THE SECOND MARKER MAKES EVERYTHING SIMPLER-
Wioh two marks on the response curve, you don't have to re-set the marker or the sweep-generator frequericy or attenuator.
Now you can realign with accuracy, simplecity, and speed that dual mark techniques make possible on manufacturers assembly lines.
Receiver characteristics don't affect the marker size, so there no stage-by-stage reconnecting.

The marker generator can be calibrated against the Scala Dual Marker Injector's crystal oscillator without interrupting alignmerit procedure.
FOR LABORATORIES, COLOR TV, AND RADAR, TOO-
The extremely critical frequencies used in color $T V$ chassis and radar equipment are no problem for the man with a Dual Marker Iniector. You simply replace the easily accessible crystal on the front panel with one of another trequency ( 1 to 4.5 MC ) and you are thoroughly equipped for the iob. No worries about accuracy, marker size, or disturbing bAG5 circuit being tested.
SPECIFICATIONS-
Two 6AG5 high-frequency isclating mixers; selecłed diode detector: one 6SL7 xtal osc-amp.; one GSN7 video and marker mixer; one $5 Y 3$ rectifier: one 4.5 MC crystal ( $\pm .02 \%$ ). Useful to 250 megacycles. Shipping weight: 13 lbs. At leading jobbers, $\$ 79.50$.


Your scope sees only what your probe buy probes look at the construction
feeds it-so, when you cations. Then you will select Scala probes.

BZ-I: SIGNAL TRACING PROBE for individual check of IF stages, calibrating marker generatcr, checking output of sweep generator, etc. Low C . Hi-Z demodulator range, non-resonant to 225 mc usefut to 1000 mc . Dealer net. less cable. $\$ 8.75$; with cable, $\$ 9.75$.

8Z-2: LOW CAPACITY PROAE permits tacing waveforms through Hi-Z circuits without excessive distortion from circuit loading. Cuts effective input capacity of scopt, attenuation 10 to 1. Dealer net, less cable, $\$ 8.75$; with cable, $\$ 9.75$.
8Z-3: 100:1 VOLTAGE DIVIDER PROBE for checking horizontal sweep waveforms and voltages at plates of horizontal output on damper tubes. Does not distort waveform up to 10,000 volts feak to peak. 100.1 capacitance divider. Dealer net, less cable, $\$ 8.75$ with cable, \$9.75.
BZ.4: VOLTAGE DOUBLER PROBE provijes virtually double deflection on scope screen compared to half-wave probes. Dual low C. Hi-Z demodulators useful to 150 mc . Dealer net, less cable, \$9.75; with cable. $\$ 10.75$.
8Z-5: 2-IN-ONE-PROBE. (ILLUSTRATED) As a direct probe, provides
a convenient test facility in general troubte-shooting work. By mereh, flipping a switch you have an alignment probe that provides the primum isolation and titial haracteristics so ent work Calibrated removable low lass coaxial cable: tumbler actions slide switch; non. inductive isolating ress tor: removable self-holding Klipzon tip. Dealer net less cable \$5.90; with cable, \$6.90.
8Z-123: Consists of SCALA $B Z-1, \quad B Z-2$, and $B Z-3$ probes complete with one coaxial cable, instructions, and removable Klipzon tip which can be fastened to any Scala probe to make a lirm connection to test point. Dealer net, \$27.45.
8Z-1235: The equivalent of five probes: $B Z-1, B Z-2, B Z-3$, and BZ.5. This kit includes cable, instructions, and Klipzon tip adaptable to make firm connection text point for any Scala probe. Dealer net, \$32.B5.
82.C: Spare cable for Scala probes. Dealer net. \$1.00.

# Electro 

I M P ULSE

Average Reading R．F．POWER METERS

100kc to $700 \mathrm{mc} \cdot 1.5$ watts to 2500 watts


















 calibration

| Model | Full Scale Power Measuring Ranges in Watts | Max． VSWR | Freg．Range MCS． | Input Connector | Imped． Ohms | Supply Voltage | Tute or Crystal | Alcurat | Max．Power Dissip． | Exterral <br> Cooling |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PM－6 | 1．5．${ }^{\text {i }}$ | 1．1．7 | ．$\because . \square 010.314$ | 1！ 1 隹 | $\therefore 1.5$ | \ıヶハ＂ | 1．${ }^{\text {a }}$ | $\pm{ }^{\prime} \cdot$ 。 | 1110 | ズッい |
| PM－9 | 2.7111 | $1.1 \%$ | $\therefore$－ 00.10 | Tucs | $\therefore 1.8$ | Хılı | バーシ | 土い＇， | 11110 | Sull |
| PM－10 | 15，111 | 1．1．1 | $\therefore-700.10$ | Tリ以 | $\therefore 1.8$ | \ıи＂ | 1Na－ | $\pm 5 \%$ | 11110 | Sullo |
| PM－7 | 1．51），4ill | 1．1．1 |  | Tspes | $\therefore 1 . \square$ | S．ия | 18－ | $\pm \begin{gathered}\text { \％}\end{gathered}$ | （1）］ 11. | Soll |
| PM－17 | $\begin{aligned} & 1 . \overline{1}, 1.1=1 \\ & \text { fio, } 1 \geq 0 \end{aligned}$ | 1．1： | ． B － 0110 | ＇I＇n | i1．is | $\begin{aligned} & 11.51 . \\ & 1110 \text { clo. } \end{aligned}$ | －11．－． 1 |  | ：＂11． | Sun， |
| PM－14 |  | 1.1 is | $\therefore-500.10{ }^{\prime}$ |  | －1． 1. | $\begin{array}{cc} 11: \\ 1 ; 11 \end{array}$ | －0：4－． 1 |  | 110） 11. | Kı，10 |
| PM－15 | $\begin{gathered} \text { 1.51, finn, } \\ 2.500 \end{gathered}$ | 1.1 .1 | ． $2-5 \\| \rightarrow M 6$ |  | $\therefore 1.7$ | Хоия | $1 \times=$ | $二 \therefore$. | $\because 8.110110$ |  |
| PM－16 | $\begin{gathered} 150,8000, \\ 1,500 \end{gathered}$ | 1．1： | $\therefore \because 6110 \mathrm{lt}$ |  | $\therefore 1.7$ | 11.5 V. <br> （；）cus． | －11－． 1 |  | 1：いい1） | Sulu |



# PEAK READING <br> R．F．POWER METERS 

## .2 to 700 Megacycles $\mathbf{0 - 5 0}$ or $\mathbf{0 - 5 0 0}$ Kilowatts

These peak reading power meters are designed to accurately meat sure the peak power of pulsed R．F．signals in the range of .2 to 700 MC with PRF of 800 to 10 ，000 pps and pulse duration of 5 micro seconds or more，and less that sperified maximman arevge power dissipation．

| Model | Power <br> Range | VSWR | Maximum Average Power Dissipation | Connector | Impedance | Supply Voltage | Accuracy | Frequency Response |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| PM－12 | （1－．50）kw | 1.15 | f（1）Wilts | Tı | 二1．$\quad$. | $\begin{aligned} & 110 \text { linlts } \\ & \text { int } 10 \text { sis } \end{aligned}$ | $\pm 111 \%$ | $\therefore$－$\quad$（1）M |
| PM． 18 | 11－bun dow | 1．1： |  | He <br> Spereitioul | －11． 7 | $\begin{aligned} & 110 \text { volts } \\ & \text { fill cols } \end{aligned}$ | $\pm 111 \%$ |  |

## Electro

## HIGH POWER DUMMY LOADS

## I watt to 5000 watts - Coaxial \& Wave Guide

The waveguide loads use walls that are poor conductors which means a more efficient removal of the heat generated in the load. and less tendency toward pulsepower breakdown (arcingl as may occur in design which use filling material in the waveguide.
New construction shortens path hetween inmer surface of lossy guide to heat conducting material. Hot spots have been eliminated.


The material used in these dummy loads is extremely durable, provides a strong adhesive bond to the metal walls and handles the thermal shock efliciently


## RF POWER AND , .inme £QUIPMENT

MICROMATCH is the registered trade name which identifies a complete line of M. C. Jones Electronics Co., Inc. R. F. Power and VSWR measuring instruments.

These instruments contain a patented circuit designed to produce an output essentially independent of frequency. They cover the frequency range of 0.5 to 4000 mcs. and power levels of 10 milliwatts to 120 kilowatts.

The R. F. Power and VSWR instruments are rugged field and laboratory type complete measuring equipment, consisting of both coupler and indicating units.

The DC and RF output coupler units only are sold principally to manufacturers who incorporate these units directly into government or commercial type transmitters.

Because they are made in quantity to the highest government and commercial standards, MICROMATCH instruments combine the highest quality with extremely low cost.




$$
\begin{aligned}
& \text { LOW COST } \\
& \text { TV TEST } \\
& \text { INSTRUMENTS }
\end{aligned}
$$



Buy Now for BL. \& WH. Service -and be ready for COLOR

COMPATIBLE FOR COLO: BLACK AND WHITE

## CHECK THESE FEATURES!

$\checkmark$ COMPATIBLE ADVANCED DESIGN PREVENTS OBSOLESCENCE. $\checkmark$ LOW COST WITH HIGH QUALITY.
$\checkmark$ PORTABILITY.
$\checkmark$ STANDARD WARRANTY ON All INSTRUMENTS.
SEE YOUR PARTS JOBBER! WRITE TODAY FOR LITERATURE!


## WHITE-DOT and LINEARITY GENERATOR

 -COLOR CONVERGENCE A must on every color service coll gives lorge and small white dots.BLACK \& WHITE - Lineority \& pieture size adjustments. Model $160 \$ 7995$

## SWEEP CIRCUIT ANALYZER

NEW! The complete sweop circuif tester-takes the guesswork out of sweep circuit troebleshooting.

- TWO INSTRUMENTS IN ONE

1. Horizontal and vertical sawtooth for signal substitution. $\ 15 \mathrm{KC}$ and 60 CP5.)
2. Complete flyback and yoke iesters.


## COMPATIBLE FIELD STRENGTH METER

## VHF and UHF

NEW! Here is the FSM that wan't be made obsolete by color TV I

For good antenna installations (color or b. wh.) YOU NEED:

1. Mierovalt tosting
2. Eandwidth testing

## FEATURES:

- Tests for colar performance on antenna installations.
- Tests for bandwidth for better bl. \& wh. pictures.
- Reads microvalts directly an 5 scales.
- Channels 2-13; extre coils available for UHF channels.


Model $150 \quad \$ 4995$ PATENT PENDING

## RAINBOW GENERATOR

This Color Pattern Generator produces New Linear Phase Sweep for faster color TV servicing.

## - APPLICATIONS:

- All chroma circuit tests.
- Color demod. phase alignment.
- Color gain adjustments.
- Matrix test and alignment.
- 3.58 me traps and coils.


## FLYBACK and YOKE TESTER

NEW! Sensitive circuit checks one furn shorts in yokes as well as xfmrs.

- Oscillating nean indicater more sen* silive thon a meter.
- Advanced design also tests color yokes and xfmrs.
- Saves fime with fast test of -
- Flyback transformers
- Deflection yokes
- Bypass and electrolytic condensarz

Continuity of coils, ximrs


Model 810


## COMPATIBLE CRYSTAL CALIBRATOR

NEW! Crystal controlled generator and crystal tester
FOR:
$\rightarrow$ Color and bl. wh. servicing

- Labs and factories
- Amateurs and experimenters

FEATURES:

- Accurate 3.579545 MC color sub. carrier standard, factory colibrafed (erystal supplied).
- Three external crystals* and a crys. tol switch permit quick selection of precise frequencies.
APPLICATIONS:
- 3.579545MC color oscillator alignment.
- Crystal tester.
- RF and IF marker and calibrator.*
- Color TV-3.58MC generator.
- Microsecond time marker for scopes.*


Model 120
\$5995

-These crystals available extra

# WINSTON ELECTRONICS, INC. 

# PRECISE MEASUREMENTS COMPANY <br> BROOKLYN23. NEWYORK 

## TRANSPARENT SYMBOL STAMPS

 You Can Stamp Symbols in Jwo Seconds!

Makes your blueprints and drawings neater and more uniforn. Simply ink the stamp and make your impression. Stamps are crystal clear and easily lined up by looking right through them. Built in "CROSS HAIRS" allow pin point positioning. Not to be confused with immitations as these are made on expensive master dies which are very deeply sunk in and result in stamps with razor sharp impressions and anti-clogging qualities. Outlasts rubber stamps many times because Vinylite resists abrasion and is more resilient. Unaffected by gasoline, benzine and many acids and alklies. Stamps may be purchased separately at one dollar each or in complete sets.
each stamp is made like a fine gem. all edges are polished and unit is crystal clear.


GOVERNMENT SE.
RIES SET. Widely used by both government and industry. Consists of 32 selecied symbols as shown. All are strietly in accordance with standard apecifications.
l'rice $\$ 25.00$ Set of se symbols

STAMP PADS AND INK. The above stamps will work fine on most pads. We have available a special metal element pad that results in rery sharp impressions. The metal element is pourous bronze. Ink never dries out in the pad, yet dries instantly on paper suriaces. Available in RED or BLACK.
$\$ 2.50 \mathrm{EACH}$

HANDY STAMP SET


IZE A SET $\$ 8.50$ (12 Stamps) SIZE B SET $\$ 10.00$ (12 Stamps
 INDIUSTRIAL SERIES SET. Contains all the stamps in loth the Size A amd size is suts phas the important addifions as shown atome Irice $\$ 25.00$
shit of ön Simluila


Additional Symbol Stamps - Price 1 dollar each
$\overline{S P E C I A L}$ SYMBOL STAMPS. Send us a drawing of any symin ror wordint that vou use on your prints or for marking farta. Whe with sermi you hack a heantiful mo
thin first fow timms rou use it.

h. V. CONVERTER









 ralin tulue.

| Part No. | Primary | Secondary | Price |
| :---: | :---: | :---: | :---: |
| 10 MVT |  (fil) (-) (1) | (1) 1016010 Vi. A0 Max. | \$10.00 |
| 8 MVT | Silli* |  | \$15.00 |

## ULTRA SENSITIVE RELAYS

These compart units are very rurubl. Sunsitivity to 5 uams at $\mathbf{1 0 0}$ millivolts. Init cousists of powerful rebly controllod liy reliable
 is almost equal to shelf jife as current alrain is nocrisibise. Contacte rated at 2 amps.

| Model | Sensitivity | Price |
| :--- | ---: | ---: |
| 5 UA | FMicroamps | $\$ 50.00$ |
| 10 UA | 10 Mirruimps | 40.00 |
| 100 UA | 100 Mirruamps | 25.00 |

## PRECISE MEASUREMENTS COMPANY <br> BROOKLYN 23. NEW YORK

## FROM MILLIWATTS TO KILOWATTS

HIGH VOLTAGE POWER SUPPLIES AND EQUIPMENT
Precise has sold thousands of these power supplies to laboratories, industrial concerns, the government and universities. Only the best available selected material goes into these units so that you will have many years of dependable service. Only a few of our standard models are shown below. Quotations on special power supplies cheerfully given.
 A precisian, well cunstrueted light roltage sapply for meter testing and raliliatime, chere trastatie painting. hreakdran tests, muldear phasibs and luw low entrents are needea. dorput is well filtered dirert durrelt, Aljustable ly means of a colltul the the front panel.
Arailible with or without. Arailabe with or without:
metcr. Input rultage is 115 meter. Injut whlage is 115 60 rycles

 line rbandes or loal variations. lugulation is $\pm$

| Model | Maximum Voltage |
| :--- | :--- | ---: | :--- |$\quad$ Price | Price |
| :---: |
| Rejulated |
| Model |

E025.A With Mettr $25,000 \quad 155.00 \quad 205.00$
 anemisly. Perfect for freakdown and leakage measarements. Antonatio ripelits


## INSULATION MEGOHM METER

 Gat for measurements of high nimic resistors, insulators anl chertripal componants. bl additjon fo the megobnseter a second meter (kiforolimeter) acerirately shows the exist applien test roltage. Test roltage is adjustable to 25,000 rolts $11 . C$.

## KILOVOLTMETER

ONE HUNDRED THOUSAND VOLTS!

## FEATURES

- Shielded Polysterene Probe
- Choice of Ranges
- Simple Foolproof Circuits
- AC or DC Measurements
drasure tederision and X-ray roltages -ith extra high iuput impelankes. All Whage is dissipated in the shielded
 nes is frumided sul that prolle may loe Fewl regarolless of pularity of valtage monem towt. Indicator las lapge clear vale fur masy reading. Additional lows Prakage path. Spercial insulated prohe is cumblied an all 10 nKV matules.

high voltage POWER SUPPLIES



50,000 Volt Regulated Power Supoly walling kilowntmeler amd rurent moter realing kilowntumeler and
must in the rentrul range

## HIGHER

## VOLTAGE SUPPLIES

Industrial Series Power Supplies, Atailallle in rankes ely tu 1010,01001 bult 116. Widely used thromphant ilue natime These units offer the finest in materials wilainalle and are all backel hy sun fimuns servire guatimter. Tulnuess purer supulies using magnetir amplifiers and metallic rectifiers can me growiled wirn your requitements aill for erguipment of lis nature. Thir Model 6050-AIR supply is illustriteol. This mit murides um tur 80.060 wilts coutput, It las louth a built-in, lineret iemulation is in the order of $1: \%$ ule

Priores inmlude huilt in tirect sading kilowntmeters
All units suppliell in sturidly hilit rack igpe rabinets.

| Nodel | Maximum Voltage | Price Unregulated | Price Reyulated |
| :---: | :---: | :---: | :---: |
| 6030-A1R | 311.3011 | \$200.00 | \$300.00 |
| 6040-AlR | 10,01011 | 400.00 | 450.00 |
| 6050-AIR | .11, 01011 | 500.00 | 600.00 |
| 6100-AlR | 1111.001) |  |  |

## COMBINATION POWER SUPPLIES

.quipment lall lie shpphent that prorides many matages from a single romseliteth smurce. For example many ruslomeas want the High Voltage Power Supply to als feel $3+$ poltages tu certain apparatus as well as filament power for tulues. We can usually give sou gomel sartice on this type of equipment

## HIGH CURRENT POWER SUPPLIES

These industrial type power supplies are huilt for service and efficiency. All are of the trans-
 former type and employ husky components that have been selected for their power handing capacity. Controls are arranged so that opera tion is greatly simplified and a mumber of safety features are built in fore maximum pru-
tertion of personnel and equipment tertion of personnel and equipment. Sitpur is continuously rariable from zero to full rated ralue. Polarity reversing models (as
illustrated) can he had at alditional cust. $\begin{array}{ll}\text { illustrated) can he had at additional cust. } \\ \text { Modet } & \text { Voltage Current Price }\end{array}$ F-6005-A1-H ()-5000 100 M. $\$ 550.00$ $\begin{array}{llll}\text { F-6005-A1- } & 0-5000 & 500 \mathrm{M.I} & 650.00\end{array}$ F-6005-A1- 0-5000 1 Amp 800.00
F-6010-A1 0-10.1100 1110. I. 800.00 F.6020-A05 0-20.000 50 M. 1.

## INSULATION AND BREAKDOWN TESTERS

Widely nsed tor testing of rableles. in sulating maturials. trimsformers, ternifusts ettr. Very simple to uperate. they provide a qutick bus ur no answer when esting your apparatus, bivalkilena testng in guir plant zrevents rostly field ryedir of fatulys anyaritus that wonld therwisir pass mobetesten?. Oitpon monlinususly rariable from zeror to finll rated bahere. Built in cirouit lowaker and shethe safely features lmilt int" bliese in-
 struments. . Wl are supplial with a hears duty structual shed dolly fur cases morement of breakhown testur to test lupatime




PHOTO SHOWS THE SPECIAL

100 K.V.
PROBE
PROBE
SUPPLIED
SUPPLIED
WITH THE HIGHER RANGE
INSTRUMENTS.

|  |  |  | PRICE |  |
| :---: | :---: | :---: | :---: | :---: |
| Model | Voltage | Current | AC | AC and DC |
| 3000 | : 111111 | $2 \% \mathrm{Ma}$ | \$150.00 | \$250.00 |
| 3010 | [1.0140) | 140 Ma | 400.00 | 550.00 |
| 3050 | $\therefore$ : 1710 | i110 Ma | 550.00 | 650.00 |
| 3530 |  | $1 . \mathrm{mp}$ | 950.00 |  |

OTHER RANGES AVAILABLE


## MODEL 622

5" OSCILLOSCOPE


## MODEL 617 3" OSCILLOSCOPE



The general purpose soope that gives you most tor your dollar . . . has flat face CRT for usable trace edge to edge. It combines laboratory accuracy with ruggedness and compactness that makes it ideal for field service...

VERTICAL AMPLIFIER
Frequency Response: 6 cps to $4.5 \mathrm{mc} \pm 1 \mathrm{db}$
Sensitivity: $.01 \mathrm{v} / \mathrm{in} \mathrm{rms}$
input Impedance: 1 megohm, 35 mmf ( $\pm 2 \mathrm{mmf}$ ) over entire range of attenuator
HORIZONTAL AMPLIFIER
Frequency Response: 6 cps to
$500 \mathrm{kc} \pm 3 \mathrm{db}$
Sensitivity: $.075 \mathrm{v} / \mathrm{in} \mathrm{rms}$
Input Impedance: 1 megohm
SWEEP RANGES
15 cycles to 100 kc

Television $V$ \& $H$ frequencies 60 cycle, variable phase

Internal 60 cps square-wave 0.0 c volts peak-to-peak $\pm 5 \%$

## SYNCHRONIZATION

Internal, external. positive negative or AC line
POWER REQUIREMENTS
115 volts, 60 cycles, 100 watts
SIZE . . . WEIGHT
$81 / 2^{\prime \prime} \times 11^{\circ} \times 103 / 4^{\prime \prime}$.... 22 lbs.


HANGES
DC: $0-1,10,100,1000$ volts
AC: $0-10,100,1000$ volts
Ohms: $0-1 \mathrm{k}, 10 \mathrm{k}, 100 \mathrm{k}, 1$ megohm,
10 megohms 10 megohms
INPUT IMPEOANCE
11 megohms
FREQUENCY RESPONSE
Direct Probe: $30 \mathrm{cps}-3 \mathrm{mc}$

## MODEL 615

 DIGITAL VTVMA new dimension in VTVM: .. direct, digital readout. Eliminates interpolation and multi-ple-scale confusion. Illuminated scale with decimal point and polarity sign...

> Accessory Crystal Probe Extra: $50 \mathrm{kC}-250 \mathrm{mC}$
> INOICATOR
> 3 -digit illuminated counter ACCURACY
> DC and ohms: $1 \%$. . AC: $2 \%$
> POWER REQUIREMENTS
> 115 volts, 60 Cycles, 30 watts SIZE ... WEIGHT $81 / 2^{\prime \prime} \times 11^{\prime \prime} \times 71 / 2^{\prime \prime} \ldots . .16$ lbs.

Hycon also offers the following advanced test instruments and accessories Model 616 Color-Bar/Dot-Bar Generator - Model 623 3" DC-Coupled Oscillosynchroscope * Model $6243^{\prime \prime}$ Industrial DC-Coupled Oscilloscoəe - TV Sweep Generator - Model 6211 Oscilloscope Divider Probe - Model 6217 Oscilloscope Demodulator Probe

I new osciloscope concept ...automatic triggered sweep. Simplifies adjustments. makes synchronization positive. Special CRT has flat face for usable trace edge to edge. One of tombars mont advanced TV serving aids..

VERTICAL AMPLIFIER
Frequency Response: 6 cps to $6 \mathrm{mc} \pm 3 \mathrm{db}$; down less than Sensitivity. 10
Sensitivity: 10 mv rms ( 28 mv peak-to-peak) per inch
Input impenarce: 1 megohm,
45 mmf ( $\pm 2 \mathrm{mmf}$ ) over entire attenuator range
HORIZONTAL AMPLIFIER
Frequency Response: 1.5 cps to
$500 \mathrm{kc} \pm 3 \mathrm{db}$
Sensitivity: 75 mv ( rms ) $\{210 \mathrm{mv}$
peak-to-peas oer inch
Input Impedance: 100 k
20 mmf
SWEEP CHARACTERISTICS
Usable writing speed
sec/in to $.3 \mu \mathrm{rosec} / \mathrm{in}$

Ranges. . .
a. 10 cps to 300 kc
b. Preset V \& H television
© 7875 and 30 cps
c. 60 cps , variable phase line Type... automatic triggered or straight triggered (by switching)

## SYNCHRONIZATION

Internal, external positive, negative or AC line

## CALIBRATION

Internal 60 cps square-wave
.05 volts peak-to-peak $\pm 3 \%$

## POWER REQUIREMENTS

115 volts, $50-60$ cycles, 175 watts
SIZE . . . WEIGHT
$135 / 8^{\prime \prime} \times 101 / 2^{\prime \prime} \times 183 / 4^{\prime \prime} . . .32$ |bs.

MODEL $6: 4$ VTVM

Cinnenience at unprecedented low cost sums up this rugged, serviceable instrument. It's lightweight. versatile. Probes stow inside dase. ready for in. stant use...

RANGES
DC: 0-1.5, 5, 15,50, 150, 500.
1500 volts
AC: $0-1.5,5,15,50,150,500$,
1500 volts rms (with associated
peak-to-pear scaies)
Ohms: 0 -100G megohms in seven ranges
INPUT IMPECANCE
11 megohms
FREQUENCY RESPONSE
Direct Probe: $30 \mathrm{cps}-3 \mathrm{mc}$

Crystal Probe Extra:
$60 \mathrm{kc}-250 \mathrm{mc}$

## INOICATOR

61/2" meter
ACCURACY
DC and ohms: 3\%
POWER REQUIREMENTS
115 vols, 60 cycles, 6 watts
SIZE . . . WEIGHT
81/2" $\times 11^{\prime \prime} \times 71 / 2^{\prime \prime \prime}$. . . 10 lbs.

# BERKSHIRE 2 <br>  NEW HAMPSHIRE 



These transformers are available at consid. erable savings in a sample package containing one of each type, at only $\$ 18.7 .5$ f.o.b. Greenville, N. H. Postage prepaid if remittance accompanies order. Additional details and specifications on request.


## BERKSHIRE LABMARKER

This compact, self-contained unit converts the sinusoidal output of an oscillator into sharp pulses which may be used as vertical markers on a crt display. or as blanking or intensifying pulses. Pulse frequency is the same as that of the primary oscillator, with a lower limit of 25 cycles per second and an upper limit of one megacycle per second. Input terminals are banana plugs, for quick insertion into standard oscillator jacks. Output binding posts accept banana plugs, spade lugs, or plain wire leads. Overall length is $51 / 2^{\prime \prime}$ dia. $11 / 2^{\prime \prime}\left(13 / 4^{\prime \prime}\right.$ for Models l-U and l-Ul).

|  | $1-\mathrm{N}$ | 1.8 | 1-U1 | 1-N1 | 1-P |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Max. | 34 | 34 | 36 | 36 | 36 |
| Pulse polarity ........... Both | Neg | Pos | Bot | Neg. | Os |
| Pulse length/ose. cycle 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 |
| Pulse amp./input amp. 0.5 | 0.5 | 0.5 | 0.05 | 0.05 |  |
| ice f.o.b. |  |  |  |  |  |
| Greenville, N. H. .. 18. |  |  | 24 | 17.50 |  |

Special LABMARKERS having other characteristics can be supplied to order. If you have special requirements, please write for a quotation.

## BERKSHIRELABTRANS PULSETRANSFORMERS

These miniature pulse transformers combine compactness, convenience, and versatility. Designed for use in the microsecond and fractional-microsecond range, in equipment where space must be saved at no sacrifice in quality, they are provided with standard octal bases, for quick interchangeability in electronic assemblies. Height is only l.l inch above chassis, diameter 1.37 inch.

| Type | Ohms Imp. | Rise | Percent droop of: |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Time | 1 ps | 2 ps | 5 رs | 10 кs | Price |
| PT. 1 | 100 | . 04 ps | 20 | 50 | 80 | 80 | \$8.95 |
| PT-2 | 100 | . 04 ps | 20 | 30 | 50 | 70 | 8.95 |
| PT-3 | 120 | . 03 ps | 20 | 40 | 55 | 75 | 5.95 |



Your own three- or four-terminal networks can be made into convenient plug-in units by using Berkshire LABCASES. Useful for housing wave filters, wave-shaping circuits, and other standard or special circuits, the resulting plug.in units can easily be added to or removed from experimental set-ups for comparison purposes. The input terminals of one unit may be plugged into the output terminals of another, for cascade or tandem circuit arrangements. The cylindrical aluminum housing is $51 / 2$ inches long including terminals, and $11 / 2$ inches in diameter. Input terminals are banana-type, with standard $3 / 4$ inch spacing. Output binding posts accept banana plugs, spade lugs, or plain wire leads.
Model 19-S for four-terminal networks $\$ 4.00$
Model 19-G for three-treminal networks $\$ 3.50$

## BERKSHIRE LABSTROBE



The Model 18 LABSTROBE gives you a convenient means for strohoscopic observation of moving objects, such as motors, cyclic machinery, or phonograph turntables. The instrument plugs into any 60 -cycle 115 -volt outlet. and delivers 100 -microsecond flashes at a repetition rate of 60 per second. The aluminized reflector produces maximum light output from a standard long-life neon bulb. Six-foot cord and chromed metal case the size of an ordinary flashlight. Price $\$ 9.95$ f.o.b. Greenville, N.II. Phonostrobe disks, for use with the LABSTROBE in checking speed of turntables at 73,45 , and $33-1 / 3 \mathrm{RPM}$, are also available at 75 c each.

Order all Berkshire products from your distributor, who hos them in stock, ar con get them.

## Radio Rlastet Testers



## MODEL 630 VOLT－OHM－MILLIAMMETER

RANOIES
 （F）greater acuravy on rV and oher Hiph Resistance © ircuits．
 Weater accuracy in Audion and whor High Impedance AC （＇ircuits．）
 if Ontput levels．




 OlTIU＇l：Condenser in series with Al Valt rance＇s．










（34．30

## VOLT－OHM－MILLIAMMETER MODEL 630－A

A Labmatom－type Volt－Ohm－Milliammeter with mirror－aralas and munt
 （o）each instrument．
Foncecially designed for the enginerr ama technician who is in neod of an in－ strament assuring the finest dexree of accuracy possible in a commercially produced tester．

The long，mirmered sabtes climinate parallax in making peatings and special revistorz prowide for wreater aceurary．

In addition，the popalar Model 630－A has the same langes and all the what advanecd design features as Model bi3l above．
Matel fiso-A U. S. A. Denler Nert.


I＇t T－911－24i－ 30 Amperes（Plug－In）．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．S 9.00 1＇1．＇I＇－ $81-2+4$－bith Amperes（Portable）．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 12.00$
l＇t．＇t－4x－255－120 Amperes（tortables ．$\$ 12.111$
 ..... S11．．in
＇t．「T－ $54-70$（i－30．000 I）．C．Volts． ..... S1」．in
I＇L．＇T゚－TU－TI—li－30，000 A．C．Volts ..... S11．：3

## EXTERNAL SHUNTS

## Radio TEpher Testers

## COMBINATION VOLT-OHM-MILLIAMMETER AND VACUUM TUBE VOLTMETER

## 3 RANGES VOLT-OHM-MILLIAMMETER

D.C. VOLTS: 0-3-12-60-s00-1200 at 20,000 ohms jerr vol
A.C. VOL'「S: $0-3-12-60-300-1200$ at 5,000 ohms per volt.

D.C. MICROAMPERES : $0-60$ at 250 M .V.
D.C. MILILIAMPEIRES: $0-1.2-12-120-1200^{\circ}$ at $250 \mathrm{M} . \mathrm{V}$
D.C. AMPERES: 0-12 at 250 M.V.
D. H. : $-30,+4,+16,+30,+44,+56$.

OHMS: 0-1500 15,000 ( $6.8-68$ center scale. First division is 4.1 ohm .)
MEGOHMS: 0-1.5-150 ( $6,800-680,0(10$ ohms renter scale). OU'IPU'I': Condenser in series with A.C. Volts.

RANGES VACUUM TUBE VOLTMETER
D.C. VOLTS: 0-1.2-6-30-120. (First division is 0.02 volt.
 ou money half the price. ONE Sivi't'ry selects all ranges and minimize will du your work at ong
 ever sumel Nerum ion none in ullity
 precalibrat latteries all housed in molded rompartments for easy arcessiblity. REDSIFIEN-
 or the Vacuum Tube Voltmeter circuit is an outstanding advantage. isy using the Volt-Ohm-
 life. Batteries are used only about noetenth as much as in the ordinary battery-ojerated TV. 1 SSTRCMENT- $51 / 2 "$ Meter separately housed, flush with panel. Exclusive Triplctt IEFD - InOT Joifetime Guarantee. Aljusted to 50 Microamperes at 250 M . V. Mas
 long at ton arc. N. ${ }^{\text {Pad }}$ and Ill are black on white; A.C. and Ohms are red on white for easy

 -black molded with "olored markings engraved. LEADS- 48 " long, with test. prods and remorable allisator cliss at one end. $48^{\prime \prime}$ lead with one roeg built in for VTVM. Banana tyje for low contact resistance. l'encil-thin breds. MODEL 631-Suggested U.S.A. Dealer Net..


## 70-RANGE VOLT-OHM-MILLIAMMETER MODEL 630-NA

 DC . . . 70 R.NGK : NEABLY HOCBLE THOEE OF THE •ONTENTIONAL TENTER


D.C. VOLTS: 0-0.240-0.6-3-12-60-301-1200-6iv10 at 10, 000 Obms/Volt
A.C. VoLTS: $0-3-12-60-300-1200-6010$ at 5.1000 ohms/ Foll


D.C. MLIJASI'EREN: 0-12-12-120-1200 at 240 31.V
D.C. AMPERES: 0-12 at $240 \mathrm{M} . \mathrm{V}$.

OHMs: $10-1 \mathrm{~K}-10 \mathrm{~K}$-inoK (4.4-44-490 at renter seate)

 ations. Series ommeter circults for all ranke to diminate panibibility of battery drain when learing switch ohs ohs nosition,

*)









 for doubing the range selection. One fhash munted hant rien whapter aujustment.
 materly
manua.
MODEL 630-NA—Sugerested U.S.A. Dealer Net
$\$ 69.50$
HIGH VOLTAGE PROBES
14. T. 79.151 - 0 -12.n0n II.C. A.
$\$ 14.50$
EXTERNAL SHUNTS
Pr. T-91-429-m-15-30 Amperes (Plug-In)
Pt. T-91-930-0-30-60 Amperes (Prutiable)


MODEL 630-NA

# Radio RIPLET 

## MODEL 650 VACUUM TUBE VOLTMETER

READS PEAK TO PEAK VOLTAGE DIRECTIY FROM 15 CPS TO 150 MC . 32 RANGES
1.\%. VOLTS: 0-1-5-10-50-100-500-1000.
A.C-R.F VOLTS: 0-1-5-10-50-100-500.
'RAK TO PFAK VOITS: $0-2 . \times-14-2 \times$. 140-280-700.
(Read on $0-1400$ seale,) (Peak-to-peak valuc of sine wave to 1400 volts.) MEGS: 0-1000-10.000-100,000.
MECOHMS: 0-1-100-1000.
Ac'CURACY: D.C. Volts $=3 \%$, A.C.-R.T. Volts $=5 \%$, Ohms $=3 \%$ of linear

1) FCIMFLS: Tabled in instruction bonk for different impedanees.

Galvanmineter Center "- $0+$ " for diseriminator alignment on all DCV ranges -.5 to +.5 volts on $0-1 \mathrm{DCV}$ range.
1.-l'eak to I'eak ACV and RF measurements made with one probe Climinates troublesome ehange of probe when changing from ACV to RF measurement. 3-ONE selector switch for all ranges. 4-One volt full seale reading on both AC and DC. 5-Especially designed and insulated. but still shielded RF prole with short leads for high frequeney moasuraments. 6-Zero center mark for FM diseriminator alignment plus other Galvanometer measurements. 7-High illput impedance 11 Megohns ment for accurate measurenuents. 8--Special means for making adjustment for Acv zero shift with linc voltage variation. 9-High precision resistors throughout. 10 - Special circuit arranged so that OFF position tion $11-$ RED tion. 11-RED DOT Lifetime Guaranteed meter, 2 -color scale $43 / \mathrm{k} / \mathrm{long}$. Insulated molled case and panel, dimensions. $3 \%{ }^{\prime \prime} \times 51 / 2 \prime \times 71 / 3^{\prime \prime}$. Removable black leather strap handle. Weight: 5 lbs . (eomplete with battery and accessories).
Rubber feet provided without charge fit into rear holes of 650 ; prevent slipping of tester when it lays on flat surface.
Aceessorics supplied with 650: 1 eaeh AC Power Cord, DC Volt-Ohm lead (Shielded); AC-RF Volt Shielded tube probe; 2 alligator elips for probe tips.
MODEL 650.................U.S. A. DEALER NET.
. . . . . . . . . . . . . . $\$ 89.50$ ACCESSORILS AVAILABLE: DC High Voltage Probe: $50 \mathrm{KV}-500 \mathrm{DC}$ Volt range, $10 \mathrm{KV}-100 \mathrm{DC}$ Volt iange. $5 \mathrm{KV}-50 \mathrm{DC}$ Volt range, $\$ 14.50$ : Stand for holding tester at about al $45^{\circ}$ angle, $\$ .50$ net.

See G-144 for Carrying Cases.


MODEL 650


MODEL 625-NA

## MODEL

625-NA
Long 5" nirror scale for better 6" HED - ${ }^{\text {º }}$ Lifetime guaran. teed meter ; Jesist. ance ranges to 40 Megohme Low Ohm Range 0.2000 (12 Ohms center (scale); D.C. Volt ranges with Jual sensitivity (10,$000 \div 0,000$ Ohni/ Volt): A.C. Volt rankes at io,000 Ohm/Volt permit chocking mermit gudio and high im. pedance A.C. cirpediance A.C chere a vacculta where a vacmeter usually is renuired. Low voltgege ranges permit dge ranges permit ment of many bias and output voltages. Special film type resistors provide greater stability on all ranges.
Insulated, black molded ease with removable stran handle, $6^{\prime \prime} \mathrm{x}$ $5^{1} 2^{\prime \prime} \times 21 / 2$ ". Molded black panel with white markings. Leads and instruetions furnished. Weight 3 lbs .

## 39 RANG;ES

D.C. VOLTS : 0-1.25-5-25-125-500 -2500 20,000 Ohm/Volt
$0-2.5-10-50-250-1000-5000,10.000 \mathrm{Ohm} /$ Volt
A.C. VOI.TS: $0-2.5-10-50-250-1000-5000$, at $10.000 \mathrm{Ohm} / \mathrm{Volt}$.
I).C. MICKOAMPS: 0-50, at 250 M.V.
II. MIHAAMPS: $0-1+10-100-1000$, at $250 \mathrm{M} . \mathrm{V}$.
D.C. AMPFRES: 0-10, at 250 M.V.

OHMS: $0-2000-200,000$ (12-1200 eenter scale).
MFGOHMS: $0-40$ (240, 000 Ohmig eent
MFGOHMS: 0-40 1240,001 Ohms center seale)
DEC!HEIS: $-30+3,+1 \pi,+24,+43,+55,+69$. Reference Level OUT'UUT: Condenser in series with A.C. Volts. MODEL 625-NA.
U.S.A. DEALER NET
.$\$ 49.50$

## FOR TELEPHONE SERVICE

## MODEL 630-T

ranges

D.C.: Accuracy VOLTS: (1-0.3-3. 12-60-300 - 6160 at 20,000 Ohms/ Volt.
M.A.: 0-.06.1.2-$12-120$ at 150 M.V.
A.C.: Accuracy

VOLTS: 0-3-12. 60-300-600 at 3000 Ohines Volt. OHMS: $0-1 \mathrm{~K}$ $10 \mathrm{~K}-100 \mathrm{~K}-1 \mathrm{Mes}$ and 10 Meg .
Designed for work inside on pancl and checking circuits on wole.
Sjpecial straps surpplied to hold instrument in easy reading position while supuorted from lineman's neck. leaving buth hands free.
Large rectangulat dial on $51 / 2^{\prime \prime}$ meter, fush with panel. RFD - DOT Lifetime Guaranteed meter. One recessed range switch will seleet any range on instrument.
Special banana juck connectors to eliminate all shock hazard.
Interior designed for easily accessible components.
Hand and ncck strap, test leads with alligator elips and instruction manual sumplied with unit.
Black molded case, completely insulated to protect instrument from ground, $7 \%_{2}^{\prime \prime} \times 51_{2}^{\prime \prime} \times 3^{-7} "$. Weight: 4 los. MODEL 630-T.
.U.S.A. DEALER NET.

# Radio 



MODEL 666-R

POCKET-SIZE VOLT-OHM MILLIAMMETER

## RANGES

D.C. VOLTS: 0-10-50-250-1000-5000, at 1000 Ohms per volt.
A.C. VOLTS: $0-10-50-250-1000-5000$, at 1000 Ohms per volt.
D.C. M.A.: $0-10-100$, at 250 M.V
D.C. AMP.: $0-1$, at 250 M.V.

OHMS: $0-3000-300,000(20-2000$ center scale)
MEGOHM : $0-3$ ( $20,000 \mathrm{Ohm}$ center scale). (Compensated Ohmmeter circuit.) A New Pocket-Size Volt-Ohm-Milliammeter with these latest specialized features meets your needs for A.C. and D.C. Voltage, Direct Current and Resistance analyses.

## UNIT CONSTRUCTION

All resistors, shunts, rectifier and batteries housed in a molded base integral with the switch. Eliminates chance for shorts. Direct connections. No Cab ling. All precision film or wire-wound resistors are mounted in their own compartment-assures greater accuraey.
$3^{\prime \prime} 0-200 \mathrm{Microammeter}, 250 \mathrm{M} . \mathrm{V}_{\text {a }}$ RED DOT Lifetime guaranteed against defects in materials or workmanship. Red and black markings on a white background. Easy-to-read seale.
Precalibrated rectifier unit and batteries easily replaced. One 1.5 Volt Eveready \#935 and two 1.5 Volt Eveready \#915, or equivalent, self-containel. Handy and pocket-size, black molded case is completely insulated. Size: 31" $\times 5 \frac{1}{6 \prime \prime} \times 2{ }_{18}{ }^{\prime \prime}$. Leather strap handle. Black molded panel with engraved white markings.
Furnished complete with batteries, $50^{\prime \prime}$ test leads and instruction book at an amazingly low price.
Weight: $11 / 2 \mathrm{lbs}$.
MODEL 6G6-R...................U.S.A. DEALER NET. .
. . 826.50
CARRYING CASE-Black leather strap handle, snap cover.
MODEL 669....................U.S.A. DEALER NET..........................5.5

## MODEL 669-RL CASE (For Tester 666-R)

Model 666-R can be permanently and easily installed in this popular cameraype cowhide leather ease. Attachment is made by the two top panel serews of the tester. When the case is opened the lower fap drops down and the top folds back, exposing the entire tester pancl and meter dial. When the tester is hung up by the leather strap handle, the operator is permitted the use of both hands in his work.
Model 669-RL (Case only)
U.S.A. DEALER NE'T

## POCKET-SIZE VOLT-OHM-MILLIAMMETER

A precision-manufactured marvel of compactness that provides a complete miniature laboratory for D.C. and A.C. voltare, Direct Current and Resistance analyses. Its many ranger, afractive appearance and other unique features provide an answer to the Vclt-Ohm-Milliammeter requirements of radio servicemen and amateurs. indusirial engineers, laboratory technicians etc. Refinements in design feature:

Greater scale readability on the $3^{n}$ RED - DOT Lifetime guaranteed instrument with black and red seale markings.
Simplified switching provides greater ease in changing ranges.
Lower jack contact resistance ard trouble-free plug-in connections by use of banana-type jacks. Banana jacks at top of panel reduce possibility of connecting leads falling over panel cuntrols or meter scales.
Greater stahility on voltage ranses by use of special resistors throughout and on current ranges by use of $250 \mathrm{M} . \mathrm{V}$. instrument

## RANGES

D.C. VOLTS: 0-10-50-250-1000-5000, 1000 Ohm /Volt.
A.C. VOLTS : 0-10-50-250-1000-5000, $1000 \mathrm{Ohm} /$ Volt.
D.C. MA: 0-10-100-500, at 250 Millivolts.

OHMS: 0-2000-400,000 (12-2400 center scale).
Attractive new streamlined black molded case, completely insulated, 3 , "f $x$ $5{ }^{\prime \prime} \times{ }^{9}{ }^{9 \prime \prime}$. Black molled panel with white markinks. Jtattery self-contained plug-in type, 1.5 V. Eveready No. 985 or equivalent. "o" test leads with clips and plugs furnished
Weight: $11 / 2 \mathrm{lbs}$.
Accessories available to specal orfer for extending ranges: External pin jack shunts for Direct Current rariges, resistors for A.C.D.C. volt ranges, battery and resistors for Ohms raages.
MODEL 666-HH. . . . . . . . . . . . U.S.A. IDEALER NET. . . . . . . . . . . . . $\$ 24.50$

## CARRYIN: CASE

Attractive black leather carrying case with strap handle. Leather flap folds over the top and snaps in place.
MODEL 669 CASE. $\qquad$
$\qquad$ .U.S.A. DEALER NET. .
. $\$ 5.50$


MODEL 666-HH

# Radio Tapley Testers 



Model 3123

Tests all types receiving tubes, low power transmitting fube ectifiers, thyratrons. voltage regulator tubes. eve tubes, sub miniature aeorn, ballast tubers and wilot lambs. Alsu cheres the new series filament tubes.

## NEW MUTUAL CONDUCTANCE TUBE TESTER

Here is Proportional Mutual Conductance tube testing by a new patented circuit-offering advantages hitherto unavailable to the service trade. The right Tube Tester for TV to the Gurve for measuring in Micromhos the tube characteristics. Diodes transistors and low power thyratrons are tested on the GOOD.?-13AD scale.

This new tester handles the most perplexing tube testing problems in many fields-Radio Servicing, Industrial Production, Laboratory Testing, Theatre and P.A. Eguipment, Communications, etc. Patented circuit for Proportional Mutual Conductance tube testinf employs acturl simnal oscillator (4KC) for rid simmal. Thms, hum and ripple, and tubes with open grids present no problem, and cannot give fase readings. Signal component of coutput is picked off and measured by the specially designed instrument circuit. Tests all types of receiving tubes. low power transmitting tubes, rectifiers, thyratrons, voltage regulator tuhes, eye tubes, subminiature, acorn, ballast tubes and pilot lamps. Continuity test circuit also may be used to check electrical appliances for shorts or open circuita. Flexhle threc-nosition lever switches for complete coverage of both present and future tube connections. Only three positions mean no guess work on settings. Speed and ease of operation marks use of the tester. $0-10 \mathrm{ACV}$ (variable) available for testing low voltage tubes Also five other voltages available (10, 30, 70 . 100 and 250). Full range filament voltare settinge provides complete and accurate filament or heater voltage at tube base connections 63 $1.4,2.0,2.35,2.5,3.15,4.2,4)^{\circ}$ 6, 19.6, 25,3250 70, and 117 volt Instrument is Model 420 " long seale knife edge minter for eas readrhility adiusted to 100 microamperes at 250 millivolts for good temperature compensation. Sockets: 4 at $2 \boldsymbol{1} 0$ milivolts for good temperature compensmall with combination, for prong, (orong, prong larke and $x$ prong actal 8 prong loutal 7 prong miniature 7 pim subminia prong octal, 8 prong loctal, 7 prong miniature, 7 pin subminia ure for hearing aid tubesi, 8 pin subminiature (round), \& pin MODEL 3423
U.S.A. DEALER NET
$\$ 199.50$

## TUBE TESTER

A "riblett Thbe 'lester with new inurowed testins floxibility wormitting ehecking any tyour radio recevime tubr. miniature bearing aid tulns, amd TV nieture tubeAlst eherek the now seriow filment tubes. "flee tester gives both "short" sund "open" eitronit eheek of eath
 "nndition of all talre elements. connections, tabs, etc "IV bieture tubes *are chereked without remossing then. from the reariver. lay une of an ablabter that masy be purahased separatels. "Continuity" tost is prosibled for" ehmeking elleqtical anpliances. mators. ete.

Model 3.113.l' has flexible 3 -porition lever switchos for
 tions. RETMA pin numbering of tulbe element levers makes for wuirk refasence of tubt base conntctions. Illuminatud. Anstotorad roll tyer tubs chat is built into the testor. simplified tes procedure makes it nossible for user to add now tube data to chart when desiled.

Lame Voltani indiation on conter of meter dial pror mits obsurvation and adjustment for line fluctuations. F`ilament voltake: 0.03 volts to 11 C volts in 19 steps.

Iarige $6^{\prime \prime}$ meter, IRED - InOT Lifetime guaranteed, hat B-r'oler easy-to-read GOOI)- ?-BAD scale.
 sitin wrinkle finish, with removable, hinged cover armd Wrathur handte. Panel attractively etched in black, silver and red. Complete instructions supplied. Power: 115 V. , $\therefore 0-60$ rycle A.C. Wt. 20 lbs.


## PICTURE TUBE ADAPTER

BV Adapter T2247-BV for $3413-\mathrm{B}$ permits testing picture tube right in the receiver or in a shipping carton......DEALER NET..... $\$ 4.50$

## Radio RIPLET <br> Testers

## TV-FM SWEEP SIGNAL GENERATOR WITH BUILT-IN MARKERS

FREQUENCY COVERAGE
Sweep Center Frequency: Range 1- $0-60 \mathrm{MC}$ Range 2- 60-120 MC Range 3-120-240 MC
Sweep Width: 0-12 MC
(Continuously Variable) Marker Fratuency
3.5-4.9 MC (Fundamental) 19.5-29.3
29
MC
M
(Fundamenta) 48.6 MC to 243 MC on Harmonics Crystal Frequency: To 20 MC (Fundamental) Can be used to produce Harmonics up to 243 MC. (Plug-in Crystals not included.)
Modulation: 600 Cycle on Both Crystal and Marker frequencies.
Model 3434-A provides a complete service laboratory for TV-FM servicing and other electronic requirements. No gaps in frebancy. Continuous tuning over all TV-FM tion of two Markers. Audio output for quick cheek on video and sound amplifiers. Ladder type attenuator for coarse and fine output adjustment. Provision for simultaneous pres entation of Crystal and Variable Markers Illuminated, mirror-scaled Marker dials for precise adjustment. Smooth aetion dial drive with vernier scale. Balanced network drive balanced input receivers. Sweep standby switch for temporary silencing of Gerator during other work on cquinment under test Line filter. Regulated power supply. Completely shielded. Copper plated steel construc. tion throughout.
Attractive steel case, black enamel finish,
 white and red etched markings on aluminum panel. Accessories - Two Co-Axial cables: heavy braid grounding strap; Polystyrene covered, shielded leads for audio, Phase 60 cycle output and additional ground.
Power: 105-115 volt, $50-60$ cycle, 55 W atts. MODEL 3434-A-U.S.A. DEAI.ER NET ... Wt. 23 lbs.
$\$ 239.50$

USABLE FOR COLOR TV SERVICING


## A FEW REASONS YOU'LI. WANT MODEL 3131-a

$\star$ Output 1. to 1.5 Volts RF.
$\star$ Continuously variable sweep width from 100 kC to 12 MC .
$\star$ Illuminated Freqzency dial marked with channels and frequencies.

* Variable Marker provides continuous tuning over all present TV Videa and Sound IFs. Illuminated Mirrored disl.
$\star$ Designed to provide HIGH OUTPUT for stage-by-stage alignment.
* Self-contained Horizontal Bar Generator covers all channels on Marker Harmonics. * Unit produces colur bars (red, green and blue with a 3.56 erystal. not supplied).


Model 3441
MODEL 3441 U.S.A. DEALER NET $\$ 249.50$ No. 9989 CRYSTAL (Demodulating or Signal Tracing PROBE, for use with MODELS 3441 or 3440. U.S.A. DEALER NET $\$ 9.50$

## MODEL 3441 TV-FM OSCILLOSCOPE

A mopular 5" Oscilloscope for Radio. TV $1 \mathrm{~B} / \mathrm{W}$ and Color) and Indu.trial Testing. embodying among other advance features the following:

- Ideal for Color TV-10 M.V. sensitivity . . Wide frequency response for color TV servicing . . . 4.5 M.C. band width . . . Peak-to-Peak Valtmeter.
- Provision for changing polarity-wave form shows in ecnventional manner.
- Calibration Meter is incluhled-to measure voltage of complex wave forms in IV receivers.
VERTICAL AMPLIFIER-Response usable to 9 M.C. Two frequency response ranges with four-range compensated attenuator. $20 \mathrm{c} j$ s to $4.5 \mathrm{M} . \mathrm{C} .$, usable to $9 \mathrm{M} . \mathrm{C}$. Maxinum sensitivity $10 \mathrm{M} . \mathrm{V}$
HORIZONTAL AMPLIFIER-Frequency Rarge: Flat within $20^{\circ}$ in from 20 eycles to 150 K.C. Deflection Sensi"ivity-. 15 R.M.S. Volts/Ineh. D'ush-Pull Vertical and horizontal output amplifiers.
INPUT IMPEDANCE-Vertical Amplifier: 2 Megohms in parallel with 45 M.M.F. at nput terminals.
CALIBRATING METER is inclıded-Reads 0-1000 Peak to Peak Volts in 8 ranges. This makes it possible to view percentage of posimive and negatire; plns reading Peak to Peak Voltuge direct. No External calibrator is needd. Where reading peak to peak voltare on a V.T.V.M. only peat to peak voltage is known. Return trace line if desired. Provisions for external blankines.
Saw tooth output supplies a saw tooth form frem 10 to 60.0 ord eycles. Output variable 0-70 volts peak to peak.
PHONE JACK connects to outrut of vertical amplifier. Hear as you see. Familiarize the visual pattern with audio soinds. A high gain amplifier sstitem is ideal for tracing audio circuits. etr.
Has RED - DOT Lifetime Guarantee.
SWEEP FREQUFNCY RANGE-10 C.P.S. to 60 K.C. Second. Phased 60 C.P.S. horizontal sweep and return trace eliminator. Synchoni\%ing and horizontal Swepp Seleetor in same control simplifies uaeration.
ATTENUATION-Coarse and fine control over Vertical Input. Fine control over Horizontal Input. ESCUTCHEON-Telescoping to provide shaded Cathode Ray tube. SHIELDING Copper plated steel construetion throughout. Cathode Ray tube adequately shielded from stray fieks. CASE-Metal, with black suede enamel finish, $15!^{\prime \prime \prime} \times 113^{1} "^{\prime \prime} \times 16^{\prime \prime}$. Leather handle. PANEL-Black, red and white characters etched on aluminum. ACCESSORIES-One co-axial lead for Vertical Input. POWER-105-115 Volts, 50-60 Cycles. 80 Watts Weight 38 lbs.


## COLOR BAR GENERATOR

This new tester is indispensable for cherking the overall performance of color TV receivers, including color phasing adjustments, color synchronizing and color matrixing.
In operation it produces with crystal controlled accuracy the standard bars of colors corresponding to R-Y. B-Y, I and $Q$ axis. These 10 color bars are accurately spaced at $30^{\circ}$ phase intervals.
Outstanding features of this tester include:
1-Crystal controllel R.F. output.
2-A built-in V.T.V.M. circuit with meter on the panel provides for quick and easy checking of sync, subcarrier and modulation amplitudes.
3--Unit completely self-contained-no extra accessories or equipment are needed. Easy to set up, with R.F. output direct.
4-Sound carrier (unmodulated) insures precise tuning of the receiver; and permits checking sound rejection and presence of beat interference between the color subcarrier and the sound carrier.
5 -Briphtness modulation is available to check for possible shift of hue in the bright areas or highlizhts.
6-The amplitude of the color subearrier is adjustable; for checking the color sync lock action in the receiver.
7-Video signals of positive or nerrative polarity are provided for low impedance ( 75 ohms ) and high impedance ( 5000 ohms) video circuits.
FREQUENCY-R.F. Output-Channel 3 ( 61.25 M.C. picture, 65.75 M.C. sound) supplied regular, channels 2 or 4 supplied on special order. Crystal controlled frequency.
COLORS: Crystal controlled accuracy, 10 bars of colors corresponding to $\mathrm{R}-\mathrm{Y}, \mathrm{B}-\mathrm{Y}, \mathrm{I}$ and Q axis.
VIDEO OUTPUT-Video signals of positive or negative polarity are provided for low impedance ( 75 ohms) and high impedance jacks ( 5000 ohms).
METER-Built in V.T.V.M. provides for measurements of sync, subcarrier and modulation amplitudes.
R.F. OUTPUT IMPEDANCE-Approximately 300 ohms (at end of R.F'. Output cable).
COMPOSITE PICTURE SIGNAL-61.25 M.C. picture carrier; 15.750 c.p.s. horizontal sync pulses; 3563.795 K.C. color subcarrier keyed at 189 K.C.
CONTROLS-Video and Horizontal hold, Subcarrier modulation, Meter Zero, Power on-off and metering selector. Modulation and sound carrier push buttons.


## GENERAL DESCRIPTION

OUTPUT CONNECTORS-R.F. output; low video; high video and pround. OUTPUT LEADS-R.F. 300 ohm matching shielded cable, low video lead (shielded co-axial cable), high video test leads.
METER-Large $420-\mathrm{PL}$ plastic full view meter with $4.14^{\prime \prime}$ scale,
CASE-Metal with black baked enamel suede finish, $15: 1 \prime \times 11$ " 61/4". Leather handle.
PANEL-Silver, black and red etched aluminum.
KNOBS-Black bar (rectangular with skirt) streamlined design.
POWER SUPPLY: 115 Volt, $50-60$ cycles A.C. 55 watts.
WEIGHT-Approx. 16 lbs.
MODEL 3439.
U.S.A. DEALER NET.


MODEL 3436

- Iarce dal whth uniform frequenes graduations-no rrowding at ent of dial. $13^{\prime \prime}$
- RF output maximum . 5 volt. Variations in ontput over the range of freduencies is minitmzed.
- Output imperdance 150 to 300 ohms.
- leances: ['HE all fundamentals on channels 14-83 (470-900 MC). No harmonics or emfusion.
- Triple shielding and excelient stability through srectal construction.
- Audio outnut avallable at panel, 0-20 solts,
- Voltage regulated power supply-115 molt. 50-60 eycle A.C. Control tube supplites RF osclilator with sultage independent of line fluctuations.


## UHF MARKER GENERATOR AND ALL-PURPOSE SIGNAL GENERATOR

## UHF Continuously Variable Through Channels $\mathbf{1 4 - 8 3}$ on

 Linear Scale $13^{\prime \prime}$ Long-All Fundamental Readings $1470-900 \mathrm{MC}$ Accuracy - $1 / 2 \%$ to $1 \%$An easy-to-use invaluable test aid as a Signal Generator An easy-to front ends and UHF converters. (2) Setting the end limits front ends and UHF converters. (2) Setting the end limits of onnel converters, and receivers. procedure especially needed in fringe channel converters, a procedure especially needed areas where the station signal niay be too weak for surfished with the Triplett 3436 , (4) A relialle signal source lished ware the The recivers and converters, also to compare the gain of UHF receivers and converters, als especially needed in fringe areas. Bad crystals in the as an section can be detected by this method. (5) Used as an alignment generator for UHF converters and ends. (6) Used as a UHF Horizontal Bar Generator, the tester generates approximately 12 lines by using the moau lation and feeding into the front end of the receiver. T makes possible linearity adjustment of the TV picture.
Variable-link type attenuator. Adjustable modulation of RF signal at approximately 1000 cycles. Can be used as horizontal har generator. ON-OFF switch. Also ON-OFF hotas switch for pre-heating oscillator tube filament before applying plate voltage.
Heavy steel case, handsomely finished and professional in appearance, $151^{\prime \prime} \times 11$ x $\times 8 / 4$. Black baked-on suede enamel finish. Sturdy leather strap handle for ease in carrying; makes the generator adaptable for portable as well as test bench use. Weight : 24 lbs. net.
Panel etched heavy aluminum with red and black characters. Tubes, 6 AF4, $6 \mathrm{~J} 5,6 \mathrm{~K} 6$, VR105 and $6 \times 5$. Complete with instruction books and test leads.
MODEL 3436.......U.S.A. DEALER NET........ $\$ 169.50$

# Radio RIPLET Testers 

 RADIO \& TV SERVICING WITH LOAD-CHEK - Model 660

Model 660

RANGES
WATTS-A.C. or D.C.: $0-500$ ( 50 division scale) ; $0-1000$ ( 50 division scale) VOL.TS-A.C. or D.C. : 0-150 ( 65 division seale)
The LOAD-CHEK for the first time makes it possible for every technician to utilize what is nerhats the simplest and quickest of all service nethorls--servicing by Power Consumption Measurements, long proven by auto-radio servicemen as a rapid method of localizing troubles in auto radios. Triplett Morlef 660 is the first Watmeter to be produced at moderate cost, and with the proper ranses, to bring this short-cut method within the reach of every radio and TV serviceman. Following are only two of many time-saving uses of this new instrument: LOCATING A SHOIET-The chassis tag may show a normal consumption of 225 Watts. Simply plug a power cord of the chassis into LOAD-CHEK (no loose ends to connect or be in the way). Note the reading-which should be which side of the tube the short is on. With a soldering iron and which side of the tube the short is on. With a soldering iron and long-nosed phers you can check through the chassis. locate and correct the trouble without check with lead wires
REPLACING BURNED-OUT RESISTORS With the chassis to be repaired plugged into a LOAD CHEK MOIDEL 660, note the wattage reading with the burned out resistor circuit open. Now replace the resistor. Should the increase in watts be greater than the resistor rating, it indicates an extra load has caused the trouble which has not been cleared. LOAD-CHEK is made-to-order for the busy serviceman because it's a Time Saver; and at its moderate cost RED he standard equipment on every service bench.
RED - DO'T Lifetime Guaranteed Meter.
Black, molded, insulated case, $2 \frac{116^{\prime \prime}}{} \times 5{ }^{1 / 2 \prime \prime} \times 6^{\prime \prime}$, with removable black leather strap handle. Black molded panel with white markings. Weight: 2 lbs,
 MOIEL, 629-IEATHER CARRYING CASE....U.S.A. DEATER NET . . S6.50

## Model 661

ranges
WATIS: D.C.-A.C. 0-150-300 VOLTS: D.C.-A.C. $0-1.50$

This new LOAD-CHEK tester is designed for radio and low wattage appliances. Aprearance and construction are the same as Model 660 with Watt range 150300 . Black molded case, $6^{\prime \prime} \times 51 / 2^{\prime \prime} \times 21 / 2^{\prime \prime}$, insulated to protect instrument from ground.

Weisht: 2 lbs.
MODEL 661
U.S.A. DEAIAER NE'T
829.50

## APPLIANCE TESTERS - Model 2002

RANGES: 0-1500-3000 Watts A.C.-D.C. at 10 Amp . normal, 20 Amp . Max., 40 Amp . momentars; 0-130-260 Volts A.C.-D.C.
Model $20(5)$ shows proner consumption uf industrial equipment. radios, electric range., refrigerators, washers, etc.. under actual operating conditions, on either D.C. (r A.C. between 25 and 133 cycles. Wattmeter on the left and Voltmeter on the right pernit Watts and Volts to be read simultaneously or independently. Shows if coltage remains within limits under operating loads. Shows faulty power lines. Heavy inntr construction. Heavy leather case, with snap cover and leather handle, $6^{1} 2^{\prime \prime} \times 42^{2} \times 311^{\prime \prime}$. Storage space for coril and plug furnished. Weight: 2 lbs. MODEL $2002 . . . . . . . . . . . . . . . . . . .$. U.S.A. LEALER NET

Model 2006
H. $\mathrm{NGGES}: ~ D-25$ A.C.-D.C. Amperes: 0-120-:60 A.C.-D.C. Volts,

Mudel $\boldsymbol{y} 00 \mathrm{i}$ is designed for those who prefes the Voltmeter-Ammeter method of testing eledric ranges, refrigerators, washers aud other household appliances, plus many industrial uses. Simultaneous readings of line voltage and current drain. Compact
 MODEI, 2006.
U.S.A. DEALER NET

Weight: $\frac{2}{}$ lbs.

Model 310


all prices are subject to change - all models subject to revision

# Radio Rlplet Testers 

## SIGNAL GENERATOR－160KC TO 110MC（Fundamentals）



RAN（FES
$13.1 N \mathrm{~N}$
HANI
BAND ？
BANI）（
BANI）I）
BANI I）

160－3\％0 KC 1BAND $\mathrm{K}^{\circ}$
 1．う－1～ 7 F KC 1心．2． 1050 KC －51－13 MC．

Consplete frequeney coverake from 160 KC （1） 110 MC （22 MC using harmonics）with no skins in frequency for AM－ M rado，monochrome anu color 1
－K．F．circuits are double shieded with copper steel shields．
－Large casily read etched aluminum dial．
－Cathode follower output provides good stability by acting is a buffer to the oscillator．
－Jacks provided fur either internal modulation or audio out put．Both controlled by audio control to provide variathe modulation or A．F．output．
－Smooth manetary drive dial for ease and accuracy in ade justment
－On－Of indicated by pilot $60^{\circ}$ scales，auickly radable it a ylance．
COMPLETF：SIIIELDING－Oscillator tube，coil assembly and witching circuit are one complete unit enclosed in double copper shielded assombly for minimum R．F．leakage．
RANGE SFLECTOR－T－position follow－up coil switehing．All ails are shorted except the one in use．
R．F．SFISECTOR－3－position step attenuator．
CIICUIT SFLFCROR－－Provides for internally modulated simal（variable 0 to $100 \mathrm{~m}_{\mathrm{\prime}}$ at 400 cycles），variable ammlitude of external modulation 40 to 15,000 cycles，unmodulated sipnal． and variable audio $0-4$ volts at 400 eycles．
OUTPU＇T ATTENUATOR－Provides fine control of R．F．out－ uht to eo－axial cable connector．
OUTPUT CONNECTIONS－Low capacity co－axial cable fitting for R．F output．Two jacks for A．F゙，output and extermal modulation． 3 feet long
（）UTPUTT LEAD－Co－axial cable approximately 3 feet long．
HIAL－larke fo＂diameter etched aluminum，
MAWER SUP PI，Y－115 Volt，
＂AWER SUPFI，Y－Meral with black baked enamel suede linish，J5！＂x ASE—Metal With hath batras handle，rublier feet．
$1 x^{\prime \prime}$ sion hack and red etched aluminnm．
MNEL－Siver，bitek 6xt．
TURES－12AT17．6C1，6X4．
WH：IGH＇V Approximately 12 lhs．


## CARRYING CASES





 comblatiment in raty，Cumblele with stand．
I．S．A．IDEALAKR NE：T．
 bi30－NA，di31．
（I．S．A．I）FALAEM NB＇T． $\qquad$ ． 8 8． 50
 rubher for Momel bi3！，6：30－A，b30t－NA， 631 ．
 MonFI，b5！－131atk leather carrying mase for Model giso． U．ふ．A，1）F゙ALER NET．
 rulber fior Model fi5o．


 portable instruments．

 4iti6－R．
U．S．A．I）F：AJ．ER NE，T ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．
 When ease is aponed．lower faty draps down and top folds biak （xposing entire toster pancl and meter dial U．S．A．DEALER NET


329


639


639－N


669


669－R1，

## HIGH VOLTAGE PROBES

Combletely insulated molystarene ant probe with gutiotype handle eontains the voltage drouping resistors．high stability hi－ valtage insulating conamonad．Probe is $11: \xi^{\circ}$ long，with $4 \times$ hi－ MODELS 630 and 630－A


T－79－70．
「－79－71． 11－12．001 A．C．Volts．
$0-30,000$ A．C．Volts．
\＄14．50
voltage wire lead with hamana blug at tester end．For measurimg high voltage amployed in television revorers and other applica－ tions，external probes are available．


## VU METER

Volume Unit and Decibel Meters are used to measure sound or noise levels in amplifiers for Public Address, Theatres. Broadcasting Studios, Broadcasting Static Equipment, etc.
VU meters are used for volume level measurementsincluding lroadeast monitoring. Ballistic characteristics comply with standardization recommendations of NBC and CBS and Bell Telephone Laboratories Internal impedance 3900 Ohms . Steady state reference 1 Milliwatt. For 600 Ohm line. Dynamic characteristics provide for $99 \%$ full scale deflection in .3 seconds. Specify scale type when ordering:
Type "A": 0-100 (black) -20 to +3 VU on top are (red).
Type "B": 0-100 (black) $-20+3 \mathrm{VU}$ on bottom are (red).

Model 221-PL VU
Net Price
. . $\$ 15.00$
Model 321-PL or 327-PL VU ................. 16.00
Model 327-T VU . . . . . . . . . . . . . . . . . . . . . . . . . 15.50
Model 327-T VU (Illuminated) .................. 17.00
Model 420 VU . .................................. . . 16.50
Model 420 VU (Illuminated) .................. . 18.00
Model 420-PL VU . . . . . . . . . . . . . . . . . . . . . . . . 16.50

## WATTMETERS ELECTRODYNAMOMETER

These instruments can be used on sinele phase A.C. or D.C. as Wattmeters. On special order they can be made up as voltmeters or ammeters. Instruments are self-contained to 300 Volts- 10 Amperes. Over that external connection can be made. For use on frequencies up to $18: 3$ eycles per second. Avail-
 able in three-inch model 361. Case dimensions same as $321-\mathrm{T}$, except for depth, $2^{\prime \prime}$ back of the tlange ( $2 弓^{\prime \prime}$ "over studs). Also available in $3^{\prime \prime}$ rectangular Model $367-\mathrm{A}$. Case diameter same as 327 -T. except for depth, 2 "/is", back of flange ( $25 / 8^{\prime \prime}$ over studs). Other characteristics of the 367 -A, such as Range, Voltage, Amps., etc., same as 361. Wattmeters can be combined in the Triplett Twin case with a voltmeter or Ammeter. Accuracy within $\pm 2^{\prime} /$ Standard range as follows:

MODELS 361 AND $367-\mathrm{A}$ - SINGLE PHASE

| Ranke Watts | $\begin{aligned} & \text { Normal } \\ & \text { Voltake } \end{aligned}$ | Normal <br> Amps. | Sc. Div. | $\underbrace{\substack{\text { Net } \\ \text { rice }}}_{\text {chet }}$ |
| :---: | :---: | :---: | :---: | :---: |
| 0-75 | 150 | 1/2 | 75 | \$19.50 |
| 0-150 | 150 | 1 | 75 | 19.50) |
| $0-300$ | 150 | 2 | 60 | 19.50 |
| 0-750 | 150 | 5 | 75 | 19.50 |
| 0-1500 | 150 | 10 | 75 | 19.50 |
| 0-150 | 300 | 16 | 75 | 21.50 |
| 0-300 | 300 | 1 | 60 | 21.50 |
| 0-600 | 300 | 2 | 60 | 21.50 |
| 0-1500 | 300 | 5 | 75 | 21.50 |
| 0-3000 | 300 | 10 | 60 | $\because 1.50$ |

## DOLBLE RANGE WATTMETERS (Double Voltage Limits Only)

| $0-75-150$ | $150--300$ | $1 / 2$ | 75 | 26.00 |
| :--- | :--- | :---: | :---: | :---: |
| $0-150-300$ | $150-300$ | $1 / 2$ | 75 | 26.00 |
| $0-300-600$ | $150-300$ | 2 | 60 | 26.00 |
| $0-750-1500$ | $150-300$ | 5 | 75 | 26.00 |
| $0-1500-3000$ | $150-300$ | 10 | 75 | 28.50 |

## DECIBEL METER

DB Meters permit the operator of public address systems, etc., to make instant adjustments to prevent sound blasting or distortion. General purpose type reads up 6 and down 10 decibels. Zero decibel $=1.73$ Volts. Calibrated for use on a 5000 Om line. Reference level 6 Milliwatts, Resistance: 5000 Ohms. They consist of a sensitive D.C. instrument coupled to a copperoxide rectifier. Standard damping is provided unless highly damped instruments are specified. Quotation on request.

Models 321-PL or 323-PL . . . . . . . . . . . . . . . . . $\$ 12.90$
Models 321-T or : $32 \frac{2}{-T}$. ............................... 12.40
Models 321-T or 327-T (Illuminated) ......... . 14.00
Model 420 ................................ . . . . . . . . 13.40
Model 420 (Illuminated) ............................ . 15.00

## A.C. RECTIFIER TYPE INSTRUMENTS voltmeters

| Kange | Scale biv. | $\begin{aligned} & 1000 \text { Ohms } \\ & \text { Model } \\ & 321-\mathrm{T}, 33 \mathrm{~T} \\ & \text { Set } \\ & \text { Price } \end{aligned}$ | Per Volt Model 121 Nrice Price | $\begin{gathered} 2000 \text { Ohms } \\ \text { Models } \\ 321-\mathrm{T} .327-\mathrm{I} \\ \text { Net } \\ \text { 1'rice } \end{gathered}$ | $\begin{gathered} \text { s Per Volt } \\ \left.\mathbf{T} \begin{array}{c} \text { Model } \\ 421 \\ \text { Net } \\ \text { Price } \end{array}\right) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 0-1 | 50 |  |  | \$17.80 | \$18.80 |
| 0-3 | 60 |  |  | 17.80 | 18.80 |
| 0-5 | . 50 | \$15.70 | \$16.70 | 17.80 | 18.80 |
| 0-10 | . 50 | 15.70 | 16.70 | 17.80 | 18.80 |
| 0-15 | 50 | 1.5.70 | 16.70 | 17.80 | 18.80 |
| 0-50 | 75 | 1.5 .71 | 16.70) | 17.80 | 18.80 |
| 0-100 | . 30 | 15.711 | 16.70 | 17.80 | 18.80 |
| 0-150 | 75 | 16.911 | 17.90 | 19.00 | 20.00 |
| 0-300 | 60 | 17.80 | 18.80 | 20.00 | 21.00 |
| MILII. INMETERS |  |  |  |  |  |
| Rance | Scale Dive | Approx. | esis. | Mudel 321-T <br> Net Price | Model 421 <br> Net Price |
| 0-.5 | 50 | . 1400 |  | \$17.80 | \$18.80 |
| 0-1 | 50 | . 1300 |  | 15.60 | 16.60 |
| 0-2 | . 40 | . 1000 |  | 15.60 | 16.60 |
| 0-3 | 60 | . 1000 |  | 15.60 | 16.60 |
| Sine Wave $i^{\circ}$ F. $\pm \boxed{0}$, Acetracy. <br> Moving Coil Permanent Masnet type. |  |  |  |  |  |

## D.C. AMMETER SWITCHBOARD SHUNTS

External shunts are available in the Ampere ratings listed and are to be used with instruments which operate at 50 M.V. full scale. The Ammeters will be supplied with dial reading in Amperes corresponding to rating of the shunt ordered. To determine price of the complete Anmeter. add shunt price to price of $0-50$ Millivoltmeter in Model clesired.
Shunts are furnished with 5 ft . Wire leads. Quotation upon request for replacement, or special $24^{\prime \prime}$ or $30^{\prime \prime}$ leads.
Switchboard shunts have molded bases through 200 Amp. rating.
Curve Type Shunts (mount on meter studs)- 50 M.V. (Specify on order.) 30 D.C. Amp. \$3.40; 75 D.C. Amp., \$4.10; 100 D.C. Amp.. 34. 11 net each.

| Amps. |  | Price | Amps. | Price | Amps. | Pric |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 50 | \$ | 7.00 | 200 | $\$ 7.00$ | 600 | \$14.90 |
| 75 |  | 7.00 | 300 | 8.40 | 800 | 19.40 |
| 100 |  | 7.00 | 400 | 10.50 | 1000 | 36.00 |
| 150 |  | 7.00 | 500 | 12.80 | 2000 | 60.00 |

## Indicating RI PLET Instruments




Models 221-T. 231-S. 241-T, 321-T, 331-S, 341-T
D.C. VOLTMETERS - 1000 Ohms Per Volt (Film Type Resistors)

| Range S | Stale Div. | $\begin{aligned} & \text { Models } \\ & 221-\mathrm{T} \\ & 227-\mathrm{T} \end{aligned}$ |  | Models 221-PL 227 -PL |  | $\begin{aligned} & \text { Models } \\ & 321-T \\ & 327-T \end{aligned}$ |  | Models $321-\mathrm{PL}$ 327-PL |  | $\begin{aligned} & \text { Model } \\ & 420 \end{aligned}$ | $\begin{array}{r} \text { Model } \\ 420-\mathrm{PL} \end{array}$ | $\begin{gathered} \text { Modef } \\ 626 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| O. 10 | \$ | 7.50 | \$ | 8.00 | \$ | 8.50 | 8 | 0.00 | \$ | 9.50 | \$ 110.00 | \$11.56 |
| 0-2.7 |  | 7.50 |  | K. 10 |  | 8.50 |  | 4.00 |  | 9.70 | 10.60 | 11.:010 |
| 0-30 |  | -..i0 |  | N .00 |  | 8.10 |  | $\underline{1.00}$ |  | (1) 50 | 10.00 | 11.511 |
| $0-100$ |  | 7.50 |  | 8.00 |  | 8.50 |  | 9.01 |  | 9.30 | 11.118 | 11..311 |
| 0-1.71) |  | 7.50 |  | 8.00 |  | 8.50 |  | 9.111 |  | 4.50 | 10.00 | 11.30 |
| (1-20) |  | 7.50 |  | 8.110 |  | 8.50 |  | 9.00 |  | 9.50 | 10.00 | 11.70 |
| 0-3.30 |  | 7.50 |  | N .00 |  | 8.50 |  | 9.00 |  | 9.70 | 10.00 | 11.50 |
| 0-:30) |  | 7.50 |  | 8.011 |  | 8.50 |  | 4.00 |  | 9.50 | 10.010 | 11.50 |
| $0-810$ |  | 7.50* |  | 8.00 |  | 8.50 |  | 9.00 |  | 9.50 | 10.00 | 11.80 |
| - - - - 0 |  | 7.50* |  | 8.00 |  | 8.50 |  | 11.00 |  | 9.50 | 10.09 | 11. i |
| (0-10110* |  | 12.10 |  | 12.tio |  | 13.10 |  | 13.40 |  | 14.10 | 14.60 | 16.10 |
| $0-20010{ }^{\text {a }}$ |  | 12.10 |  | 12.40 |  | 13.10 |  | 13.60 |  | 14.10 | 1.1. int | 115.110 |
| 0-30110* |  | 12.10 |  | 12.40 |  | 13.10 |  | 13.60 |  | 14.10 | 14.60 | 16.11 |
| 刀- \& 0011* |  | 12.10 |  | 12.60 |  | 13.10 |  | 13.60 |  | 14.10 | 14.60 | 16.111 |
| $0-50110 *$ |  | 12.10 |  | 12.60 |  | 13.10 |  | 13.60 |  | 14.10 | 14.60 | 16.11) |

D.C. VOLTMETERS - 1000 Ohms Per Volt

D.C. Voltmeters. 125 Ohms per volt, wirewound (racuum impreanateds resistors, can he supplied to special order.

 Opt spectal order. B.' Vol.
D.C. MILLIYOLTMETERS


## D.C. MICROAMMETERS



Models 227-PL, 237-PI. 327-PL, 337-PL, 347-PL, 420-PL $430-\mathrm{PL}, 440-\mathrm{PL}$


Lower torque microammeters are for use in borizontal positions oniy. For most photorell work, the $0-200$ microammeter. 6 ontins resistance is recommented. "supnlied only with knife-edge minters. **icale division for 2 morlels in parentheses.

## Indicating <br> Taptery Imrumems

D．C．MILLIAMMETERS


Modets 221－PL，231－PL，321－PL 331－PL，341－PL


011－11－50 0
Models Models Mode



D．C．AMMETERS

| Range | Seale Div． | $\begin{aligned} & \text { Models } \\ & 2211-\mathrm{T} \end{aligned}$ $227$ | Models $221-\mathrm{PL}$ 227．PL | Models <br> 321 －T <br> 327－T | Models <br> 321 －PL <br> 327 －PL | $\begin{aligned} & \text { Model } \\ & 420 \end{aligned}$ | $\begin{aligned} & \text { Modet } \\ & 420-\mathrm{PL} \end{aligned}$ | $\begin{aligned} & \text { Model } \\ & \mathbf{6 2 6} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11.1 | III | \＄ 7.010 | \＄ 8.00 | \＄8．811 | \＄！ 4.00 | \＄ 9.50 | \＄！． 00 | \＄ 11.50 |
| $0-3 \times$（：0） | H11 | 7.70 | 8.00 | 8. | $!1.111$ | （1，．30 | 9.50 | 11.50 |
| 0 － | 51 | 7.30 | 8.011 | 4．sil | ！．10\％ | ！．ลı | 9.50 | 11.51 |
| 0－111 | 511 | 7.50 | \＄． 00 | $8 . \operatorname{sil}$ | 4.110 | 9.50 | 9.50 | 11.00 |
| 0－1． | 75 | 7.50 | 8.018 | 8．\＃U | 4.111 | 9.50 | 3.80 | 11.50 |
| 0 － 0 | 511 | 7.50 | 8.00 | 8.51 | ！．111 | 3.50 | 9.50 | 11．：0） |
| 1）－30＊（20） | fio | 7.50 | 8.011 | \％．ill | ！． 11 | ！． 50 | 3.810 | 11.50 |
| 0－．51 | 51 | 7.50 |  | 8.50 |  | 9．in |  | 11.80 |
| ll． 1 ．smome are switchborar | ers are <br> rd type | $\begin{aligned} & \text { containect } \\ & h 5 \mathrm{ft} \text {. Je } \end{aligned}$ | to all！ 1＇rices | ing ：ill unter | es．Sllutir A mimetrer |  chboard | $\mathrm{Ifsin}^{\text {M. }} \text { V. }$ | hizher |

are swithborard type with 5 ft ．leats．1＇rices shown unter（D．A．Ammet＇r swithboard stiunts．i）

A．C．VOLTMETERS


Models 626，636， $6 \mathbf{6}$

| Ranqe | Approx． Ohms／Voit | Scale Div． | Models <br> $231 . S$ <br> 237．S | Models <br> $231-\mathrm{PL}$ <br> 237．PL | Models 331－S <br> $337 . S$ | Models <br> $331 \cdot P L$ <br> $337-P L$ | Model | Model | Mor＇el 6.36 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0－1．5 | 1．33． | －（30） 75 | ＊ 7.511 | ＊8．011 | ＋8．7．11 | \＄ 4.110 | \＄！io | ＋11）．111 | \＄ 11.36 |
| $0-3$ | 3.3 | ＂（30）til | 5． | 8．1911 | 8.511 | － 0.10 | － 3.811 | －10．110 | 11．－11 |
| 0－5 | $1{ }^{1}$ | 51 | 7．：11 | 8.10 | $\times .511$ | 4． 114 | 11.511 | 10.00 | 11.80 |
| 0－10 | 10 | 51 | 7.80 | $\times 10$ | 8.51 | $\square 1.10$ | 9．511 | 11.111 | 11.81 |
| 0.1 .1 | 14 | ＊（30）7： | 7.30 | 8．101 | $x$. ¢， | 4.11 | 9.511 | 111.110 | 11.511 |
| 10－ | $\geq 0$ | ． 50 | 7．：11 | S． 011 | ＊．${ }^{\text {¢ }}$ | 4.110 |  | 10.101 | 11.811 |
| 11．30 | 511 | T0 | 7．${ }^{111}$ | $\times .011$ | 8.50 | 4.110 | 9.511 | 10.113 | 11.541 |
| 0－1111 | 91 | 50 | 7.50 | s．1411 | ＊． $\mathrm{\Sigma}$ II | 39.10 | 11.50 | 10.1019 | 11．：11 |
| 11.1 .71 | 13： | （0） 75 | N． 30 | 4.101 | 19．\％11 | 110.110 | 10.50 | 110.811 | 12．54 |
| $0-2811$ | 141 | \％ | 4.50 | 10.011 | 10． 511 | 11.00 | 11.311 | 1 2．01 | 1－9， |
| $0 \cdot 3011$ | 111 | ＊（30） 40 | 10.30 | 111.811 | 11.30 | 1180 | 12．：311 | 12．：311 | 11.317 |
| $0-5011$ | 12.7 | … 5il | 13．81t | 11.311 | 14.8114 | 15．：0 | 15．80才 | 14.30 | $17.211+$ |
| 0－8．50 | 13： | （30） 3.3 | $16^{16} 10^{\circ}$ | 10.911 | 17．310 | 17．10 | 18．110， | 18．911 | $\because 11.11{ }^{\text {e }}$ |
| 0.11110 | 125 | S0 | 18．こ0＊ | 18．7） | $1!9.00$ | 19.70 | 20．20＊ | 20．611 | ご．．21） |

 urder．Prices on retuest．




|  |  |  |  |  |  |  |  | AETER |  | Models <br> 33 I－PL <br> $337 \cdot P L$ |  |  |  | $\begin{array}{r} \text { Model } \\ 430 * P L \end{array}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0－11 | － 290111 |  | 50 | \＄ | 7.50 |  | 8 | 8.50 |  | ！ $3.00{ }^{\text {a }}$ |  | （ 9.30 |  | －！1．51 | \＄11．5 |
| 0.15 | －11：11 | ＊＊（30） | 75 |  | 7.19 |  |  | 8． ill |  | 9.100 |  | 11.811 |  | 4 | 11.50 |
| 0－2．． | 311 |  | 51 |  | 7.50 |  |  | 8．$\quad$ \％ |  | 9.111 |  | 9.30 |  | 3， 311 | 11．51 |
| 0）－．51 | \％ 2 |  | 50 |  | 7.50 |  |  | 8． 50 |  | 9.1110 |  | 1.30 |  | 4.511 | 11.511 |
| $0-1011$ | 21 |  | 50 |  | 3.50 |  |  | 8.50 |  | $1) .10$ |  | 9， 010 |  | 9.511 | 11.511 |
| $0- \pm 010$ | 8.7 |  | 40 |  | 7.311 |  |  | 8.50 |  | 4.110 |  | 9.50 |  | 4．511 | 11.511 |
| 10.250 | 3.4 |  | 50 |  | 7.50 |  |  | 8.30 |  | 4.00 |  | 9.80 |  | （1．31） | 11．511 |
| 0－500 | 0.8 |  | 50 |  | 7.50 |  |  | 8.50 |  | 9.011 |  | 4.50 |  | $4.51)$ | 11.50 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  | $\begin{aligned} & \text { Models } \\ & 241-T \\ & 247-T \end{aligned}$ |  |  | $\begin{aligned} & \text { Models } \\ & 341-\mathrm{T} \\ & 347-\mathrm{T} \end{aligned}$ |  | Models <br> 347－PL |  | $\begin{gathered} \text { Model } \\ \mathbf{4 4 0} \end{gathered}$ |  | $\begin{gathered} \text { Model } \\ 440 \cdot \mathrm{PL} \end{gathered}$ |  | $\begin{gathered} \text { Model } \end{gathered}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0－． 5 |  |  | 50 |  | 8.50 |  | \＄ | 9.50 |  | 10.00 ． |  | 10．50 |  | 11．．10 | \＄13．50 |
| $0.1$ | Amps．．．．．．． 35 | $\cdots$ | $\square 8$ |  | 8.50 |  | ¢ | 8.50 |  | 10.00 |  | 10．50 |  | 10．50 | 12，511 |
| $0.1 .5$ | Amps ．．．．．． 21 | －（30） | 75 |  | 8.50 |  |  | 8.80 |  | 10.00 |  | 10.50 |  | 10.50 | 12.50 |
|  | Amps．．．．． 13 | － | 50 |  | 8.50 |  |  | 8.90 |  | 10.00 |  | 10.50 |  | 10.50 | 12，50 |
| －10 | Amps，．．．．． 0.08 |  | 5 |  | 8.50 8.50 |  |  | 9.50 |  | 10.00 |  | 10.50 |  | 10.50 | 12.30 |
| Internal | couples are no |  |  |  |  |  |  | 9．0 |  | 10.10 |  | 10.50 |  | 10.51 | 12.50 |

Internal couples are normally furnished at prices shown．If external couples are required．please specify on order．adding $\$ 4$ ， 00 net to price of instrument

## Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

## The

## IDIALIGIITCDIEIDIRATION Foremost Manufacturer of Pilot Lights

# IPILOT LIGIT ISSEMIBLIES T-3¼ NEDN L.MMP • NE-5I <br> 11/16" MOUNTING HOLE <br> IBUILT-IN IRESISTOIE 


(Patent No. 2,421,321)

all of these assemblies are listed by Under. weitro: Laboratories Inr.

For 110 and 220 volts
The new NE-5l lamp is esperially useful for pilot lights to be operated on commercial voltages. It has a distinetive
NE-T1 orange-red glow and eonsmmes very litale enrrent.

## MULTI-VUE CAP

In addition to the adantages given ley the provision of the built-in resistor, these ansmbles of for another feature that is especially important in obtaining effertive indieation with the NE-5I lamp. The" Mnlti-var" cap shown at the right gives a high degree of visibility log directing ant increased amount of light toward the eye when the indicator is viewed from any angle. When it is desirable to view the clectrodes directly, the clear caps shown below are very effective. For concentrating the light into a beam the metal lens holders are equipped with convex lenses as shown.

## CATALOGUE NUMBERS

521308-991 Multivne cap, Screw terminals (Fig. 1) 531308-991 Multivic cap, Screw terminals (Fig. 2) 91408-931 Long clear cap. Soldering terminals (Fig. 4) 95108-931 (lear cap, Soldering terminals (Fig. 3) 81408-111 Screw-in cap. Convex lens. Soldering terminals (Fig. 20) 80408-831 Screw cap, Dome plawic lens, Soblering trminals (Fig. 21) 801308-831 Screw eap, Dome plastic lens. Serew derminals 51408 -111 Screw eap, Consex lens, Soldering terminals (Fig. 22) 511308-111 Screw cap, Convex lens, Screw terninals

COLOR-The final figure 1 in the listed numbers indicates RED I.ENS COIOR. If other color is desired, change final figure to one from table below:
Creen-2*, Amber-3, Blue-4*, While-5, Yellow-6, Clear-7 * not recommended with neon lamps.


Equipped with BINDING SCREWS

IDIALIGIT COIEIDIEATIDN
Foremost Manufacturer of lilot Lights


## CAPS ${ }^{m}$



ASSEMBLIES FOR 1 INCH MOUNTING HOLE

sorn leminals Fig. 15

## DOUBLE CONTMET BAYONET



CANDELABRI SG!?にN


Screw trminals Fig. If



The MASTER - 20th Edition
Copyright by U. C. P., Inc.

# IDILIGIIT CDIRIDIBATIGN 

## Foremost Manufacturer of Pilot Lights 



## CATALOG NUMBERS FOR ENCLOSEI) ASSEMBLIES <br> Mount in one inch clearance hole UNIEERII RITERS' LISTED

## For S-6 Lamp with Candelabra Screw Base

51901-111 Screw cap. Consex lens, frosted back (Fig. 11) Screw trminals (Fig. 13)
61901.111 Screw cap, Large ronvex lens. frosted back (Fig. 8) Screw terminals (Fig. 13)

51901-131 Screw cap, Faceted lens (Fig. 10) Screw terminals (Fig 13)
19901-531 Screw cap, Large torpedo lens (Fig. 12) Screw terminals (Fig. 13)
51101-111 Screw cap, Convex lons, frosted back (Fiy. 11) Soldering lugs (Fig. 14)
41901-111 Bayonet cap Convex lens (Fig. 6) Serew terminals (Fig. 13)
31901-111 Friction cap Convex lens (Fig. 5) Screw terminals (Fiy. 13)
47901 Light Shield cap (Fig. 19) Binding Screw terminal= (Fig. 13)
7l101-111 Mechanical dimmer (Fig. 18) Soldering terminals (Fig. 14.)
78101-111 Polaroid dimmer (Fig. 18) Suldering terminals (Fig. 14)

## For S-6 Lamp with Double Contact Bayonet Base

513202 -111 Screw cap. Convex lens, frosted back (Fig. 11) Screw terminals (Fig. 16)
613202-111 Screw cap, Large convex lens, frosted lack (Fig. 8) Screw terminals (Fig. 16)
513202.111 Screw cap, Faceted lens (Fig. 10) Screw terminals (Fiy. 16)

803202-5.31 Screw cap. Torpedo lens (Fig. 7) Screw terminal- 1 Fig. 16)
413202.111 Bayonet cap Convex lens. frosted batk (Fig, 6) Screw terminals (Fig. 16)

313202-111 Friction cay Convex lens, frosted back (Fig. 5) Screw terminals (Fig. 16)

## For G-G Lamp with Double Contact Bayonet Base

$51701-111$ Screw cap, Convex lats. frosted back (Fig. 11) Screw terminals (Fig. 15)
51:01-131 Screw cap. Faceted hens (Fig. 10) Screw terminals (Fig. 15)
80701-531 Screw cap. Torpedo lens (Fig. 7) Screw terminals (Fig. 15)
80701-81. Screw cap. Dome plastic lens. matted batk (Fig. 9) Screw terminals (Fig. 15)
51201 -111 Screw cap, Convex lens, frosted back (Fig. ll) Soldering twrminals (Fig. 17)
$4120+111$ lavonet cap Convex lens (Fig. 6) Soldering terminals (Fig. 17)
$31201-111$ Friction cap Convex lens (Fig. 5) Soldering terminal- (Fig. 17)

## For NE. 45 Neon Glow Lamp, Candelabra Screw Base

51914-131 Screw cap. Convex lens (Fig. 1l) Binding screw terminals (Fig. 13)
$8091+811$ Screw cap. Dome lens (Fig. 9) Binding screw terminals (Fig. 13)
+1914.131 Bayonet cap Convex lens (Fig 6) Binding screw terminals (Fig. 13)
3191+131 Friction cap Convex lens (Fig. 5) Binding screw terminals (Fig. 13)
51114-131 Screw cap. Combex lent (Fig. 11) Soldering terminals (Fig. 14)
80111.531 Screw cap. Turporto lens (Fis. 7) Soldering terminals (Fig. 1-1)

COIOOR - The final figure 1 in the alove number indicates RED LENS COLOR. If oher color is desired, change final figure to one from table below.

Grem-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7


## 

Foremost Manufacturer of Pilot Lights


## IPILDT LICIT MSSEMIBLIES

ASSEMIBLIES FOR T-31/4 LAMIPS<br>MINIATURE BAYONET BASE<br>(for low voltages)



## CATALOGUE NUMBERS

221:310-991 Multive cap, Screw terminals (Fig. 1) .331310-991 Multivue cap, Screw terminals (Fig. 2) 91410-931 Long char rap, Soldering terminals (Fig. 4 95410-931 Clear cap. Soldering terminals (Fig. 3)


81410-111 Screw-in cap, Convex lens. Suldering terminals (Fig. 20) 80410-831 Screw (ap, Dome plastic lens, Solderingtrminals (Fig. 21) 801310-833 Serew rap, Donte platio lens, Sorew terminals
51410-111 Screw eap, Convex lens, Soldering forminals (fie. a, ,
$511310-111$ Screw rap. Convex lens, Screw terminals
211310 Light hield cap Serew trminals (Fig. 2:')
93410-111 Polaroid dimmer cap, Convex lens, Soldering lerminals ( F'ig. 25)
98410-111 1)immer (ap, Convex lens, Soldering terminals (Fig. 21)

COLAOLR-The final figure 1 in the listed numbers indicates RED LFNS COLOR. If wher colur is desired, change final figure to one from table birlow:

Green-2, Amber-3, Blue.f, White-5, Yelluw-6, Clear-7

Smaller assemblies as illustrated in Figs. 20. 23, 24 and 25 mount in $11 / 16^{\prime \prime}$ clearance hole. Figs. 21 and 22 require $1^{\prime \prime}$ clearance hole.

## MECHANICAL and POLAROII DIMMERS



Any of the merehanieal dimmers can be supplied in either the "Complete Blachout" or the regulation type.

## DIMIIGITTCDIEIDIBATION

Foremost Manufacturer of Pilot Lights HमOOкIN: :17. N. Y.

## PILDT LIGHT MSSEMBLIES

## A SELECTION OF OPEN TYPES



Miniature Screw Base


FIG. 27

For T-31/4 Low volage Incandescent Lamps


FIG. 26
Typical assomblies for bayonet hase lamp. Available also for screw typr, see listing below.


## CATALOGUE NUMBERS

Assemblies for T. $31 / 1$ miniature bayonet hase lamps
\o. 810B-431 Faceted 12 " lens. For $" 11_{14 \prime} "$ mounting hole. Fig. 26


\o. 857B-431 Fareted 16 " lens. For ${ }^{11446 " \text { mounting hole. Fig. } 29}$
\o. 67 B-111 Consex $3 / 1^{\prime \prime}$ lens. For $13 / 16^{\prime \prime}$ mounting hole. Fig. 30
Assemblies for T-31/4 miniature screw base lamps
\o. 810M-431 Faceted ! $1 /$ " lens. For "'16" mounting hole. Similar to Fig. 26
\o. 510-121 Convex $1 / 2 / 2$ lens. For " $1 \mathbf{n}_{6}^{\prime \prime}$ mounting hole. Similar to Fig. 27
No. 555-621 Convex ${ }^{11}$ "" lens. For "\%" mounting hole. Similar to Fig. 28
\o. 855-431 Faceted 16" lens. For "1/4" mounting hole. Similar to Fig. 29
No. 66 M-111 Consex $"_{4} / 4$ lens. For $12 / 19$ " mounting hole. Similar to Fig. 30

COLOR-The final fig: I in the listed number: indicates RED I, \is COLOR. If other color is desired. clange final figure to one from tabie below
Green-2. Amber-3. Blue-4, White.5. Iellow-6. Clear-7

FIG. 30

FIG. 29


FIG. $2 ;$


Octagon lock mut and lirarhet on these two unite welded intu onepiece construction.


##  <br> Foremost Manufacturer of Pilot Lights BHOOKIN: $\boldsymbol{B}, \mathrm{N}$. Y.

## IPILDT LIGITT ISSEVIBLIES

A SELECTION OF OPEN TYPES<br>For Candelabra Screw Base Lamps



FIG. 32


FIG: 33


For S-6 Incandescent Lamps, candelabra screw hase Vo. 10-18-14-431 Faceted ${ }^{16}$ " ${ }_{2}$.ens (for $7 / 16^{\prime \prime}$ mounting hole) (Fiy. 32) Vo. 25-18-15-431 Faceted "//"Lens (for $11 / 16^{\prime \prime}$ nounting loole) (Fig. 33) No. 31-18-16-431 Faceted $1^{\prime \prime}$ Lens (for $1^{\prime \prime}$ mounting hole) (Fig. 31) All of the above assemblies are listed by Inderwriters" laboratories, Inc.
(X)ISOR-The final figure 1 in the listed numbers indieates RED IENS COIOR. If other color is desired, change final figure to one from table below:
Green-2, Amber-3, Blue-4, White-5, Yellow-6, Clear-7



FIC. 34


FIG. 36


For NE-4. Neon Glow Lamps, candelallira screw base
No. 67 BN-831 Dome Plastic Lens ( $3 / 1 /{ }^{\prime \prime}$ diam.) Fig. 35
No. $66 \mathrm{~N}-131$ Convex (Glass Lens ( $3 / 4^{\prime \prime}$ diam.) Fig. 36 (Both mount in 13/16" hole. Cap removable)

[^39]
##  <br> Foremost Manufacturer of Pilot Lights <br> 

## Lens Holders with Lenses for Panel Mounting

 Screw Types Are Complete With Nut for Shank

These holders snap into $111 / 2$ hole


The alove two groups mount in 1 " clearance hole. The upper series lock to the panel and are tamper proof. The lower series permit lamp replacement from the front of the panel.
LENS COLOR-The final fignre 1 in the listed nmmbers indicates RED LENS COLOR. If other color is desired, change final figure to one from table below:

Green-2, Ainber-3, Blue-4, White-5, Yellow-6, Clear-7


Socket
-uttix Bracket Description
-01-Plain clip, uplowned
-02 - Plain clip, downtumed
-0.3-Clip with cars, uphurned
-04-(lip with ear- downswrned


—02- Plain suchel. no lorackel


sucket
-whix Bracket Description

- 11 -- Cthar ( shaped. Hole Sizo-5/32"
- 12 -Ifiriznatal (no bend), short. Ilole Size- $5 / 32^{\prime \prime}$
- 13 -l hidizontal (no hend), slotted. slot- $7 / 8^{\prime \prime} \times 3 / 16^{\prime \prime}$
-14 - V with locking tongue short-1"
- 15 - Ve with locking longue, short-- 11 it
- 16 - Ver will locking tongre, intermmati- $1-5 / 16^{\prime \prime}$
-17-- Eer with locking tongue, lon!- $:$ ""
- 18 - Fer with locking inngue. lonir $11 .{ }^{\prime \prime}$

—20-Riogh angle, downturmed. lams. Hole ミ゙iz- $9 / 61$ "

fage H-8


## S(CKETS

BRACKET MOUNTED 75 Watts, 125 Volts

## No. 4 Scries Wire Leads

Insulated with heavy melderl Bakelite. siguare shoulder locks in. to square hole in brackel - all seeurely hold loy larqe tubular rivel.


No. 12 Series - Double Contact Bayonet Coramic Insulating Disk
The new "12". serims socket is constructed with a high gualit! erramie disk supporting the socket contacts. Recerses in the dish receive the lead wires so that in live metal is expersed.

## Wire Leads

The standard flevithe leark are of filatic insulated

## Many Bracket Types

approved wire. 18 gauge. Usual lengh is 8 inches; longer leads will be supplied when specified.

UNDER WRITERS'


LNTIEI

IDENL FOR S-6 and C:- LAMPS

No. 18 series


Soldering Terminals (locked in position)




No. L-73

No. L-45
For NE-45 Neon

#  <br> Foremost Manufacturer of Pilot Lights вияоюा, 

# CONNECIORS FOR SINGIE CONDUCTOR CABLE <br> FOR MICROPHONLS - SPEAKERS - PICK-UPS - JACKS <br> (using cable shield for second conductor) 

The fittings shown here are designed for use with standard metal shielded single condutor calle up to $1 / 4^{\prime \prime}$ diameter. These connectors are heavily constructed from solid brass and all exposed parts are chrome plated and highly polished.


No. 101

## MALE CONNECTOR FOR CABLE

With spring protector to prevent sharp bending of cable. Solders to cable sheath - sccured by set screw.


No. 102
PLUG WITH MALE CONNECTOR
Fits standard jacks


## No. 103 <br> CAP AND CHAIN

To protect unused male connectors. Chain secured by screw prevents loss when removed to make connection.

The cable end connectors are provided with rugged wire spring protectors which prevent sharp hends at the comnection. The protector is soldered to the cable sheath and secured in the connector by a set screw so that all strain is relipved from the conductor.


No. 100

## FEMALE CONNECTOR FOR CABLE

With spring protector to prevent sharp bending of cable. Solders to cable sheath - secured by set screw.


## MALE CONNECTOR FOR CHASSIS

Has sprung center contact which grounds before cable connection is broken preventing open circuit howls.


$$
\text { No. } 50
$$

## MALE CONNEC'IOR FOR CHASSIS

Shell grounds to panel - or may be insulated by washurs. Fit "s" - 24 threaded hole or may be secured ly mut.

$$
\text { No. } 50 \mathrm{P}
$$

## MALE CONNECTOR FOR CHASSIS (Similar to No. 50 above)

Designed fir force fit in hole in panel. Requires no nut to secure in place.

## PILOT LIGHTS

JIFFY MOUNTING

fatural

 in tramel of aty thichmes is mly pequationt required tnetant moturtine with sup pliad spreerl mut. NESB w-on lamp and luilt-in re siotor in molon bousinsuitable for temperatur apulications withstands ri bratiom, slack ated ourer loads tor indetinite life owter wide ranze of voltares.
41:" leads stripued and inned 1.2". Nailable in ectut as stambare color
$=1010 \mathrm{~A} 3 \mathrm{lmher}$
$=101044$-Whitre prusilucont

## SAFE-T-KLIP





Type 1410A-Assemblios to tow leald bruides mednamical and or sulibel inint will strain relien
 laturl joint.
Model \#1410A1——biar
Model $=1410 A 2-R 1$


Type 1410C-lineris.as s.andial bithat
Mooel $=1410 \mathrm{Cl}-13 \mathrm{Mc}$
Model $=1410 \mathrm{C} 2$ - In
Model $=1410 \mathrm{C}$
mplos 1wet prot.
 :T11 sher.
 whls.
 whls.

SPACE ECONOMY


A nem pilot lixht asembly which requires minimum back-of-tanel space. Model $\pm 300$ provides chrome finished all metal housing for NE2 lamp with 100 k resistor. Instant mounting with furnished speed nuts thru two $13 / 64^{\prime \prime}$ holes on $13 / 8^{\prime \prime}$ centers. $\ddagger 1 /{ }^{\prime \prime}$ leads stripped and tinned $1 / 2 "$. (Hperates over wide range of voltages and withsiands temperatures, vibration. shock and overlearls for indetinite life.

## CONTROL KNOBS


 (10) hinolo if (iRC wrime
 -


```
Model #1431-1-lalach
Model =1431-2-Ri41
```



 relicet mate-in. Wailable in sperial colors.

Model $=1420.33 \rightarrow$ Ciras


For further information on these, or other Industrial Devices products, ask your distributor, or write . . . industrial devices, inc.

JEWEL LIGHT ASSEMBLIES

N., "Tvpe

## 11/32" JEWEL. . VERTICAL MOUNTING

Adjustable to the focal length of any miniature screw or bayonet lamp. Mounts in $93^{\prime \prime}$ diameter hole on panels up to $1 / 4^{\prime \prime}$ thick. Tested at 125 volts. Faceted glass. Panel Hardware, bright nickel -- other parts cadmium. Standard colors.
No. 5
No. 5B
Min. Screw $\qquad$ List $\$ 0.55$
No. SB............... Min. Bayone
t....................... List
.57

## 1/2" JEWEL . . VERTICAL MOUNTING

Mounts in $716^{\prime \prime}$ hole on panels up to $1 / 4^{\prime \prime}$ thick. Tested at 125 volts. Standard colors. Faceted glass. Panel Hardware, bright nickpil other parts cadmium. No. 10B has bracket with oblong hole permitting adjustmens to obtain best position for lamp filament back of Jewel.
No. 10 ................... Min. Screw .......................List $\$ 0.49$
No. 10G. Min. Bayonet $\qquad$ List
No. 10 Type
No. 10B. Min. Bayonet $\qquad$ ...List . 51

## 1/2" JEWEL . . VERTICAL MOUNTING UNDERWRITERS APPROVED

## Candelabra screw base Jewel light which is

 Underwriters Approved for 75 watt - 125 volt service. Takes minimum depth behind panel. Oblong hole permits odjustment for placing lamp filament behind Jewel for maximum illumination. Mounts in $76^{\prime \prime}$ hole on panels up to $1 / 4^{\prime \prime}$ thick. Standard colors. FAC-SP-SFB glass finishes. Standard plating.No. 10C............Candelabra Screw.............. Lisi 50.60


## 1/2" JEWEL

## HORIZONTAL MOUNTING

lamp removable from front of panel. Mounts in $111^{\prime \prime}$ hole. Tested at 125 volis. Standard colors. Faceted glass. Recjular plating.

| TYM | STYLE | DEPTH | PANEL | LIST |
| :--- | :---: | :---: | :---: | :---: |
| NUMBER | SOCKET | BACKOFPANEL | THICKNESS | PRICE |



[^40]1/2" JEWEL . . HORIZ. MOUNTING
Specially designed for use on more than one thickness of panel. Two fibre washers compensate for panel thicknesses. Mounts in $1116^{\prime \prime}$ hole. Lamp nesses. Mounts in 11 hole. Lamp at 125 volts. Reqular plating. Faceted jewel in standard colors.


No. 50 Type


LIST PRICES

## No. 50 ..... $\$ 1.07$ No. 50.5 ...... $\$ 1.10$ No. 50S...... $\$ 1.05$ No. 50.5S...... $\$ 1.07$

## 5/8" PLASTIC CAP

## HORIZONTAL MOUNTING

Gives wide angle vision. . . easily seen from sides. Lamp removable from front of panel. Supplied with three $1 / 16^{\prime \prime}$ thick of panel. Supplied with three $1 / 16^{\prime \prime}$ thick
fibre washers for adjustment of thick fibre washers for adjustment of thick ness of panel. Mounts in $11 / 16^{\prime \prime}$ hole.
Tested at 125 volts. Reqular plating.
 Colors: amber, colorless, green and red.

No. 51 Type


A to B: length of socket assembly without lamp. C to D: overall length of socket assembly with lamp installed.


## 3/4" JEWEL . . . HORIZ. MOUNTING

Polished chrome "slip-fit" bezel. Mounts in $1316^{\prime \prime}$ hole. Supplied with fibre washers to compensate for panel thickness. Miniature types tested at 125 volts. Candelabra type stands 1000 volts
 Candelabra type stands

No. 60 Type Types are regularly supplied with colorless smooth glass frostea on back behind which is placed a colored disc so glass appears white until lamp is lighted

TYPE NUMBER
STYLE SOCKET
LIST PRICES

|  |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |
|  |  |  |

[^41]BLOOMFIELD, NEW JERSEY

## Universal Replacement Type Capacitors "LYTICAP" Single Section Electrolytics - Type "L"

Hermetically sealed in aluminum tubes, covered with red Kraftboard insulating jackets - tinned brass leads, guaranteed for one year.

| CAT. NO. | MFD. | SIZE* | LIST PRICE |
| :---: | :---: | :---: | :---: |
| 500 WVDC |  |  |  |
| L-5-500 | 5 | $3 / 4 \times 15 / 8$ | \$1.25 |
| L-10-500 | 10 | 1/8×2 $\times 2$ | 1.35 |
| L-20-500 | 20 | $1 \times 23 / 8$ | 1.60 |
| L-30-500 | 30 | $1 \times 2+\frac{1}{6}$ | 1.75 |
| 450 WVDC |  |  |  |
| L-4-450 | 4 | $5 / 8 \times 15 / 8$ | 1.15 |
| L-8-450 | 8 | $3 / 4 \times 15 / 8$ | 1.25 |
| L-10-450 | 10 | $3 / 4 \times 15 / 8$ | 1.30 |
| L-12-450 | 12 | $7 / 8 \times 15 / 8$ | 1.35 |
| L-16-450 | 16 | 7/8 $\times 2.16$ | 1.40 |
| L-20-450 | 20 | $1{ }^{1} \times 2,16$ | 1.55 |
| L-30-450 | 30 | $1 \times 23 / 8$ | 1.70 |
| L-40-450 | 40 | $1 \times 24$ | 1.80 |
| L-50-450 | 50 | $11 / 4 \times 2 . \frac{1}{6}$ | 2.10 |
| L-60-450 | 60 | $11 / 4 \times 2+\frac{1}{6}$ | 2.40 |
| L-80-450 | 80 | $13 / 8 \times 2+\frac{1}{6}$ | 2.80 |
| 350 WVDC |  |  |  |
| L-8-350 | 8 |  | 1.20 |
| L-16-350 | 16 | $7 / 8 \times 15 / 8$ | 1.40 |
| L-20-350 | 20 | $7 / 6 \times 15 / 8$ | 1.45 |
| L-30-350 | 30 | ${ }^{7 / 8} \times 2 \times 2,6$ | 1.65 |
| L-40-350 |  | $1 \times 2 \mathrm{~T}$ | 1.75 |
| 250 WVDC |  |  |  |
| L-5-250 | 5 |  | 1.00 |
| L-10.250 | 10 | $5 / 8 \times 15 / 8$ | 1.20 |
| L-20-250 | 20 | $3 / 4 \times 15 / 8$ | 1.35 |
| L-24-250 L-30-250 | 24 30 | $3 / 4 \times 15 / 8$ $3 / 4 \times 15$ | 1.35 <br> 1.45 |
| $\mathrm{L}-30-250$ $\mathrm{~L}-40-250$ | 30 40 |  | 1.45 1.55 |
| 150 WVDC |  |  |  |
| L-5-150 |  | $3 / 6 \times 1 / 8$ | \$1.00 |
| L-8-150 | 8 10 | 1/2×15/8 | 1.05 |
| -16-150 | 16 | 5/2×15/8 | 1.05 |
| L-20.150 | 20 | $5 \% 15$ | 1.20 |
| L-30-150 | 30 | $33 / 4 \times 15 / 8$ | 1.30 |



## Dual Section Electrolytics - Type "IL"

Hermetically sealed in aluminum tubes with completely flexible leads. U/L Approved, plastic coated leads are rivetted directly to the condenser end disc, eliminating the use of rigid terminal risers, allowing capacitor to fit into smaller space and eliminating lead breakage. IL capacitors have wrap around mounting strap and are common negative, guaranteed for one year.

| CAT.NO. | MFD. | SIZE* | LIST PRICE |
| :---: | :---: | :---: | :---: |
| 450 WVDC |  |  |  |
| IL- $7 \times 8$-450 | $8+8$ | $7 / 8 \times 2 \cdot 8$ | \$1.70 |
| IL-2x20-450 | $20+20$ | $1 \times 2 \mathrm{t}$ | 2.50 |
| 1L-2x 30.450 | $30+30$ | $11 / 4 \times 2+\frac{1}{6}$ | 3.00 |
| 1L-2x40-450 | 40+40 | 13/9 $\times 2+\frac{1}{6}$ | 3.40 |

# PLANET SALES CORPORATION <br> bloomfield, New Jersey 



| CAT. NO. | MFD. | WVDC | SIZE | LIST PRICE |
| :---: | :---: | :---: | :---: | :---: |
|  | UNITS - COMMON |  | NEGATIVE |  |
| CT. $2 \times 20-150$ | $20+20$ | 150 | $3 / 4 \times 21 / 2$ | \$1.65 |
| CT. $2 \times 30-150$ | $30+30$ | 150 | $7 / 8 \times 21 / 2$ | 1.80 |
| CT.4020-150 | $40+20$ | 150 | $7 / 8 \times 21 / 2$ | 1.75 |
| CT-2x40-150 | 40+40 | 150 | $1 \times 21 / 2$ | 1.85 |
| CT.5030-150 | 50+30 | 150 | $1 \times 21 / 2$ | 1.95 |
| CT-2x50-150 | 50+50 | 150 | $1 \times 3$ | 2.10 |
| CT-8040-150 | 80+40 | 150 | $1 \times 31 / 4$ | 2.25 |


| DUAL UNITS - SEPARATE NEGATIVE |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| CT- $2 \times 20-150-\mathrm{SS}$ | $20+20$ | 150 | $1 \times 23 / 3$ | 2.05 |

Universal Replacement Type Capacitors

## Cardboard Tube Electrolytics - Type "CT"

Constructed in strong red cardboard tubes, wax impregnated - long insulated stranded leads of $U / L$ approved wire - high temperature wax end-fill - wrap around mounting strap. Guaranteed for one year.
CAT. NO. MFD. WVDC SIZE LISTPRICE

## TRIPLE UNITS - COMMON NEGATIVE

| CT-3x20-150 | $20+2 \mathrm{C}+20$ | 150 | $1 \times 21 / 2$ | \$2.20 |
| :---: | :---: | :---: | :---: | :---: |
| CT.302520-150 | $30+25+20$ | 150 | $1 \times 21 / 2$ | 2.25 |
| CT-402020-150 | $40+20+20$ | 150 | $1 \times 3$ | 2.25 |
| CT-403020.150 | $40+30+20$ | 150 | $1 \times 3$ | 2.35 |
| CT-404020-150 | $40+40+20$ | 150 | $1 \times 3$ | 2.40 |
| CT-3x40-150 | $40+40+40$ | 150 | $1 \times 31 / 4$ | 2.45 |
| CT-503020-150 | $50+30+20$ | 150 | $1 \times 3$ | 2.45 |
| CT-302 | $30+20 / 20$ | 150/25 | $1 \times 21 / 2$ | 2.10 |
| CT-303 | $40+30 / 20$ | 150/25 | $1 \times 3$ | 2.20 |
| CT. 304 | $50+50 / 20$ | 150/25 | $1 \times 31 / 4$ | 2.50 |
| CT-305 | $50+30 / 20$ | 150/25 | $1 \times 3$ | 2.35 |

## All Purpose Paper Capacitors <br> "ROCKETTES"

Planet ROCKETTES are impregnated and jacketed with a HARD-as-ROCK plastic which will not dry out, shrink away from the leads nor develop fissures nor cracks, thus guaranteeing against the entrance of moisture and guaranteeing good shelf life and long service life. The coiled heads of the leads are securely soldered to the foil, which is imbedded in the same plastic used as an impregnant, making it impossible for them to work loose or pull out. ROCKETTES have exceptionally high insulation resistance which is maintained proportionately over the entire temperature range of $-30^{\circ}$ to $+85^{\circ} \mathrm{C}$.

| CAT. NO. | MFD. | SIZE | LIST PRICE |
| :---: | :---: | :---: | :---: |
| 600 WVDC |  |  |  |
| R-001-6 | . 001 | $4 \frac{1}{2} \times 1$ | S . 25 |
| R-002-6 | . 002 | $3 \frac{1}{2} \times 1$ | . 25 |
| R-003-6 | . 003 | $3 / 8 \times 1$ | . 25 |
| R-004-6 | . 004 | 3/6×1 | . 25 |
| R-0047-6 | . 0047 | $3 / 3 \times 1$ | . 25 |
| R-005-6 | . 005 | $3 / 8 \times 1$ | . 25 |
| R-006-6 | . 006 | 3191 | . 25 |
| R-01-6 | . 01 | ${ }_{76} \times 1$ | . 30 |
| R-02.6 | . 02 | ${ }^{7} \times 11 / 4$ | . 30 |
| R.03-6 | . 03 | 76 $\times 11 / 2$ | . 35 |
| R-04-6 | . 04 | 掉× $\times 11 / 2$ | . 35 |
| R-047.6 | . 047 | $1 / 2 \times 15 / 8$ | . 40 |
| R-05-6 | . 05 | 拉 $\times 15 / 0$ | . 40 |
| R-1-6 | . 1 | +6) $\times 15 / 8$ | . 45 |



－Indmerry＂s widesi rallize of valune．

 in all climatues．

 ＂xtromely pure wil and luatial hiah－zain
entrlatmons．

－Lanw－resistance berminal tah contractiont．

| SINGL | MINIMITE（2 leads） |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Cat，No． | Cap． Mf． | wVDC | †Oia $\times$ L． | List Price |
| MM－500－6 | i0） 0 | ； | $8{ }^{8} \times 1$ \％ | \＄1．55 |
| MM．1000－6 | 101010 |  | Tmx ${ }^{\text {a }}$ | 1.90 |
| M M－ 500.15 | 5111 | 15 |  | 1.75 |
| M M－1001－15 | 10011 | 1.1 | 1 x | 2.30 |
| MM－10－25 | 111 | ？． | 1／2x1 | 1.00 |
| M M－ $25-25$ | $\underline{20}$ | \％ | $1 / 2 \times 110$ | 1.00 |
| MM－50－25 | B11 | －5 | \％$\times 1$. | 1.10 |
| M M－100－25 | 1180 | 2－3 |  | 1.35 |
| MM－250－25 | 250 | \％ | $7 \times \times 15$ | 1.70 |
| MM－500－25 | 5010 | 号 | $1{ }^{10}$ | 2.40 |
| MM－4－50 | 10 | 511 | 1／2．1 ${ }^{1 / 2}$ | ． 95 |
| M M－ 25 －50 | $\because$ | 8 |  | 1.00 |
| M M－50－50 | ． 010 | 50 | \％${ }^{\text {a }}$ x1 | 1.00 1.20 |
| M M－100－50 | 1011 | 50 | $8 \times 1$ | 1.20 |
| M M－小－150 | 4 | 150 | \％rex | 1.00 |
| M M－8－150 | \％ | 150 | 1／2x ${ }^{1 / 2}$ | 1.05 |
| MM－16－150 | $1 i^{\prime}$ | $1: 0$ | $8_{4} \times 18$ | 1.15 |
| MM－20．150 | 211 | 150 | \％$\times 15$ | 1.20 |
| MM－30－150 | ：31 | 150 | $\%_{1} \times 1$ \％ | 1.30 |
| MM－40－150 | $\pm 0$ | 1.51 | 84， 15 | 1.35 |
| MM－50－150 | 51 | 150 | \％／4，${ }^{1 / 8}$ | 1.40 |
| MM．80－150 | צu | 150 | 7／8x： | 1.60 |
| M M－ $100-150$ $M M-150-150$ | 104 | 15.1 |  | 1.75 |
| MM－150－150 MM－8．250 | $1: 1 \%$ | 1.50 | 1 x ${ }^{\text {a }}$ | 1.90 |
| M M M M－ $16-250$ | \％ | 300 |  | 1.15 |
| M M－ $20-250$ | 18 | 950 | $3 \times 15$ | 1.30 |
| MM－40－250 | 411 | －50 | \％${ }^{3} \times 1{ }^{\text {a }}$ | 1.35 |
| MM－8－350 | \％ | 2：00 | \％$\times 1$ | 1.55 |
| M M－10－350 | 10 | ［ 50 | \％8x1\％ | 1.20 |
| MM－20－350 | 21 | 3：30 |  | 1.25 |
| MM－4－450 | 4 | 450 |  | 1.45 |
| MM－8－450 | ＊ | 4 40 | $\%_{4} \times 10^{\text {K }}$ | 1.15 |
| MM－10．450 | 111 | 4511 | $3 \times 15$ | 1.30 |
| MM－12－450 | 12 | $4: 0$ | \％$\times 15$ | 1.35 |
| MM－16－450 | 11 | 1511 | Tax14 | 1.40 |
| MM－20－450 | $\because 0$ | 450 | $7 / 8 \times 2$ | 1.55 |
| M M $-30-450$ M M－40－450 | 411 | 45 | $1{ }_{1} 18.3$ | 1.70 |
| M M－80－450 | \％11 | 4.10 |  | 1.80 |
| M M－8－500 | 8 | 500 | $1{ }^{1 / 4} 8$ | 2.80 |
| MM－16－500 | 16 | 5110 | $1{ }^{10}$ | 1.50 |
| M M－20－500 | $\because 0$ | 500 | $1{ }^{10}$ | 1.6 C |


| $\dagger \dagger$ DUAL MINIMITE |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| MM M－ $2 \times 20.150$ | 는0 | 15 |  |  |
| 101：1－2x -0.150 | ：111：00 |  | 7／41 | 1.80 |
| 1．1．M1－2x $4 . j-150$ | $119+40$ | 150 | T／x ${ }^{\text {a }}$ | 1.85 |
| （11－0030－150 | $50+30$ | 150 | 26x2 | ． 95 |
| inlor－2x－3． 150 | 20 +50 | 150 |  | 2.10 |
| 1141－8040－150 | （1）+40 | 1.50 | x2 | 2.20 |
| \％．1M－2x3－450 | x｜8 | 450 | $76 \times 2{ }^{2}$ ， |  |
| \％．1． $\mathrm{M}-2 \times 10-450$ | 10＋10 | 4：00 | 1／80 | 1.85 |
| N9M－168－450 | 1618 | 450 | $1 \times 2$ | 1.95 |
| MM1－2×16－450 | $16+16$ | 450 | x | 2.25 |
| M． $2 \times 20-450$ | －19＋ 0 | 451 | 1 x | 2.50 |
| $\mathrm{Mm} 2 \times 40-450$ | 401911 | 451 | 1 x2 | 3.40 |
| Thimensions are for metal tulkes．Add in＂to di－ ametm and $1 /{ }^{\prime \prime}$＂to leneth for dimensiuns over calliluand insulating tubes． |  |  |  |  |
| tisumblich with radial mounting strup． |  |  |  |  |
| fkatr：млик |  |  |  |  | Mons smal imblizht．haval tor madior －＂mblies．



－Finopinazalls low lakape．Terminal tate

 monaminis strap，and 3 loads（commant

－Windels sporitiond for uriminal cquipment and as p川mar r－pharments with dualit！ mamden smicwormb．

| Cat．No， | Rating |  | Size | List Price Each |
| :---: | :---: | :---: | :---: | :---: |
| ET－25－3 | $\because \%$ | ： | $\cdots$－ 10 | \＄0．85 |
| ET－50－3 | \％10 | ； | ＊－x1\％ | ． 95 |
| ET－100－3 | 110 | ； | $\cdots \times 10$ | 1.10 |
| ET－150－3 | 1.80 | ： | $\therefore \times 1$＂ | 1.10 |
| ET－200－3 | 2010 | 3 |  | 1.25 |
| ET－300－3 | 300 | ： | 3，$\times 1$－ | 1.30 |
| ET－5－6 | 5 | 6 | $3, \times 1 \leq$ | ． 80 |
| ET－25－6 | 2.5 | $1 ;$ | $3 \times \times 1{ }^{1}$ | ． 85 |
| ET－50－6 | \％10 | \＃ | $3_{\mathrm{N}} \times 1{ }_{1}{ }^{2}$ | ． 95 |
| ET－75－6 | 7．i | ＂ | 3，x1品． | 1.00 |
| ET－100－6 | 100 | ti | S，$\times 1$ \％ | 1.20 |
| ET－125－6 | 12.5 | $i$ | $3 \times 15$ | 1.20 |
| ET－50－15 | ． 0 | 1． | 5，x1\％． | 1.00 |
| ET－100－15 | 100 | 1. | 勺，x1＂x | 1.25 |
| ET－5－25 | 5 | $\because 7$ | $\cdots \times 1 \times$ | 1.00 |
| ET－10－25 | 111 | $3{ }^{\text {2 }}$ | \％x1品 | 1.00 |
| ET．20－25 | $\because 0$ | $\because 5$ | 3，$\times 1 \begin{aligned} & 1 \\ & 14\end{aligned}$ | 1.00 |
| ET－25－25 | 2.5 | 2. | $\cdots \times 1$ י． | 1.00 |
| ET－50－25 | 50 | 25 | $\therefore \times 1 \%$ | 1.10 |
| ET－I－50 | 1 | 511 | $\cdots, \times 13$ | ． 90 |
| ET－2－50 | 2 | 511 | $\therefore \times 11 \cdots$ | ． 90 |
| ET－4－50 | 4 | 51 | $3 \times 1 \therefore$ | 1.00 |
| ET－5－50 | － | －11） | ＋6x14． | 1.00 |
| ET－10－50 | 10 | 511 | $3 \times \times 1$ ？ | 1.00 |
| ET－15－50 | 1.7 | $\therefore 1$ | $3_{8} \times 1 \begin{aligned} & \text { a }\end{aligned}$ | 1.00 |
| ET－20－50 | 20 | 519 | $3_{8} \times 1$. | 1.05 |
| ET－25－50 | 2. | 30 | 3，$\times 1 \times$ | 1.05 |
| ET－10．90 | 10 | 90 | ＊，$\times 1{ }^{5}$ | 1.10 |
| ET．5－100 | 5 | 100 | \％ 8.12 | 1.00 |
| ET．10－100 | 10 | 100 | $\therefore \times 15$ | 1.00 |
| ET．1－150 | 1 | 150 | $3^{3} \times 1{ }_{2}$ | 1.00 |
| ET－2．150 | $\underline{2}$ | 150 | 38×1边 | 1.00 |
| ET－4－150 | 4 | 1．80 | 3，$\times 1$ \％ | 1.00 |
| ET－5－150 | \％ | 1510 | \％$\times 14$ | 1.00 |
| ET．8．150 | 8 | 150 | $3 \times 1 \%$ | 1.05 |
| ET．10．150 | 10 | 1.80 | $3 \times 17$ | 1.05 |
| ET－12－150 | $1:$ | 1．11 | $3_{3} \times 15$ | 1.10 |
| ET－4－250 | 4 | 2．＊ | $3_{*} \times 1{ }^{\prime} \times$ | 1.00 |
| ＇ITE．\1）${ }^{\text {S }}$ |  |  |  |  |

TYPE ES
Cardboard－Cased Electrolytics

－AS＇lRON－improved design．Long service life，Electrically and me－ chanically superior to similar appearing units．
－Hual and triple－section units．Can be used in place of costlier metal－ can types of equal rating in tele rision．radio．radio－phonos and other equipment． $65^{\circ} \mathrm{C}$ ．operation．
－Scctions wrapped in plastic film． Lasting protection from moisture． humidity，severest climatic con－ ditions．Ifigh－melting－point wax fill．
－Centered radial mounting strap． Plastic insulated wire leads， $6^{\prime \prime}$ long．Color coding on tubes．
－Orerall wax coating for added protection against moisture and humidity．

## DUAL UNITS

（Common Negative）

| Cat．No． | Cap．Mr．／wVdC | D．$\times$ L． | List Price |
| :---: | :---: | :---: | :---: |
| ESO－155 | $20+20 / 1.9$ | $33_{1} \times 21 / 2$ | \＄1．65 |
| ESO． 160 | $30+30 / 1.50$ | 7x $\times 2 \times$ | 1.80 |
| ESO－165 | $40+40 / 150$ | $1 \times 21 / 2$ | 1.85 |
| ESD－170 | 50 0 ＋30／1．50 | $12121 / 2$ | 1.95 |
| ESO－175 | ［00－50／1．3） | 1 x ： | 2.10 |
| ESO－190 | $80+40,150$ | $1^{1} \times{ }^{3}$ | 2.25 |
| ESO－255 | $20+200,231$ |  | 1.85 |
| ESO－455 | 20） | 114．431： | 2.50 |
| ESO． 475 | $40+40 / 450$ | $1313.11 / 2$ | 3.40 |

## TRIPLE UNITS

 （Common Negative）| Cat．No． | Cap．Mf．／wVDC | D．$\times$ L． | Price |
| :---: | :---: | :---: | :---: |
| EST－555 | $20+20+20 / 1.50$ | $1 \times 21 / 2$ | \＄2．20 |
| EST． 570 | $40+30+20 / 150$ | $1 \mathrm{x} 21 / 2$ | 2.35 |
| EST－575 | $40+10+20 / 150$ | 183 | 2.35 |
| EST－585 | $60+40+20 / 150$ | $1 \times 3{ }^{1}$ | 2.40 |
| EST． 595 | $80+40+20 / 150$ |  | 2.50 |
| EST． 610 | $40+10 / 150+20 / 25$ | 1 12 $1 / 2$ | 1.95 |
| EST－620 | $40+30 / 150+20 / 25$ | $1 \times 212$ | 2.30 |
| EST－625 | 40＋40／150＋40／2．5 | 1 1：${ }^{1}$ ， | 2.40 |
| EST－640 | $50+30 / 150+100 / 25$ |  | 2.50 |
| EST－655 | ． $10+20 / 150+200 / 10$ | 1 xib | 2.55 |



## TYPE E Y

Twist－Prong Electrolytics
＇SM＂＇＊Safety Margin Construction










## SINGLE UNITS



Cat．No．
EYD－500
EYD． 505
EYD－507
EYD－510
EYD－515
EYD－520
EYD－530
EYD－540
EYD－545
EYD－55
EYD－55 EYD－56
EYD－56 EYD． 565 EYD－575 EYD－580 EYD－585 EYD－590
EYD－600 EYD－605 EYD－610 EYD－615
EYD－620
EYD－630
EYD－633
EYD－635
EYD－640
EYD－645
EYD－655
EYD－660
EYD． 665
EYD－670
EYD－675
YMADE MARK
DUAL UNITS
Cap．Mf wvoc

| Cap．Mf．WVDC | Dia x Length | Price |
| :---: | :---: | :---: |
| 11101： | $1 \mathrm{x}: 3$ | \＄2．55 |
| 2010118 | 1 \％，x3 | 3.45 |
| 1100 | $1 \times 1$ | 1.60 |
| 二110． | $1 \times$ x | 2.55 |
| 111000 | $1 \div x: 3$ | 3.55 |
| －011 811 |  | 2.65 |
| 50，1：30 | 1 x： | 1.65 |
| St1 181 | x | 1.85 |
| $1011: 0$ | － | 2.00 |
| $1: 01: 11$ |  | 2.10 |
| $710 / 150$ | $1: \times x:$ | 2.10 |
| 110150 | $1 \mathrm{x}:$ | 2.15 |
| 1．11／150 | 1 x：； | 2.15 |
| $2100^{\prime \prime} 10$ | $1{ }^{*} \times 1{ }^{\text {x }}$ | 2.80 |
| 1：2者1 | $1 \times 2$ | 1.55 |
| ：11） | x： | 1.70 |
| 110 | 1 x： | 1.80 |
| 4：1） | $1 \times 1{ }^{1}$ | 2.05 |
| 81\％ 2.50 | 1 x： | 2.15 |
| 1011000 |  | 3.10 |
| 1．510／300 | 1 ＂$\times$ x： | 3.50 |
| ：11：30 | $1 \mathrm{x}=$ | 1.90 |
| 11350 | $1 \mathrm{x} 2^{1 / 2}$ | 2.00 |
| $5083: 0$ | $1 \times 3$ | 2.10 |
| s0 ： $5: \%$ | $18 \times 8$ | 2.85 |
| 1：5 ：$: 50$ | $14 \times 3$ | 3.65 |
| Sil 100 |  | 2.95 |
| 101811 | 1 12 | 1.55 |
| ¢11810 | ｜12 | 1.75 |
| 30 1510 | $1 \times 14$ | 1.95 |
| 10／1：0 | $1 \times$ x： | 2.05 |
| $\pm 118$ | $10 \times \mathrm{x} \times$ | 3.05 |
| ：11 17： | 1 x | 2.00 |
| 1010 | 1－x | 2.50 |
| （10）1：． | $1 \times 1$ x\％ | 3.50 |


| Cap．Mf．WVDC | Dia $\times$ Length | Price |
| :---: | :---: | :---: |
| 1000－111014／大 | 1 ，x： | \＄4．40 |
|  | $1 \times 2$ | 1.75 |
| 101－！日 30 | 132 | 1.85 |
| 30－30／1：0 | $1 \mathrm{x}=$ | 1.75 |
|  | $1 \mathrm{x} \underline{-2}^{1}$ | 1.95 |
|  | 1：${ }^{1} \times$ | 4.00 |
| 20－30／：50 | 1 x 2 | 1.90 |
| $10 \cdot 10 / \pm 50$ | $1 \times 1$ <br> 1 | 2.50 |
| ＊0－80，30\％ |  | 4.05 |
| 120－ロロ ：\％10 | $1 \because, \mathrm{x}$. ； | 3.80 |
| 120－10 ： 300 | 1＇，x：＇${ }^{1}$ ： | 4.35 |
| 1．7－1．\％ 3 s | ！x： | 2.25 |
| 20－ı11 \％30 | $1 \mathrm{x}_{2}{ }^{1}$ | 2.35 |
| रा1－80 3．う11 | $1: 80$ | 4.70 |
| 10－111／100 |  | 2.50 |
| 10．10／1：00 | 1 x 3 | 1.90 |
|  | $1 \mathrm{x}:$ | 2.55 |
| （10）－31／450 | 1 1，x ${ }^{1}$ | 3.05 |
| 40－10／1：0 | 1313 | 3.45 |
| 80－10 1510 | 1 －${ }^{\text {a }}$ | 3.60 |
| x11－10／150 | 1 $\%_{5} \times 1$ | 4.35 |
| 10－40 15\％ | 178 | 4.30 |
| $\therefore 11-2080$ | 18， $\mathrm{x}_{1}{ }^{1} \mathrm{z}$ | 2.85 |
| 11）．10．3011 | $13 \times 4$ | 4.40 |
| $25010-110015$ | $1 \therefore x=$ | 2.85 |
| 20 $350-8080$ | 1 x：1 | 2.30 |
|  | 15，x； | 3.45 |
| $80 / 850+10050$ | 18 x ： | 3.95 |
| 20／4．00＋20／3 | $1 \mathrm{x}^{3}{ }^{3}$ | 2.00 |
| －11450－100／100 | $1{ }^{4} \times x^{1}{ }^{1}=$ | 2.65 |
| $\underline{20150} 1.50$ | $15_{5} \times$ ； | 3.65 |
| ：0150－10／150 | 1 1－x： | 2.50 |
| 10150 － | 1 x：3\％ | 2.40 |
| 111800 | $18 \times 23$ | 2.60 |
| 80／ 150 ＋30／50 | $1 \mathrm{~s}_{\mathrm{x}} \mathrm{x}$ ： | 3.50 |
| $20,175+100 / 300$ |  | 3.95 |
| （1） 500 | 1 1：30\％ | 3.35 |


(continued)

## TYPE EY

Twist-Prong Electrolytics<br>'SM'* Safety Margin Construction<br>\section*{QUADRUPLE UNITS}

Cat. No. EYQ. 2000
EYQ-2003 EYQ-2005 EYQ-2007 EYQ-2010
EYQ-2015
EYロ-2020
EYG-2025
EYG-2027
EYQ-2030
EYG-2035
EYG-204.
EYO-2042
EYQ-2045
EYG-2045
EYQ-2050
EYG-2055
EYQ-2060
EYQ-2060
EYQ-2065
EYQ-2065
EYQ-2070
EYQ-2075
EYQ-2077
EYQ-2080
YQ- 2085
EYQ- 2090
EYQ-2095
EYQ-2097
EYQ-2105
YQ-2!
YQ-2:15
EYQ-2120
YQ
YQ-2125
YQ-2130
EYQ-2135
EYQ-2 140
EYQ-2145
EYQ. 2150
EYG-2:53
EYQ-2155
EYQ-2160
EYQ-2163
EYQ-21750
EYQ-2175
EYQ-2180
EYQ-2180
EYQ-2185
EYQ.2190

EYQ-2197
FYQ-2200
EYQ-2200
EYQ-2202
EYQ-2203
EYQ-2205


ACCESSORIES FOR TYPE EY

| mmмmmmmmmmmmmz <br>  <br>  <br>  <br>  |
| :---: |
|  |  |
|  |  |
|  |  |


|  | Item |
| :---: | :---: |
|  | Metal Mtg, Plate |
|  | Phenolic Mitg. Ilate |
|  | Metal Mtg. Plate |
|  | Phenolic Mig. l'late |
|  | lnsulating Tube |
|  | Insulating Tube |
|  | Insulating Tubo |
|  | Insulating Tube |
|  | Insulating Tube |
|  | Insulating Tube |
|  | Insulating Tube |
|  | Insulating Tube |
|  | Insulating Tube |
|  | Insulating Tubo |


| Description | List Price |
| :---: | :---: |
| for 1" can | \$0.07 |
| for 1 " can | . 0.07 |
| for $1{ }^{3 / 4}{ }^{\text {a }}$ " can | . 07 |
| for $1 \times$ \% ${ }^{\prime \prime \prime}$ can | . 07 |
| 1", x2" | -15 |
| $1^{\prime \prime}{ }^{\prime \prime}$ xe ${ }^{1 / 2}{ }^{\prime \prime}$ | . 15 |
| $1^{\prime \prime} \times 1{ }^{1 / 2}{ }^{\prime \prime}$ | -15 |
| 1 3 "xan" | .15 |
| $10 \times 10 \times 1{ }^{1}$ | . 15 |
|  | .15 |
| $13 / 8{ }^{\prime \prime} \times 1$ " | .15 |
| 1/8414/2" | .15 |

"THADE MARK


## TYPE E

## Metal Screw-Base Electrolytics

'SM'** Safefy Margin Construction

- Popular aluminum can type with threaded neck and patmut for easy, conrenient mounting.
- Recommended as original units or replacement for other can-type wet or dry electrolytics using chassis hole mounting
- Capacitor sections insulated from can. Separate positive and negative color-coded lead for each section. Section in high-voltage units ( 600 wvde) are series-connected to assure long service life
- Plastic insulated leads. $6^{\prime \prime}$ long. Stripped and timned ends.
- As'raronramproved terminal construction. Excellent mrotection against moisture. Suitable for use in tropical, hot, humid and otller severe elinates.

| Cat. No. | Mf. | WVDC | D. $\times$ L. | Price |
| :---: | :---: | :---: | :---: | :---: |
| E-3-450 | 8 | 450 | $13 / 8 \times 31 / 2$ | \$2.20 |
| E-12-450 | 12 | 450 | $13 / 8 \times 31 / 2$ | 2.40 |
| E-16-450 | 16 | 450 | $13 / 8 \times 1 / 2$ | 2.45 |
| E-20-450 | 21 | 450 | $13 / 8 \times 31 / 2$ | 2.75 |
| E-30-450 | 311 | 4511 | $13 / 8 \times 31 / 2$ | 3.00 |
| E.40-450 | $41)$ | 4511 | $13 / 8 \times 31 / 2$ | 3.15 |
|  | High Voltage | Series | Wound Units |  |
| Cat. No. | Mf. | WVDC | D. $\times 1$. | Price |
| E-4-600 | 4 | 600 | $13 / 8 \times 31 / 2$ | \$2.95 |
| E-8-600 | 8 | 600 | $13 / 8 \times 31 / 2$ | 3.15 |
| E-16-600 | 16 | 600 | $13 / 8 \times 31 / 2$ | 3.75 |
|  | DUAL UN and TRIPLE | NITS 14 UNITS | ```leads)``` |  |
| Cat. No. | Mf. | WVDC | D. $\times$ L. | Price |
| E. $2 \times 8.450$ | $8+8$ | 450 | $13 / 8 \times 31 / 2$ | \$3.00 |
| E-2x16-450 | $16+16$ | 450 | $13 / 8 \times 31 / 2$ | 3.55 |
| E. $3 \times 8$-450 | $8+8+8$ | 450 | $13 / 8 \times 31 / 2$ | 5.00 |

## Hinw Capacilors

## TYPE AM

Molded Paper Tubulars
$85^{\circ} \mathrm{C}$. Operation


- Pressure molded units. sealed terminal comHections. Lomar, tronblete tren service
- smaller than comontional pager tahular tupes. Wuttrr humidity abrl heat seal - it thuldeal units at more extra rost
- lathal as oritinal mits or raplacements in tulavision, radio. radionlomens and ather ammatereial aplisations.

- Le:ads $z^{\prime \prime}$ loner. Indicidnatly tostad and fally alant ifican! ionn.


## 200 VOLTS DC WORKING

Cat. No. Cap. Mf. Dia. $\times$ Length Price
AM-2-01 .01 $3 / 4 \times 1$ \$0.25
AM-2-02
AM-2-05
$4 \times 1$ .25 $\begin{array}{llll}\text { AM-2-1 } & .1 & 1_{0}^{2} \times 13^{3} & .35 \\ \text { AM-2-2 } & \therefore & 5 / 4 \times 17 / 8 & .45\end{array}$

| AM-2-25 | .35 | 5 |  |
| :--- | :--- | :--- | :--- |
| AM-2-5 | .5 | $5 \times 17 / 8$ | .45 |
|  | $.517 / 8$ | .60 |  |

## 400 VOLTS DC WORKING

| AM-4-01 | . 11 | $3{ }_{6} \times 1$ | . 25 |
| :---: | :---: | :---: | :---: |
| AM-4-02 | (1)2 | :3x\| ${ }^{3} 6$ | .25 |
| AM-4-05 | .105 | ${ }^{7} 6 \times 1{ }^{3} 6$ | . 30 |
| AM-4-1 | . 1 | $3 \times \times 15 / 8$ | . 35 |
| AM-4-2 | . 2 | 5/8×17/8 | . 40 |
| AM-4-25 | 25 | 5/8x17/8 | . 45 |
| AM-4-5* | - | 3 | . 60 |

## 600 VOLTS DC WORKING

| AM-6-001 | . 1111 | 3\%x 1 | . 25 |
| :---: | :---: | :---: | :---: |
| AN-6-002 | . 0100 | $3^{3} \times 1$ | . 25 |
| AM-6-003 | . 0108 | $3 / 8 \times 1$ | . 25 |
| AM-6-004 | . 1114 | $3_{8} \times 1$ | . 25 |
| AM-6-005 | . 00.5 | $3 / 8 \times 1$ | . 25 |
| AM-6-006 | . 016 F | $3_{6} \times 1$ | . 25 |
| AM-6-01 | . 01 | $3 / 8 \times 1$ | . 30 |
| AM-6-02 | . 02 | $7_{1}^{7} \times 1 \times 17^{3} 8$ | . 35 |
| AM-6-03 | .113 | $1 / 2 \times 15 / 8$ | . 35 |
| AM-6-05 | . 05 | $1 / 2 \times 15 / 8$ | . 40 |
| AM-6-08 | .08 | $5 \times 17 / 8$ | . 40 |
| AM-6-1 | . 1 | $5 / 8 \times 17 / 8$ | . 45 |
| AM-6-25* | . 25 | $3 / 4 \times 21 / 4$ | . 55 |
| AM.6-5* | . 5 | $1 x^{2} 21 / 8$ | . 80 |

1600 VOLTS DC WORKING 8P-16-001 8P-16-002 BP-16-003 BP-16-004 BP-16-005 BP-16-006 BP-16-008 $\mathrm{BP}-16-008$
$8 \mathrm{P}-16-01$ BP-16-015 BP-16-02
BP-16-03
8P-16-033

> CAPACITANCE TOLERANCES Camacitance $0102 \mathrm{mfl}=.161010 \mathrm{mfu}$
> 1 nifil - 100 mf

- Pa b Cor



## TYPE ADM

Bathtub Paper Capacitors $85^{\circ}$ C．Operation
－Nom－inductively wousul．Mirs －ral ril impreprateol ala fille．l．Hermedically sualed
－Onernaing temperature range －bi（．to＋85 ${ }^{\circ}$（．
－Built to comply with strict requirements of MIL．（＊응． silicone rather combressiash． ne：al lus terminals．Com－ phetely immersion－proof．
 atimas：dhals latw thro tor
 （rasie（o）memom）
－Stamatal position of＇y ye loblarminals is an sild
 Tvailable also with terminals

 tom termitals（ANTRO）Tッし



Cat．No．

ADM－1．1M
ADM－1－2M
ADM－1－4M
ADM－1－2M
ADM－1－4M

| ADM－2－5 | $\therefore$ | 113x1 $x$ x 78 | $\underline{\square 1}$ | 2.45 |
| :---: | :---: | :---: | :---: | :---: |
| ADM－2－1M | 1.11 | $\because \quad \times 13 / 4 \times 78$ | $2{ }^{8}$ | 3.00 |
| ADM－2－2M | $\because 0.1$ | $\because x \geq x 1$ | ＂＊ | 3.95 |
|  | 400 VOLTS | DC WORKING |  |  |
| ADM－4－5 | 5 | $118 \times 1 \times 7 / 8$ | $\underline{21 / 4}$ | 2.65 |
| ADM－4－1M | 1.0 | $\because \times 13 / 4 \times 7 / 8$ | $\because{ }^{2}$ | 3.15 |
| ADM－4－3×5 | ． $5-.5-.5$ | $\because \times 2 \times 11 / 8$ | $23 / 3$ | 4.50 |
|  | 600 VOLTS | DC WORKING |  |  |
| ADM－6－05 | ．0： | 1 招×1 X 3 | $21 / 4$ | 2.60 |
| ADM－6－1 | ． 1 | $110 \times 1 \times 8$ | $\because{ }^{1 / 4}$ | 2.65 |
| ADM－6－25 | － | $\left.1\right\|_{3} ^{3} \times 1 \times 8$ | －3／\％ | 2.80 |
| ADM－6－5 | ．${ }^{\text {a }}$ | $1\}_{3} \times 1 \times 1$ | $\underline{11 \%}$ | 3.00 |
| ADM－6－1M | 1.11 | $2 \times 13 / 4 \times 1$ | $\bigcirc{ }^{3}$ | 3.40 |
| ADM－6－2M | 2.11 | ？x？$\times 1 / 8 *$ | $\bigcirc 3{ }_{4}$ | 4.55 |
| ADM－6－2x05 | ．05－．0．3 | $118 \times 1 \times 3$ | $\because 1 / x$ | 3.30 |
| ADM－6－2x1 | 1．．1 | $11_{3}^{3} \times 1 \times 8$ | $21 / 8$ | 3.35 |
| ADM－6－2×25 | －25－25 | $1]_{13}^{3} \times 1 \times 1$ | $\because 1 / 4$ | 3.40 |
| ADM－6－2x5 |  | $2 \times 13 / 4 \times 1$ | $\underline{-3}$ | 3.90 |
| ADM－6－2x1M | 1．1－1．11 | $\because \times 1 \times 1 / 4 *$ | $\because 3^{3}$ | 4.80 |
| ADM－6－3x05 | ．05－．105－．05 | $113 \times 1 \times 4$ | $21 / 8$ | 3.45 |
| ADM－6－3x1 | ． $1 \cdot 1$－ 1.1 | $1\}^{3} \times 1 \times 8$ | $\because 1 / 8$ | 3.80 |
| ADM-6-3×25 | 25－05－25 | $\because \times 13 / 4 \times 7 / 8$ | $\bigcirc \square_{8}$ | 4.30 |
| ADM－6－3x5 | ． $5-.5-.5$ | $\because \times \underline{ } \because 11 / 8 *$ | $23_{3}$ | 5.20 |
|  | 1000 VOLTS | DC WORKING |  |  |
| AUM－10－05 | ． 0.11 | $113 \times 1 \times 8$ | $21 / 4$ | 2.75 |
| ADM－10－1 | ． 1 |  | $\underline{1 / 8}$ | 2.85 |
| ADM－10－25 | $\therefore$ | $113 \times 1 \times 7 / 8$ | $91 / 8$ | 2.95 |
| ADM－10－5 | $\therefore$ | $\cdots{ }_{\square 1} \times 13 / 4 \times 8$ | \％${ }_{5}$ | 3.20 |
| ADM－10－1M | 1.11 | $\because \times 2 \times 11 / 8 *$ | $\because 3$ | 4.00 |
| ADM－10－2×05 | ．05－．05 | $11^{4} \times 1$ x $3 / 4$ | $21 / 8$ | 3.50 |
| ADM－10－2x1 | ．1－1 | $1{ }^{3} \times 1 \times 8$ | $\because 1 / 8$ | 3.60 |
| ADM－10－2 ${ }^{\text {ADM }}$（ 25 | －55－95 | $\frac{2}{1 .} \times 13 / 4 \times 7 / 8$ | 238 | 3.80 |
| ADM－10－2×5 |  | $\cdots \times 13 \times 11 / 4$ | $\bigcirc 3$ | 4.95 |
| ADM－10－3x1 | ．100．05－，10： |  | $21 / 8$ | 4.00 |
| ADM－10－3x25 | ． $25-25-25$ | $2 \times 13 / 4 \times 1 / 8$ $2 \times 1 / 8$ | － $23 / 8$ | 4.15 5.00 |



METEOR＊TYPE ADZ Bathtub Capacitors
$125^{\circ} \mathrm{C}$ ．Operation
－Dasioned for opreration at
 without voltage derating．
－Fiverellent rajar－itancr sta bility．lesk than $5 \%$ rhanㅇ． over entite rantere－ $\mathrm{fi}^{\circ}{ }^{\circ}\left({ }^{\circ}\right.$ ． 10 $+125^{\circ} \mathrm{c}^{\circ}$ ．athievad lyg usf of AがlRON－developed X－2万が imprewlant．

 Charirteristic K．
－（umblant sions in hatuly úsy 2montalitar hathtish rase falass－lo－metail sealed hastule trominals．l＇asitive immer sion prome seal．
－Nambland pusition of terminals is on sime（AN＇JRON TV！u＊ W10\％or MII．Nyle Closis）． Availathle alser with terminals （1）to］（ANTRON Tym AlWT



－Standaral（intacitance oluler－

Cat．No．Cap．Mf．L．$\times$ W．$\times$ H．Mtg．Ctr．Price

| ADZ－2－5 | ． | $113 \times 1 \times$ | \％＇s | $21 / 8$ | \＄5．45 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ADZ－2－1M | 1.0 | $2 \times 13$ | 5\％ | $\underline{2 / 3}$ | 5.85 |
|  |  |  |  | $\because 8$ | 7.40 |



400 VOLTS DC WORKING


600 VOLTS DC WORKING


CAPACITANCE TOLERANCE：$\pm 20 \%$（M）．Other tolerances are available
\＄Case heirfit（C dimension）is $11 / 4 "$ for top terminals（ADZT）or bottom terminals（ADZB），
＊TIEADE MARK

# METEOR＊SUBMINIATURE PAPER CAPACITORS 

for $125^{\circ} \mathrm{C}$ ．Operation without voltage derating


－Amazingly small sizes，compact and light－weight units．
－Highly dependable operation at temperatures up to $125^{\circ} \mathrm{C}$ ． withouf voltage derating．
－Exceptional capacitance stability，less than $5 \%$ change，over entire temperature range of $-65^{\circ} \mathrm{C}$ ．to $+125^{\circ} \mathrm{C}$ ．due to use of ASTRON－developed high－iemperature impregnant X－250＊．
－High insulation resistance，low power factor，unusually low resonance loss．High test voltage indicates extra margin af safety in operation．
－Built to exceed stringent requirements of Specification MIL－C． 25A for styles CPO4－05－08－09－10－11 （ASTRON Types AQ． TQF，and variations）；and styles CP53－54－55，Characteristic K（ASTRON Type ADZ，bathtub）．
－Positive hermetic closure of the metal cases is assured by glass－to－metal solder seal terminals．
－Tubulars supplied in a variety of construction and mounting styles to meet your specific needs：extended foil ar inserted tab；capacitar section grounded ta case ar insulated from case；plastic auter sleeve；with soldered－an tangential ar L － lype bracket；screw neck maunting style；or stud－base maunt－ ing style．

METEOR＊TYPE AQ
Glass－to－Metal Sealed SUBMINIATURE TUBULARS
－No voltaze derating neccrsary wer chatirn Meratimb
$+125^{\circ} \mathrm{C}^{\circ}$
－Exterded foil．burimbludively womd can－ Etruction utfers extromely small size and lowest possible rembant lases in low am ligh voltage aphlicatimas．

－Available in a varinte of construction stalas to meat your speritice bereds，as follows：
CAPACITOR SECTION GROUNDED TO CASE （Glass－to－metal terminal at one end）：
 $A Q P$（MIL Style CPO9）：laste Al whit with




 AqS：＂crew neek monting Bre Thinsulate mum case diameter $100^{\prime \prime}$ ．Ald $80 \mathrm{~g}^{\circ}$ to Al AQV： $\begin{gathered}\text { Mricus．} \\ \text { Sul }\end{gathered}$


CAPACITOR SECTION INSULATED FROM CASE Glass．to－Metal terminal both ends） AQF（MIL Style CP08）：Basice unt in＂float－ sizes listeme Thimsulated bendy．Aeld $\leqslant 1.00$ th AQFP Aist MIL Style CP09）：Basic MQF unit with

 AQ．A．Shasic AgF unit with．soldered－on tan－ lowly．Ackl is＂to lenpth of ACl sizes listict． $A Q F-B$ ：lisasie．AdF unit with solderedion L－tyne bracket＂ 13 ＂on uninsulated twoly．Add 1 ， $A Q F S:$ sirese neck mounting ovpe．V＇ninsultated mum tease diameter is $4100^{\circ}$ Adda Al）．Nini－ length of All sizes listed．Add $\$ 1.80$ to $A!$ list prices．

Cat．No．Cap．Mf．Dia．$\times$ Length Price 100 VOLTS DC WORKING
$A Q \cdot 1-0033$
$A Q \cdot 1-0047$ $A Q-1-004$
$A Q \cdot 1-01$ AQ－1－015 AQ－1．022 AQ－1－033 AQ－1－047 AQ－1－068 AQ－1－1 AQ－1． 15 AQ－1－22 AQ－1－27 $A Q-1-27$
$A Q-1.33$ AQ－1－47 $A Q-1-56$
AQ．1－68
AQ－1．1M

## 200 VOLTS DC WORKING

| AQ－2－0022 | 11102 | ．23sx $1 \%$ | 2.70 |
| :---: | :---: | :---: | :---: |
| AQ－2－0033 | ．1413：3 | －230． | 2.80 |
| AQ－2－0047 | ．171： | ．23．3x | 2.95 |
| AQ－2－0068 | duncis | 235x | 3.00 |
| AQ－2－01 | 1 | ． $312 \times 13$ | 3.10 |
| AQ－2－015 | 11.8 | ． 310 x | 3.10 |
| AQ－2－022 | ．11－9 | ．310x | 3.15 |
| AQ－2－033 | ．11：3：3 | ．310x | 3.20 |
| AQ－2－047 | ．197 | ＋100x | 3.25 |
| AQ－2．056 | ．1ヶヶ； | ． $4110 \times 18$ | 3.30 |
| AQ－2．068 | Imis | 400x ${ }_{\text {dir }}$ | 3.30 |
| AQ－2－1 | ． 1 | ．41010 1 | 3.35 |
| AQ－2－15 | 1. | ．$+1110 \times 1$ in | 3.50 |
| AQ－2－22 | ？－2 | ． 4 ； | 3.65 |
| AQ－2－27 | $\because$ |  | 3.75 |
| AQ－2－33 | 43 | ． $516 \times 1$ 品 | 3.95 |
| A Q－2－47 | ． 4 | ． $660 \times 14$ | 4.25 |
| AQ－2－56 | ．in； | ． 6 \％ $0 \times 10$ | 4.50 |
| AQ－2－68 | dis |  | 4.90 |
| AQ－2－IM | 1.1 | ． $750 \times 2 \mathrm{l}$ \％ | 5.25 |



300 VOLTS DC WORKING

| AQ－3．0022 | ．100응 | （ | $\begin{aligned} & 2.80 \\ & 2.90 \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| A0．3－0033 | ．10133 |  |  |
| AQ－3－0047 | ．01047 | $\therefore 3 \mathrm{Ba}$ | 3.05 |
| A ${ }^{\text {－3．01 }}$ | ．11 | ． $312 \times$ | 3.20 |
| AQ．3．015 | ．111．7 | ．31－x | 3.20 |
| AQ－3－022 | ．1129 | ．312x | 3.25 |
| AQ－3－033 | ．1033 | ． 4100 x | 3.30 |
| AQ－3－047 | 117： | －400x | 3.35 |
| AQ－3．068 | ．16\％ | $4110 \times 1$ | 3.40 |
| AQ－3－1 | ． 1 | ． $400 \times 1{ }^{3}$ | 3.45 |
| AQ－3－15 | ．15 | ．inex1 | 3.60 |
| AQ－3－22 | － |  | 3.75 |
| AQ－3－27 | $\because$ | ． $\mathrm{At} 2 \times \mathrm{x} 1$ | 4.25 |
| AQ－3．33 | ．33 | ． 5 （20x 1 \％ | 4.35 |
| AQ－3－47 | $4 \%$ | ． $60 \times 18$ | 4.50 |
| AQ－3－56 | ． $1 \times 1$ | －50x9 in | 4.60 |
| AQ－3－68 | din |  | 5.10 |
| 400 | VOLTS DC WORKING |  |  |
| AQ－4－0022 | （1142： | 235x | 2.95 |
| AQ－4－0033 | ．11138 | （1835 | 3.05 |
| AQ－4－0047 | ．1104： | ．310x | 3.15 |
| AQ－4－0068 | ．1116i－ | － 319 | 3.25 |
| AQ－4－01 | ．11 | ．312x | 3.30 |
| AQ－4－015 | －1． | ： 110 | 3.30 |
| AO－4－022 | 1102 | 100x | 3.35 |
| AQ－4－033 | ．113：3 | 400 x | 3.40 |
| AQ－4－047 | ．104； | $400 \times 1$ | 3.45 |
| AQ－4－068 | ．106\％ | ＋400． 1 i， | 3.50 |
| AQ－4－1 | ． 1 | ．562x 6 | 3.55 |
| AQ－4－15 | 1.7 | ．ntiex ${ }^{\text {\％}}$ | 3.75 |
| AQ－4．22 | $\because$ |  | 3.85 |
| AQ－4－27 | － | ．69019 | 4.55 |
| AQ－4．33 | 38 | 670x1 | 4.65 |
| AQ－4－47 | 47 | ． $50 \times 15$ | 4.75 |
| 600 | VOLTS DC WORKING |  |  |
| AQ－6－0022 | （10ํ． | －3\％x | 3.00 |
| AQ．6－0033 | ．10138 | ． $310 \times$ | 3.10 |
| AQ－6－0047 | ．11047 | ．310x | 3.20 |
| AQ－6－0068 | ．orris | ．312x | 3.30 |
| AQ－6－01 | ．11 | ．312x | 3.35 |
| AQ．6．015 | ．118． | 400x | 3.35 |
| AQ－6－022 | ．1523 | ＋100x | 3.40 |
| AQ－6－033 | ．1133 | ．100x 1 | 3.45 |
| AQ－6－047 | ．104 | $400 \times 18$ | 3.50 |
| AQ－6－068 | ．06\％ | 5190x | 3.65 |
| AQ－6－1 | ． 1 | ．560x1 | 3.75 |
| AQ－6．15 | 15 | ．562x1 ${ }_{\text {A }}$ | 3.85 |
| AQ－6－22 | ．$\because$ ？ | ．670．1 ${ }^{\text {\％}}$ | 4.35 |
| AQ－6－27 | －${ }^{7}$ | －50xer | 4.50 |
| AQ－6－33 | ． 33 | $.750 \times 2$ | 4.90 |
| AQ－6－47 | 47 | ． $750 \times 2{ }^{16}$ | 5.25 |
| Standard Tol | erance $\pm$ | 20\％． |  |

# METEOR＊TYPE TQF <br> Glass－to－Metal Sealed <br> SUBMINIATURE TUBULARS 

## $125^{\circ} \mathrm{C}$ ．Operation


－Inserted tab construction provides smallest mater－foil eapacitors avialahle．Ideal where resonant losies are secondary tol small size．
－No voltage derating necergary over entire oprating temperature range－ $65^{\circ} \mathrm{C}$ ．to $+125^{\circ} \mathrm{C}$ ．
－Excellent capacitance stability orer entire temperature ranre．
－Available in a variety of emstruction styles to ment your specific needs，ats follows：

CAPACITOR SECTION INSULATEO FROM CASE （Glass－to．Metal terminal both ends）
TaF（MIL Style CP04）：l3asic mitt in＂float－ slyown．Uninsulated hody．
TQFP（MIL Style CP05）：Busic TOW unft with jlasitie uuter sleeve（1）for insutated body： And ${ }^{1}{ }^{\prime \prime}$＂to diumeter and lengith of＇rop sizes

TQF－A（MIL Style CPIO）：Basic TQF unit with shldered－on tangentiai mounting bracket A on uninsulated body．（＇ase sizes as listed for TCLF．Add the to TQF list prices．
TQF－B；Basie TQF unit with soldered－on $I_{-}$－type mesantlag bracket＂B＇＂on unlasulated boty：

TQFS（MIL Style CPII）：Screw neck mounting
type．Ininsulated body．Avallable in same type．Ininsulated body．Avallable in same
ratiugs as rof Minimum bou＂．Athe 80e to T（2F list prices．

CAPACITOR SECTION GROUNOED TO CASE Glass－to－Metal terminal at one end）：
TQ（MIL Style CP04）：Basic crounded unit．He－
 bist miters
TQP（MIL Style CPO5）：Jasic TQ undt with plastif，outer sleeve（B）for insulaleal loody duct sise from TQF list prices －A（MIL Sayto CPIO）：Bast
sollered－on tangential mounting TQ unit with on uninsutated body．Dedurt in from deneth of Top＇sizes Histed．Deduet 60 et trom TOF list jutices．
Q－B：Hasir TQ unit with soldered－on $L_{-}$－type ratket $B^{\prime \prime}$ on uninsulated body．Deduct ${ }^{\text {l }}$ fiunt TuF fium Ter list prices．
TQS（MIL Style CPII）：Screw neek mounting fyer＂ninsulated body．Available in sume rat
 isted．＂Deduret 20 from Tength of TOF siz
TQV：Stud base mounting type．Ininsuiatod body Avilable in same ratings as row listed row Tluct in＂from TQw sizes，Deduct 10 fist from
12A1』 \AKK


| Cat．No． | Cap．Mf．Dia．x Length | Price |
| :---: | :---: | :---: | :---: |
| 100 | VOLTS DC WORKING |  |

## 200 VOLTS DC WORKING

| TQF－2－01 | ． 11 | ．235x $3 / 4$ | 3.65 |
| :---: | :---: | :---: | :---: |
| TQF－2－015 | ． 015 | ． $235 \times 3$ | 3.65 |
| TQF－2．022 | （1）2 | ．235x ${ }^{\text {a }}$ | 3.70 |
| TQF－2－027 | ． 027 | ．812x $7 /$ | 3.70 |
| TQF－2－033 | ．033 | ． 312 x \％$/ 8$ | 3.75 |
| TQF－2－047 | ． 0.47 | ． $312 \times$ | 3.80 |
| TQF－2－068 | ． 010 s | ． $212 \times 7 / 8$ | 3.85 |
| TQF－2－1 | ． 1 | ． $400 \times 8$ | 3.85 |
| TOF－2－15 | ． 15 | $.400 \times 11 / 8$ | 4.00 |
| TQF－2－22 | ．22 | ． $400 \times 13$ | 4.10 |
| TQF－2－27 | ．27 | ． $612 \times 11 / 8$ | 4.20 |
| TQF－2－33 | ． 33 | ． 5 仿 $\times 1$ 1／8 | 4.40 |
| TQF－2－47 | .47 | ． $542 \times 136$ | 4.65 |
| TQF－2－68 | ． 68 | ． $569 \times 17 / 8$ | 5.20 |
| TQF－2－1M | 1.0 | ．67t18 ${ }^{\text {\％}}$ | 5.50 |


| 300 | VOLTS | WORKI |  |
| :---: | :---: | :---: | :---: |
| TQF－3－0068 | ．0068 | ．235x 4 | 3.75 |
| TQF－3－01 | ．1） 1 | ．235x 34 | 3.75 |
| TQF－3－015 | ． 015 | ．235x | 3.75 |
| TQF－3－022 | ．1122 | ．312X 7／8 | 3.80 |
| TQF－3－027 | ．02\％ | ．312x 7／8 | 3.80 |
| TQF－3－033 | ．13：3 | ． $312 \times 7 / 8$ | 3.85 |
| TQF－3－047 | ． 1147 | ．312x 78 | 3.85 |
| TQF－3－068 | ．16 | $.400 \times 7 / 8$ | 3.90 |
| EQF－3－1 | ． 1 | $.400 \times 1$ 1／8 | 3.95 |
| TQF－3－15 | ． 1. | ． $400 \times 18$ | 4.10 |
| EQF－3－22 | ．2\％ | ． $562 \times 18 / 8$ | 4.20 |
| TQF－3－27 | ． 27 | ． $562 \times 18$ | 4.65 |
| TQF－3－33 | ．38 | ． 5 ¢2×1 \％ | 4.70 |
| TQF－3－47 | ． 47 | ．$¢$ ¢2x17／8 | 4.85 |
| TQF－3－68 | ． 60 | ． $670 \times 1 \%$ | 5.35 |
| TQF－3－1M | 1.0 | ． $750 \times 21 / 8$ | 5.90 |


| 400 | VOLTS | DC WORKING |  |
| :---: | :---: | :---: | :---: |
| TQF－4－001 | ．001 | ．235x 8 | 3.30 |
| TQF－4－0015 | ．0015 | ．235x \％ | 3.40 |
| TQF－4－0022 | ． 0022 | ．235x \％ | 3.50 |
| TQF－4－0033 | ．0033 | ．235x ${ }^{\text {／4}}$ | 3.60 |
| TQF－4－0047 | .0047 | ．235x ${ }^{3}$ | 3.70 |
| TQF－4－0068 | .0068 | ．235x 3／4 | 3.80 |
| TQF－4－01 | ．01 | ．235x $8 / 4$ | 3.85 |
| TQF－4－015 | ． 01.7 | ． $235 \times 8$ | 3.85 |
| TQF－4－022 | ． 022 | ． $312 \times 7 / 8$ | 3.85 |
| TQF－4－027 | ． 027 | ． $312 \times \mathrm{k}$ | 3.85 |
| TQF－4－033 | ．033 | ． $312 \times 7 / 8$ | 3.90 |
| TQF．4－047 | ． 047 | ． $400 \times 7 / 8$ | 3.95 |
| TQF－4－068 | ． 068 | $.400 \times 1$ 1／8 | 4.00 |
| TQF－4．1 | ． 1 | $.400 \times 1 \mathrm{k}$ | 4.05 |
| TQF－4－15 | ． 15 | ． $562 \times 11 / 8$ | 4.20 |
| TQF－4－22 | ． 22 | ．562x1笑 | 4.30 |
| TQF－4－27 | ． 27 | ． $562 \times 17 / 8$ | 4.90 |
| TQF－4－33 | ． 33 | ． $562 \times 17 / 8$ | 4.95 |
| TQF－4－47 | .47 | ． $670 \times 1$ 7／8 | 5.05 |
| TQF－4－56 | ． 51 ； | ． $750 \times 21 / 3$ | 5.20 |
| TQF－4－68 | ． 88 | ． $750 \times 21 / 8$ | 5.50 |
| TQF－4－1M | 1.0 | $1 \times 178$ | 6.10 |
| 600 | VOLTS | DC WORKING |  |
| TQF－6－0047 | .0047 | ．235x 3 | 3.75 |
| TQF－6－0068 | ．0068 | ．235x 3／4 | 3.85 |
| TQF－6－01 | ． 01 | ． $312 \times$ 7／8 | 3.85 |
| TQF－6－015 | ． 015 | $.312 \times 7 / 8$ | 3.85 |
| TQF－6－022 | ．022 | ． $312 \times \mathrm{x} / 8$ | 3.90 |
| TQF－6－027 | ． 127 | ．400x 7／8 | 3.90 |
| TQF－6－033 | ．033 | $.400 \times 7 / 8$ | 3.95 |
| TQF－6－047 | ． 047 | ． $400 \times 1 \mathrm{~L} / 8$ | 4.00 |
| TQF－6－068 | ．068 | ． $400 \times 1$ \％ | 4.10 |
| TQF－6－1 | ． 1 | ． $562 \times 1$ 1／8 | 4.20 |
| TQF－6－15 | ． 15 | ． $562 \times 13 / 8$ | 4.30 |
| TQF－6－22 | ．22 | ． $562 \times 17 / 8$ | 4.70 |
| TQF－6－27 | ． 27 | ． $670 \times 17 / 8$ | 4.85 |
| TQF－6－33 | ． 33 | ． $670 \times 1$ \％／8 | 5.20 |
| TQF－6．47 | ． 47 | ． $750 \times 21 / 3$ | 5.50 |
| Standard Tolerance $\pm 20 \%$ ． |  |  |  |

# AFIIIN Capacilors 

METALITE ${ }^{\text {® }}$<br>Metallized Paper Capacitors for $65^{\circ} \mathrm{C}$ ．and $85^{\circ} \mathrm{C}$ ．Operation METALITE CAPACITORS<br>\section*{Feature：}

－Ultra－compact sizes．Light weight．Ideal for miniaturization applications，and portable，mobile and airborne equipment．
－As much as $75 \%$ reduction in size over conventional paper－ foil capacitors．
－Self－healing－the ability to withstand high dielectric stresses．METALITE capacitors can be subjected to momentary overvaltages and surges over and over again without danger of permanent failure．
－Temperature Range（Metal cased units）$-65^{\circ} \mathrm{C}$ ．to $+85^{\circ} \mathrm{C}$ ．； leardboard cased Type MLI $-55^{\circ} \mathrm{C} .10+65^{\circ} \mathrm{C}$ ．
－Excellent RF characteristics．Low RF impedance due to small sizes and short current path．Low power factor．
－Wide variety of applications：RF and audio bypass circuits， noise suppression filters and systems，instruments，and various types of communication equipment where small size， light weight and the self－healing feature are especial＇y desirable characteristics to meet specific circuit requirements．
－Interchangeability with standard paper－foil capacitor de－ signs when operated within published ratings and circuit requirements．

METALITE ${ }^{1}$ TYPE MQC


## Glass－ta－Metal Sealed

 SUBMINIATURE TUBULARS－smallest papar capacitor type available．
－Tamperature Rance－ $55^{\circ} \mathrm{C}$ ．to $+55^{\circ} \mathrm{C}$ ．
－Son－indnctively wound．Minetal wax im－ presnated and filled．Tinned，non－temous metal canes．
－Capacitom soction srombled to caze（Type Me（＇）with glans－io－memal terminal at one insulatel from tals（Type Merce）with plass－10－mptal terminal at cach ment．
－Latal laneth $18 \%^{\prime \prime}$ minimum．Standard caparitance tolorance：$\pm 20 \%$ ．
$\underset{\text { CAPASS－to－metal }}{\text { CAPCTION }}$ GROUNDED TO CASE Glass－to－metal terminal at one end）：
MOC：Jasis unlt．1 ninsulated body．sizes anel macp．Basic his shwn．
MaCP：Basir Hor whit with plastic outer sleete （P）tur itsulaten thaty．Add A．＂t to＂diampter and lenget，in 310 C sizes listed．Add list torices． 10 MQC－A：Basic Mg4，unit with soldered－on tan－ gential mombing hacket＂A An uninsulated to Mor list prles．
MQC－B：Basie Mot unit with soldered－on $L$－ type mackt＂IB＇＇in uninsulated haly．＂Case sizes as listed for Mor．Add toc to NigC list macs：
macs：serpur nerk mouning trpe．Trininsulated
 list urices．
MQV：Stud hase mounting type．I－ninsulated body Asallable in same ratines and case sizes as wiec．Ath gile to Muc list prices．

CAPACITOR SECTION INSULATED FROM CASE Gass－to－metal terminal each end）： Mafi Rasle unit th＂Phating＂construction insulated menth of More sizes listet．In MocFp：Hods．Alda sile to Moe list brieses．
 ameter and＂ng to lenth of yưc sizes listed． MQCF．A：Basic Morm
MacF．A：Basic Mrer wit with，soldered－on tan－
 Adde 30 é to Mitco tist prices． MQCF－B：Basle MoCF unit with type bracket＂B＂on uninsulated maty．Add tis＂to lenkth of MuC sizes ilsted．Add $90 \%$ mecrs．
MeCFS：Kictuw neck mounting tspe．Vninsulated body．Arailabie in same ratings as Morc．Mhnt－
mum cuse dlameler mum chase diameter ${ }^{400^{\prime \prime}}$ ．Add ${ }^{2 / 2 \prime \prime}$ to case list drlees．

Cat．No．
Cap．Mf．Dia．$\times$ Length 150 VOLTS DC WORKING
M
M
$M$


400 VOLTS DC WORKING
MQC－4－01
$M Q C-4-02$ MOC－4．02
$M Q C-4-03$ MQC－4．03
$\mathrm{MYC}-4.04$ $\mathrm{MQC-4-05}$ $\mathrm{MQC}-4-05$
MQC
M－1 MQC－4－15 MQC－4－15
MQC－4－2 $\mathrm{MQC-4}-2$
$\mathrm{MOC}-4-25$ $\mathrm{MOC-4}-25$
$\mathrm{MOC-4}-33$ MOC－4－33 MOC－4－5
MOC－4－68 $M O C-4-68$
$M O C-4$ $\mathrm{MOC}-4-1 \mathrm{M}$
$\mathrm{MOC}-4-1$ $\mathrm{MOC}-4-1.5 \mathrm{M}$
$\mathrm{MOC}-4-2 \mathrm{M}$ MQC－4－4M $\begin{array}{r}\mathrm{M} C-4-4 \mathrm{M} \\ \mathrm{MOC} \\ \hline 00\end{array}$ MQC－6－01
MQC－6－015 MQC－6－02 MQC－6－03 MQC－6－04 MQC－6－05 MQC－6－1 MQC－6．15 MQC－6－22 MQC－6－25 MQC－6．33 MQC－6．5 MQC－6－68 MQC－6－1M MQC－6－2M sTANDARD $\pm 20 \%$

METALITE ${ }^{\circledR}$ TYPE ML
Cardbaard Tubulars
$65^{\circ} \mathrm{C}$ ．Operatian

－Temperature Range $-55^{\circ} \mathrm{C}$ ． $10+65^{\circ} \mathrm{C}$
－Micmorystaltine haydreartom was int presuated．

 ald suphorteal luy own leads．
－Wiare learas 1 I／2＂lone
－Orerall minmal wax comating for abllat proo tecolion arsainst mointure athl humidias
－Stamberal cabacitance foberanco：—＂0\％ $+30 \%$

Cat．No．Cap．Mf．Dia，x Length Pist
200 VOLTS DC WORKING

| ML－2－01 | ． 11 |  | 3／8× 5／8 | \＄0．65 |
| :---: | :---: | :---: | :---: | :---: |
| ML－2－02 | ．102 |  | 3／8× $\times$ | ． 65 |
| ML－2－03 | ．1）3 |  | 3／8x 5／8 | ． 65 |
| ML－2－05 | 05 |  | 78x $x$ | .65 |
| ML－2－1 | ． 1 |  | 3／8x $\times$ | 70 |
| ML－2－25 | ． 25 |  | 3 $x$ \％ | ． 90 |
| ML－2－5 | ． 5 |  | 12x13／8 | 1.05 |
| ML－2－1M | $1.1)$ |  | ${ }^{6} \times 1{ }^{1 / 8}$ | 1.30 |
| ML－2－2M | 2.0 |  | \％／8×18／3 | 1.80 |
| 400 | VOLTS | DC | WORKING |  |
| ML－4－01 | 11 |  | $3{ }^{\prime} \times$ x／8 | ． 70 |
| ML－4－02 | ， 0 |  | 3／8x | ． 70 |
| ML－4－03 | ． 03 |  | \％ $1 / 8$ | ． 70 |
| ML－4－05 | ．11） |  | 19x $x^{5 / 3}$ | ． 70 |
| ML－4－1 | ． 1 |  | 攵迤 $\mathrm{ll}^{11}$＇s | ． 80 |
| ML－4－25 | 25 |  | ${ }_{16} \times 11^{1 / 3}$ | 1.00 |
| ML－4－5 | ．${ }^{\text {a }}$ |  | $5 \times 15$ | 1.15 |
| ML－4－1M | 1.0 |  | \％2 $\times 231 / 8$ | 1.60 |
| 600 | VOLTS | DC | WORKING |  |
| ML－6－01 | ． 01 |  | 3x ${ }_{8}$ | ． 70 |
| ML－6－02 | ． 0.2 |  | 3／8x | ． 70 |
| ML－6．03 | ． 03 |  | 龍x 58 | 80 |
| ML－6－05 | ． 05 |  | 15x x | ． 80 |
| ML－6－1 | ． 1 |  | 18811／8 | ． 90 |
| ML－6－25 | ． 95 |  | 3／8×11／3 | 1.10 |
| ML－6－5 | ． 5 |  |  | 1.45 |
| ML－6－1M | 1.0 |  |  | 1.80 |

STANDARD CAPACITANCE TOIERAMCL： $-20 \%+30 \%$ ．

## METALITE TYPE MRF

Meial Cased Tubulars
$85^{\circ} \mathrm{C}$ ．Operation


CAPACITOR SECTIOI INSULATED FROM CASE：

MRF：
MRFP：
MRF： Bun Mis：



CAPACITOR SECTION GROUNDED TO CASE：






－Mineral was impmanille．el and fillont．
－Hepmetically mallaf．Xemp！o．．．
 （atherilur bertion fustlatiol trom case．Alar anailathl－With
 （Tり＂MRG）．
－Lavd lentult 1 \％＂mintrman．


| Cat．No． | Cap，Mf． | Dia，a Length |  | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 150 | VOLTS | DC | WORKING |  |
| MRF－1．5．4M | 1.11 |  | $\times 1$ | \＄4．35 |
| MRF．1．5－6M | li． 14 |  | $\times 1$ | 5.30 |
| MRF－1．5．8M | ＜．1 |  | $11_{\sim} \times 1$ | 6.10 |
| MRF－1．5－10 M | III |  | $1^{1} \times 1 \times$ | 7.20 |
| 200 VOLTS DC WORKING |  |  |  |  |
| MRF－2－05 | ．1．： |  |  | 1.40 |
| MRF－2－1 | ． 1 |  | \％\％ | 1.45 |
| MRF－2－25 | \＃5 |  |  | 1.60 |
| MRF－2－5 | ． |  | 12x | 1.70 |
| MRF－2－1M | 1.11 |  |  | 2.10 |
| MRF－2－2M | 2．＇11 |  | tisily ${ }^{\text {¢ }}$ | 2.60 |
| 400 VOLTS DC WORKING |  |  |  |  |
| MrF－4－03 | ．1：； |  | \＃，x | 1.35 |
| MRF．4－05 | ＂${ }^{\text {；}}$ |  | 1：x ${ }_{\text {a }}$ | 1.45 |
| MRF－4－1 | 1. |  | $1_{2} \times 1 \cdots$ | 1.60 |
| MRF－4－25 | 品 |  | ¢71191－ | 1.80 |
| MRF－4－5 |  |  | 4ins ${ }^{\text {c，}}$ | 2.00 |
| MRF－4．1M | 1.11 |  | ＂，xis： | 2.50 |
| MRF－4－2M | \％．11 |  | 1 x | 3.60 |
| MRF－4－3M MRF－4－4M | 1．11 |  | 1 ${ }^{1}$ | 4.80 5.90 |
| 600 | VOLTS | DC | WORKING |  |
| MRF－G－01 | 11 |  | ＂4．入 ${ }^{\text {Ix }}$ | 1.35 |
| MRF－6．02 | 19 |  | 页 | 1.45 |
| MRF－6i－03 | 11： |  | \％x ${ }^{\text {\％}}$ | 1.50 |
| MRF－6－05 | 11.7 |  | 12 x | 1.55 |
| MRF－6－1 | ． |  | 1－51： | 1.70 |
| M RF－6－2 |  |  | 67701： | 1.90 |
| MRF－6－25 | $\because$ |  | 成7119\％ | 2.00 |
| MRF－6－5 | $\therefore$ |  | ．150x1\％ | 2.40 |
| MRF－6．1M | 1．＂ |  | 3，$x^{20}$ | 3.00 |
| MRF－6－2M | \％－11 |  | $1 \times \mathrm{A}$ | 4.00 |
| MRF－6．3M | ＂．＂ |  |  | 5.30 |
|  |  | prance |  |  |

## METALITE TYPE MD

 Bathtub Capacitors$85^{\circ} \mathrm{C}$ ．Operation
－I゙ュ F11its $1110 \cdot 4$ M1t．Lests lut manthe resistatere theomal tions，
－Nimuld monits hate twor tor minals；dhal unils have throm frmimals，＂II＊tortminal comb mot wotatis．
－Stablitrol position of termimals on surte．Alsw analiable wit

－Stambaril rapatejtance folen aller：土 $20 \%$ \％

－（＇0mbatet sizas．light wejalit． ［＂р 10 － 5 \％romberion in sizas がer conventional baperyof capacitors．
－Temperature Ramer－ $65^{\circ} 0^{\circ}$ 10）$+8.5{ }^{\circ} \mathrm{C}$ ．
－Suacresavingr mbetallizel palır＂ dielectric makes pessible Wiver choigere of high rapricoi－ ather ratines thim erem betor whtainable in batlituh atses．
－Hermetically sualeal．Silicum mbiner combressiom stal lute torminals．

| Cat．No． | Cap．Mf． 150 VOLTS | L．x W．x H． DC WORKING | Mtg．Ctr． | List Price |
| :---: | :---: | :---: | :---: | :---: |
| M D． 1.5 .4 M | 1.11 |  | $\because 1{ }^{*}$ | 5.75 |
| MD．1．5．6M | 1i． 11 |  |  | 6.10 |
| MD－1．j－g．${ }^{\text {m }}$ | ＊．＂ |  |  | 8.40 |
| MD－1．5－10M | 111．10 |  |  | 9.70 |
| MD＋1．5－12M | 12.11 | $\because x \geq x 1$ | $\because$ | 11.00 |
| MD．1．5－16 $\mathrm{M}^{\text {M }}$ | 14．01 | $\cdots \times 2 \times 1 \%$ |  | 13.50 |
| MD－1．5－18．M | $1 \times .1$ | $\because x \geq x^{12}$ |  | 15.00 |
| MD－1－5－2x 4 M | 1．13－1．11 | ＂x\％$\quad$ x |  | 9.00 |
| MD． $1.5 \cdot 2 \times 6 \mathrm{M}$ | （1．0．0．16， 11 | $\because \mathrm{x}$－ xl | 2 | 11.50 |
|  | 200 VOLTS | DC WORKING |  |  |
| M D－2－5 | 二 | 1\％x1 $\times$ x | $\because{ }^{1}$ | \＄3．30 |
| MD－2．1M | 1.6 | $13 / 4 \mathrm{x}$ x | 21／n | 3.55 |
| MD－2－2M | $\because 0$ | 14x $x^{3}$ | \％1／4 | 4.45 |
| MD－2－2x1M | 1． 61.1 .0 | 1\％x1 x 3／4 | $\underline{1 / x}$ | 5.00 |
| MD． $2.2 \times 2 \mathrm{M}$ | $\underline{20.0 .08}$ |  | $\because$ | 6.30 |
|  | 400 VOLTS | DC WORKING |  |  |
| MD－4－25 | $\because$ | 13x1 $x^{3}$ | \％${ }^{\prime \prime}$ | 3.35 |
| MD－4－5 | \％ |  | $\cdots{ }^{1 /}$ | 3.55 |
| MD．4．1M | 1.1 |  | $3_{3}^{2}$ | 3.95 |
| MD－4－2M | $\stackrel{11}{4}$ |  | － | 4.90 785 |
| MD－4．4M MD－4－6M | 4.11 |  | － | 7.85 9.50 |
| MD．4－2x ${ }^{\text {J }}$ | ：$\because$ |  | 510 | 4.35 |
| MD－4－2x1m | 1．（1－1．0 | $\because \times 13 \times 18$ | $\cdots$ | 5.50 |
| MD－4－2×2M | $\underline{20-0.0 .010 ~}$ | $\because \mathrm{x} 2 \mathrm{x1}$ 1／4 | $\because$ | 8.10 |
|  | 600 VOLTS | DC WORKING |  |  |
| MD－6．I | 1 |  | $\cdots 1 / x$ | 3.50 |
| MD－6－25 | －1 | $13 \times 1 \times 3$ | $\cdots{ }^{\text {\％}}$ | 3.55 |
| MD－6．5 | ． 1 | $13 \times 1 \times 3$ | $\stackrel{1}{4}$ | 4.25 |
| MD．6．1M | 1.11 |  | $0^{1} \times$ | 4.90 |
| MD．6－2M | $\because$ |  | 20 | 6.25 775 |
| MD．6．3M MD． 6.4 M | \％ 411 |  | \＃－ | 7.75 9.75 |
| MD－6．2 25 | － | 10x1 $x_{4}$ | －1＊ | 4.95 |
| MD－6－2x5 | ．$-\overline{\text {－}}$ | $1 \frac{3}{4} \times 1 \frac{1}{4} \times x^{7} / 4$ | $\because$ | 5.70 |
| MD．6－2x1M | 1．0－1．0 | ¥ x ${ }_{\text {2 }} \times 1$ | $\underline{\underline{\prime \prime}}$ | 6.60 |

$\frac{7}{9}=$


## METALITE＇¿YPE MXJ

in Terneplate Cases
$85^{\circ} \mathrm{C}$ ．Operation

－Most rextemsion ramge of atparitanee rat

－Temprrature range－ $65^{\circ} \mathrm{C}$－to $+80^{\circ} \mathrm{C}$ ． Mineral wax impregnatad abll aillod．
 fressim seat lug terminals．Inits mered MIf． lests tor moisture resistance，thermal eyele mmmersion athl vibration．
－Suadu bohl＂J＂trackets suphlienl witb each anit for emmeniant，rigid monnting．
－Stamalard capacitance toleranere：士气0 $\%$
600 VOLTS DC WORKING


Cat．No． 100 VOLTS DC WORKING
 200 VOLTS DC WORKING
$m X J=1.5$
$m X J=1.5$


MXJ
MXJ
MXJ
1.5
$\square$VOLTS DC WORKING

| MXJ．4．2m | $\because .0$ | $13 / 4 \times 1$ | x 1 18 | 2 |
| :---: | :---: | :---: | :---: | :---: |
| mXJ－4．4m | 1.0 | $13 \times 1$ | 127\％ | 2 |
| MXJ－4－6m | 1.0 | $13 / 4 \times 1$ | 1378 | 2 |
| MXJ－4－8m | 8.0 | $13 / 1$ | 1 $13 / 4$ |  |
| MXJ－4－10 m | 11.0 | $21 / 2 \times 1$ | 堮 $\times 3 \%$ | 3 |
| M XJ．4－20m | $\geq 0.0$ | $21 / 2 \times 1$ | $3 \times 15$ | 23 |
| MXJ－4－30 ${ }^{\text {m }}$ | $: 0.0$ | 3 矿 11 | $1 / 4 \times 43$ | 4 |

## NEW COMET* TYPE MBP

Molded Plastic Metallized Paper Tubulars
$125^{\circ} \mathrm{C}$. Operation


- First. molded plastic metallized paper tubulal capacitor . . ever:
- Tough. metallized paper capacitor sections for miniature size, self-healing characteristics. light weight and dependable operation.
- Impervious immersion-proof shell is uneffected by amy heat and/or moisture condition.
- Exclusive bonded seal locks ont environmental effects . . . locks in performance.
- Solid thermosetting impregnant for reliable operit tion over temperature range of $-6 \overline{5}^{\circ} \mathrm{C}$, to $\pm 125^{\circ}\left({ }^{\circ}\right.$ vacuum impreqnation guarantees uniformity of umits
- Firmly implanted leads won't pull or melt out makes soldering in tight places easy!

| Cat. No. | Cap. Mf. | Dia. $\times$ Length | List Price |
| :---: | :---: | :---: | :---: |
| M BP-2-01 | . 01 | $3 / 8 \times 1$ | \$ . 65 |
| M BP-2-02 | . 02 | $3 / 8 \times 1$ | . 65 |
| MBP-2-03 | . 03 | $3 / 8 \times 1$ | . 65 |
| M BP-2-047 | . 047 | $3 / 8 \times 1$ | . 65 |
| M BP-2-05 | . 05 | $3 / 8 \times 1$ | . 65 |
| M BP-2-1 | . 1 | 3/8×1 | . 70 |
| MBP-2-2 | . 2 | $3 / 8 \times 11 / 4$ | . 80 |
| M BP-2-25 | .25 | $3 / 8 \times 11 / 4$ | . 90 |
| M BP-2-33 | . 33 | $\bigcirc \mathrm{C}, \mathrm{x} 11 / 4$ | . 95 |
| M BP-2-47 | . 47 | 1/2× $15 /$ | 1.05 |
| MBP-2-5 | . 5 | $1 / 2 \times 15 / 8$ | 1.05 |
| M BP-2-68 | . 65 | 1/2 $\times 15$ | 1.20 |
| MBP-2-1M | 1.0 | $58 \times 17 / 8$ | 1.30 |
| M BP-2-2M | 9.10 | $5 \times 15$ | 1.80 |
| M B P-4.01 | . 01 | $3 / 8 \times 1$ | . 70 |
| M B P-4.02 | . 02 | \% $\times 1$ | . 70 |
| M P P-4-03 | . 03 | $8 / 8 \times 1$ | . 70 |
| M B P-4-047 | .1047 | $9 / 8 \times 11 / 4$ | . 70 |
| MBP-4-05 | . 05 | $3 / 8 \times 11 / 4$ | . 70 |
| M BP-4-1 | . 1 | $1 \mathrm{C} \times \times 11 / 4$ | . 80 |
| M BP-4-2 | . 2 | $1 / 2$ x $15 \times$ | . 90 |
| M BP-4-25 | .25 | $1 / 2 \times 15$ | 1.00 |
| M BP-4-33 | . $3: 3$ |  | 1.10 |
| M BP-4-47 | 4 | $5 / 8 \times 1{ }^{5}$ | 1.15 |
| M BP-4-5 | . 5 | \% $\% 18$ | 1.15 |
| M BP-6-01 | .11 | $3 / 8 \times 1$ | . 70 |
| MBP-6-02 | .19 | 38 x | . 70 |
| M BP-6-03 | .9):3 | $3 / 8 \times 114$ | . 80 |
| M BP-6-047 | . 197 | $3 / 8 \times 11 / 4$ | . 80 |
| MSP-6-05 | .1) 5 | $3 / 8 \times 11 / 4$ | . 80 |
| M B P-6-068 | . 0168 | $\mathrm{C}_{10} \times 111 / 4$ | . 85 |
| MBP-6-1 | . 1 | $1 / 2 \times 1 \%$ | . 90 |
| M BP-6-2 | . 2 | $5 / 8 \times 17 / 6$ | 1.00 |
| M B P-6-25 | . 2.7 | 5* $\times 17^{\text {\% }}$ | 1.10 |
| -TRIOE: MIRE |  |  |  |

## METALITE HY-MET* TYPE MLL <br> Cardboard Tubulars

$85^{\circ} \mathrm{C}$. Operation


- Sturdy cardboard cased units. Temperature Range -in to $+100^{\circ} \mathbf{C}$. Solid thermosetting impregnant.
- Exceptional strength. Metal end caps. Units can be point-to-point connected and supported by own leads. Leads $11 / 2^{\prime \prime}$ minimum length.
- Orerall mineral wax coat provides added protection against moisture and lumidity.
- Standard capacitance tolerance: $-20 \%+30 \%$

200 VOLTS DC WORKING

| Cat. No. | Cap. Mf. | Dia. $\times$ Length | List Price |
| :---: | :---: | :---: | :---: |
| M L L-2-01 | . 111 | $3 / 8 \times 5 / 6$ | \$1.00 |
| M L L-2-02 | 02 | $3 / 8 \times 5 / 8$ | 1.00 |
| M L L-2-03 | . 03 | $3 / 8 \times 5 / 8$ | 1.00 |
| M LL-2-05 | . 10.5 | $3 / 8 \times 5 / 6$ | 1.00 |
| M L L-2-1 | . 1 | $3 / 8 \times 5 / 8$ | 1.05 |
| M L L-2-25 | . 25 | $15 \times 5$ | 1.35 |
| M L L-2-5 | $\therefore$ | \% $\times 11 / 8$ | 1.60 |
| M L L-2-1M | 1.11 | ${ }_{11}^{\prime \prime} \times 11 / 4$ | 1.95 |
| MLL-2-2M | 2.0 | $5 / 8 \times 15$ | 2.70 |

400 VOLTS DC WORKING

> M L L-4-01
> M LL-4-02
> M LL-4-03
> M LL- -05
> M LL-4-1
> M LL-+-25
> M L L-4-5
> M LL-4-1 M

| . 111 | 3\%x x / |
| :---: | :---: |
| .102 | $3 / 8 \times 5$ |
| . 10.7 |  |
| (1): | 18x 5/n |
| . 1 |  |
| 2.5 | $\therefore \times \times 1 \frac{1}{6}$ |
| . | $5 / 8 \times 15$ |
| 1.11 | \% $\mathrm{Cl}^{1}$ |

## 600 VOLTS DC WORKING

MLL-6-01
MLL-6-02
MLL-6-03
MLL-6.05
MLL-6-1
MLL-6-25
MLL-6-5
MLL-6-1 M
(ADACITANCE TOLERANCE: -20\% +:
"TLISH: M.ARK

## Hinme Capacitors

METALITE HY-MET* TYPE MTL
Subminiature Bathtub Capacitors $125^{\circ} \mathrm{C}$. Operation



## METALITE HY-MET*

TYPE MEL
Compact Seamless Cases
$125^{\circ} \mathrm{C}$. Operation


- Fopralar. hamby hathtuh cave in tiny $]^{18}$


 Enluction extometad rail romstruction and Str-mbly matl caparitor sections.
- Whal thi all type of miniaturizerl erpip-




 atad daal wnits dwionmen fit tisht, narrow rhamia vprace.
- Hjebur rapasitaber than erer perore
 due for ve or -jatow sab ine motallized fapmor


- Hormorically saaleal. Glase-to-motal sealod !ug womimals. (enownient lanket monnt-

Sinale units have two treminals; dual units lasse lime forminals (estere rammons buat
-rambati style is Type MFi.T (wjth top





Cat. No. Cap. Mf. L. $\times$ W. $\times \mathrm{H}$. Pric 200 VOLTS DC WORKING
 400 VOLTS DC WORKING
MTL-4-1 $\quad 1 \quad 11 / 4 \times 1 \times 1 / 2.35$


MTL-6-1 600 VOLTS DC WORKING 5.80 MTL.6-25
MTL.6.5
T.ANOMR1, C.IF:ICITINER TOH.I:RANCE:

st
l

| SINGLE UNITS - 2 terminals |  |  |  |
| :---: | :---: | :---: | :---: |
| Cat. No. 150 | Cap. Mi VOLTS | L. $\times$ W. $\times \mathrm{H}$. DC WORKING | Price |
| MELT-1.5-3M | : 11 | 78sx-4il! $\mathrm{c}_{1}^{1 / 2}$ | \$ 8.75 |
| MELT-1.5-4M | 1.11 | 1.788x.hl! ${ }^{\text {che }}$ | 9.65 |
| MELT-1.5-6M | 13.1 | 1.784x.ftose | 11.85 |
| 200 | VOLTS | DC WORKING |  |
| MELT-2-2M | 2.11 |  | 7.45 |
| 400 | VOLTS | DC WORKING |  |
| MELT-4-5 |  |  | 6.60 |
| MELT-4-1M | 1.0 | $1.788 \times 619 \times 11 / 2$ | 8.00 |
| MELT-4-2M | 2.0 |  | 10.20 |
| MELT.4-3M | 3.0 | 1.78sic.tlux. ${ }^{\text {a }}$ | 12.40 |
| 600 | VOLTS | DC WORKING |  |
| ELT-6-5 |  | 7804.1314 | 7.15 |
| MELT-6-1M | 1.0 |  | 8.80 |
| MELT-6-2M | $\cdots$ | 1.7scx.619:23 | 12.10 |
| DUAL UNITS - 3 terminals 200 VOLTS DC WORKING |  |  |  |
| MELT-2-2×1M | 1.11-1.0 | 1.7six.tity 1 | 8.25 |
| MELT-2-2×2M | 2 (1)-2.0 | 1.785x.161!x | 10.75 |
| 400 | VOLTS DC WORKING |  |  |
| MELT-4-2×1M | 1.17-1.0 | $1.7 \times 8 \times .614 \times 2$ \% | 11.10 |
| 600 | VOLTS | DC WORKING |  |
| MELT-6-2×1M | 1.0-1.0 |  | 13.75 |
|  |  | ハNはF: |  |



## METALITE HY-MET* TYPE MQL

Glass-fo-Metal Sealed
SUBMINIATURE TUBULARS
$125^{\circ} \mathrm{C}$. Operation





 at e:alth and (Tupe Molar)

CAPACITOR SECTION GROUNDED TO CASE (Glass-to-metal terminal at one end) MQL: Basie untr. I'ninsulated brefy. Nizes an ars briers as simmo.
MQLP: Rasie Mol, unit with plastic ourer sleeve (I) for finsulated motw, Ald a" to dianmer and lengeth of $\lambda$

MQL-A: Basie MQI. unit wim soldereer-on tian gontial mounting hatkel "A" on minsulatel

MQL-B: Histic Mefl, unit with malderemton L. type butket "K" on whimsuated houls. Cas
 prictes
MQLS: srrew neek mounting type. Vninsulated
 lint nriees.
MQLV: Stul base mounting iype. I'ninsulated bmiy: suthe ratingounting and rase sizes as Mat.

*TRADF, MARK

CAPACITOR SECTION INSULATED FROM CASE (Glass-to-metal terminal each end): MQLF: $\mathrm{B}_{1}$, unit in "floating" constructinn.
 MQLFP: Rasic MQLIF unit With plastic outer


MQLF.A: Jusic MoloF unit with solderell-m hathential mountinp bracket "A" minninsu

MQLF-B: Basic Mors unit with soldered on Letyper litarky "Pr" on uninsulated haly, Ablil (0) M(1) list piles.

MQLFS: Sem nerk mounting type. I'ninsulated brols. Same ratings as MopL. Minimum case
 brices.

## METALITE HY－MET＊TYPE MDL Bathtub Capacitors

## $125^{\circ} \mathrm{C}$ ．Operation


－Higher capacitance ratings than ever before offered in same size MIL Style CP53－55 cases in conventional paper－foil types．
－Solid thermosetting plastic impregnant enables operation to $125^{\circ} \mathbf{C}$ ． ＇I＇emperature Range：$-6.5^{\circ} \mathrm{C}$ ．to $+125^{\circ}{ }^{\circ}$ ．
－Hermetically sealed．Lag type glass－tometal sealed terminals．
－Standard position of terminals is on side．Can be supplied with top terminals（Tyue MDL＇T）or bottom terminals（Type MJ）I」l）．
－Standard capacitance tolerance：$\pm 20 \%$

Tに．いいた いいにだ
－Jigher capacitance than ever betore achieved in Mila Style Cloto cases．due to use of metallized paper sections．
－Temperature range $-65^{\circ} \mathrm{C} .10+125^{\circ} \mathrm{C}$ ．due to use of solid thermo－ setting impregnant．
－Hermetically sealed．Glass－to－metal sealed lug terminals
－Exceptionally small sizes for the given ratings．Size reductions of $50 \%$ to $75 \%$ over equal ratings in conventional paper－foil units．
－Spade bolt＂J＂brackets supplied with each unit for convenient，rigid mommting．
－Standard capacitance folerance：$\pm 20 \%$

## METALITE ${ }^{(1)}$ HY－MET＊TYPE MXLJ In Terneplate Cases

$125^{\circ} \mathrm{C}$ ．Operation


（TEDDF：M．VIK
 150 VOLTS DC WORKING


| 200 VOLTS DC WORKING |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| MDL－2．1 | ！ | 13， $3_{1}$ | $\times \mathrm{Br}$ | 3.95 |
| MDL－2－25 | 枵 | 13， 1 |  | 4.25 |
| MDL－2－5 | ． 5 | 1：1 $\times 1$ |  | 4.95 |
| MDL－2－1M | 1.11 | 1要い |  | 5.35 |
| MDL－2－2M | 2.11 | $1: \times 1$ | 3 | 6.70 |
| 400 VOLTS DC WORKING |  |  |  |  |
| MDL－4－1 | 1. | 1 | $X \because$ | 4.85 |
| MDL－4－25 | $\because 5$ | 1事入1 | $\times$ | 5.05 |
| MDL－4－5 | ． | $10 \times 1$ | $\times 3$ | 5.35 |
| MDL－4－1M | 1.11 | 1 い1 | （ $7^{\prime}$ | 5.95 |
| MDL－4－2M | 0 | $2 x^{13}$ | $x$ | 7.35 |
| MDL－4－3M | 3.0 | －$\times 1 \%$ | 1 | 9.75 |
| MDL－4．4M | 1.11 | $\geq x^{2}$ | 81 | 11.80 |
| MDL－4－5M | 5.1 | $2 \times$ | 111 | 13.20 |
| MDL－4－6M | 6.11 | $x$－ | X11． | 14.00 |
| 600 VOLTS DC WORKING |  |  |  |  |
| MDL－6．1 | ． 1 | $13_{1}$ |  | 5.25 |
| MDL－6－25 | $\because \square$ | 1：11 |  | 5.35 |
| MDL－6－5 | 5 | 13 | $\mathrm{x} 8_{1}$ | 6.40 |
| MDL－6－1M | 1.11 | 1 $\quad 1 \times 1$ | $x$－${ }^{\text {c }}$ | 7.35 |
| MDL－6－2M | 2.1 | 2 x 2 |  | 9.40 |
| MDL－6．3M | 8.0 | 212 | $\therefore 1{ }^{1}$ | 11.65 |
| MDL－6－4M | 1.0 | $2 \times$ | \ 1 | 14.65 |
|  |  |  |  |  |
| （\％O＇I | Totse | Notes a | ばは | 11：1， |

Cat．No．
Cap．Mf，L．$\times$ W．$\times H$ ．
List
Price

## 150 VOLTS DC WORKING

| M ${ }^{\text {a }}$ LJ－1．5－4M | 1.11 | $1 ? \times 1$ | xl － | \＄15．30 |
| :---: | :---: | :---: | :---: | :---: |
| M XLJ－1．5－10M | 10.0 | $13 \times 1$ | x 2 | 22.75 |
| M XLJ－1．5－12M | 12.1 | $13 \times 1$ | $x^{29}{ }^{7}$ | 24.10 |
| M ${ }^{\text {L }}$ L－1．5－15M | 1．，．4 | 1301 | $x \cdot \mathrm{x}$ | 29.35 |
| M XLJ－1．5－20M | 20.11 | $13.1 \times 1$ | $\times 1 \cdots$ | 34.55 |
| M ${ }^{\text {MLJ－1．5－25M }}$ | 25.0 | $3{ }^{3} \mathrm{E}$ |  | 40.60 |
| M XLJ－1．5－30M | 311.0 | $29 \times 1$ | x为年 | 46.10 |
| M XLJ－1．5－50M | ． 0.0 | $\because \square_{\sim} \times 1$ | 14：4 | 6－4．80 |

400 VOLTS DC WORKING

| M $\times$ LJ－4－2M | 2.11 | 1\＃⿺1 |  | 15.30 |
| :---: | :---: | :---: | :---: | :---: |
| M $\times$ LJ．4．4M | 1.0 | 13：1 | x ${ }^{\text {¢ }}$－ | 20.80 |
| M $\times$ LJ．4．6M | f．01 | 1311 | x：3 ${ }^{\text {\％}}$ | 25.50 |
| M XLJ－4－8M | ＊．＂ | 13い1 | x1\％ | 29.90 |
| M $\times$ LJ－4．10M | 10.0 | 21.81 | x $3^{7}$ | 33.45 |
| M $\times$ LJ－4－20M | 20.0 | 24.21 | U3 | 55.45 |
| M $\times$ LJ－4－30M | ：0．0） |  | N1 | 69.75 |

600 VOLTS DC WORKING

| MXLJ－6－1M | 1.0 | 1\％x x1\％ | $15.05{ }^{\circ}$ |
| :---: | :---: | :---: | :---: |
| MXLJ－6－2M | 2.9 | 1351 x\％＊． | 18.35 |
| M ${ }^{\text {a }}$ LJ－6－4M | 1.11 | 1＊x1 x3\％ | 25.10 |
| MXLJ－6－6M | 18．41 | 1\％x1 x： | 28.80 |
| MXLJ－6－8M | 4.0 | $22^{2} \times 1$ ，${ }^{3} \times 3^{2}$ | 33.40 |
| M XLJ－6．10M | 10.0 |  | 37.70 |
| MXLJ－6－15M | 1.5 .0 | 3301704\％ | 45.55 |
| MXLJ－6－20M | 21.0 | $833^{3} 13 \times 11$ | 61.70 |




## Presenting the PYRAM|D Model GRA CAPACITOR • RESISTOR • ANALYZER

## Performs 11 functions Speedily and Accurately QUANTITATIVE MEASUREMENTS <br> I. capacitance <br> 2. power factor <br> 3. resistance <br> 4. insulation resisfance <br> 5. leakage current <br> 6. continuity <br> "QUICK CHECK" QUANTITATIVE TESTS

7. open circuits
8. short circuits
9. intermitfents
10. high rf impedance
11. high power factor

The most versatile instrumert of its kind. Containing all the latest up-to-date features, this one convenient, compact unit replaces several cumbersome, old-fashioned single-purpose testers. And moderately priced too! It's the perfect multi-purpose analyzer for the

$\$ 82.95$ dealer net
techn:cian, serviceman and engineer in industrial and military electronies, black and white and color television, and all related ficleds.
Accurate enough for the laboratory; portable enough for the field; economically priced for all applications.


## LOW-COST LINE FILTER

Model F-1 1
Suitable where suppression of radio interference can be achievod with the insertion of a single L-C Pi-type network. This is generally the case where the interference is due to cash registers, dictating machines, floor poiishers, hair dryers, heating pads, portable electric tools, and similar applianes.
Assembled in a steel case, 3 " $x: 33^{1} 4^{\prime \prime} \times 35 s^{\prime \prime}$. Attractive durable brown wrinkle finish. Muants with two holes on 4 "centers. Equipped with binding post for connection to ground. Rated 5 amperes at 125 volts $A C / D C$.

## SUPERIOR LINE FILTER

Model F-22
Ideal for use witl: all factory, office. and home appliances which generate severe radio interference. Utilizes two L-C Pi-type filtor sections, one in each side of the power line. Effective both on standard-broadcast or short-wave frequencies.
Assembled in a steel case, $31 / 2^{\prime \prime} \times 31 / 4^{\prime \prime} \times 41^{\prime \prime}{ }^{\prime \prime}$. Attractive durable brown wrinkle finish. Mounts with two holes on 4 lir" centcr:. Equipped with binding post for connection to ground. Rated is amperes at 125 volts AC/DC.

[^42]
## TYNEE－DRY ELECTROLYTIC CAPACITORS

## Type TD

Tynce－Dry singte－rapacitor units with ：3－inch bate－ wite leads．Desipned for 85 C．operation．Fach unit scaled in metal tubular case．Supplied with insulating （ardboard sleove．Low leakage．Longr shelf life．Top guality in minimum space．

## TD SINGLE－CAPACITOR UNITS



| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Size in Diameter． | 1 es <br> Length | Catalog Number | List Price | $\begin{gathered} \text { Cap. } \\ \text { M } \end{gathered}$ | Size in Diameter | 1es＊ Lengll |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 VOLTS DC W | WORKING |  |  |  | 91）－81）－1．50 | 1．130 | 80. | \％ | 1 ＂． |
| ＇！＇1）－if－6； | ！5 | 50. | 1／2 | 1 \％ | ＇1）－100－50 | 1．7 | 100. | ${ }^{7}$ | 3 |
| ［111－1010－6； | 1．30 | 100. | ${ }^{2}$ | $1 \div$ | ＇小－150－150 | $1.10 \%$ | 150. | 1 | $3{ }^{1}$ |
| ？${ }^{\prime} 11-2.90-6$ | 1．8．］ | 250. | 4 | 1 － | 250 VOLTS DC WORKING |  |  |  |  |
| 门1）－500－6 | 1．5．7 | 500. | 5 | 1： |  |  |  |  |  |
|  | 1.214 | 1，000． | $\because$ | 3 | 111－S－3．11 | 1．1．1） | 8. | 5 | 11. |
| 91）－1501）－6 | 3.10 | 1.500. | $\because$ | － |  | 1．3） | 10. | \％ | $11 \%$ |
| F1 1 －2001）－ | 3．：3 | 2.000. | 1 | $\stackrel{\square}{3}$ | （1）－10－300 | 1.11 | 12. | \％ | $1{ }_{1}^{1 / 2}$ |
| 15 VOLTS DC | WORKING |  |  |  | ＇101）－20－2．7） | 1．．．， | 20. | 5 | 1 |
| ＇！${ }^{\prime \prime}$－10（）－1．5 | 1.9 | 100. | $\cdots$ | $1{ }^{1 /}$ | 911－30－2．51 | 11， | 30. | $\because 1$ | 1 ． |
| （11）－5－50－15 | 1.5 | 250. 500. | $\because$ | 1， | T1）－40－8．50 | 1．－1．1 | 40. | Tis | $1 \%$ ， |
| F\％－10010－1．） | 2．30 | 500. 1.000. | － | ？ | 350 VOLTS DC WORKING |  |  |  |  |
| 25 VOLTS DC | WORKING |  |  |  | ＇10－8－350 | 1．30 | 8. | － | 15 |
| 11）－2－9．5 | ．3！ | 2. | 1．． | 11. | ＇10－13－： 50 | 1．$\because 0$ | 12. | $\because$ | $1{ }^{5}$ |
|  | 1.001 | 4. | － | 11. | 110－16－：301 | 1.11 | 16. | $\because$ | 1－9 |
| （1）－5－3 | 1.010 | 5. | 1 | $1^{\prime}$ |  | 1．1．3 | 30. | ${ }^{7}$ | ！ |
|  | 1．（1） 1 | 10. | 1 | 1 － |  | 1．f．1） | 30. | 洮 | 3 |
| 「11－2．0－2．＂ | 1．100 | 25. | 1. | $1{ }^{1}$ | ＇11－411－： | 1．7．： | 40. | 1 | $\because$ |
| （1）－50－3 | 1.10 | 50. | $\therefore$＂s | 1 1． | ＇10！${ }^{\circ}$ | 15 | 60. 80. | 1 | 315 |
| Tll－1011－2\％ | 1．：3\％ | 100. | $\therefore$＊ | $1 *$ | 11－ヘ1－－3．11 | 2.1. | 80. | 1 | －＇2 |
| T（1－250－25 | 1.70 | 250. | － | \％ | 450 VOLTS DC WORKING |  |  |  |  |
| 50 VOLTS DC WORKING |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 101）－1 ！！ | 1.15 | 4. | $\because$ | 11. |
| －1）－2－50 | ！！ 10 | 2. | \％ | $1^{11}$ | （1）－8－1．00 | $1 . .$. | 8. | $\bigcirc$ | 15 |
| （1）－1－5＂ | 1．（1） | 4. | 1 | $1{ }^{1}$ | －19－12－1．11 | $1 . . .1$ | 10. | ： | 1 |
| ＇（1）－5－．0！ | 1.010 | 5. | is | is | －10－16－150 | 1 111 | 12. | 3 | 1 － |
| （1）－1（1－50） | 1.00 | 10. | 1 | 13 | T1）－16－1．0） | 1.11 | 16. | 3 | 3 |
| M1）－－ 0 | 1．0．15 | 25. | $\therefore$ | 11. | け｜ | 1．711 | 30. | $1^{\text {A }}$ | $\square$ |
| 「1）－5（1－50 | 1． 21. | 50. | ${ }^{-}$ | 11. | －1゚－10－1．10 | 1．${ }^{10}$ | 40. | 1 | 31． |
|  | 1．11 | 100. | $\because$ | 1．－ | $\cdots{ }^{\circ} 11-\overline{-311-1.11}$ | $\because 110$ | 50. | 1 | $\therefore$ |
| ＇11）－150－50 | 1．5．5 | 150. | $\because$ | 1 \％ | 「1）－80－150 | 2．${ }^{10}$ | 80. | 1 |  |
| 911－2．－11－．0） | 1．7．5 | 250. | 7 | $1{ }^{-4}$ | ＂19－100）－1．10 | 2.10 | 100. | 1 | $\begin{aligned} & 8 n_{1} \\ & \because y_{1} \end{aligned}$ |
| 150 VOLTS DC WORKING |  |  |  |  |  |  |  |  |  |
| ！11－1－1．00 | 1.00 | 4. | 7 | 11. | 475 VOLTS DC WORKINS |  |  |  |  |
|  | 1.0 | 8. | $\because$ | 111 | $\cdots 0-8-15$. | 1．$\quad=$ | 8. | － | 15 |
| （1）－10－1．00 $\cdots 11-13-1.90$ | 1．1110 | 10. | $\because$ | 1111 |  |  | 10. | $1{ }^{5}$ | \％ |
|  | 1.1 .5 | 16. | － | 111 | T15－30－17．3 | 1． $\mathrm{b}_{\text {a }}$ | 20. | 1 | $\because$ |
| ＂11－30－1．51 | 1．20 | 20. | $\therefore$ | $1{ }^{1}$ | 500 VOLTS DC WORKING |  |  |  |  |
| 91）－：0－1．）10 | 1．810 | 30. | $\because$ | 1 | 「け）－8－501\％ | 1．．．11 | 8. | ＇\％ |  |
| ？11－10－1．80 | 1.15 | 40. | $\because 1$ | 15 | $\cdots 10-10-500$ | 1.10 | 10. | \％ | 1＊＂， |
| ＇リ＇！－50－1．ju | 1．10 | 50. | $\because$ | 14 | 「「1－20－5（6） | 1．6．11 | 20. | $1{ }^{\text {a }}$ |  |
| ＊For overall size add dost to dianmeter and sis＂to length． |  |  |  |  |  |  |  |  |  |

## HARDWARE FOR GENERAL ELECTROLYTIC CAPACITOR MOUNTING



| Catalog <br> Number | List |
| :---: | :---: | :---: |
| Price |  |

＊For additiōnal Electrolytic hardware，see Page P－157．
Where capacitor has sleeve，use overall diameter．
$\qquad$

## TDL DUAL－CAPACITOR UNITS

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Size in Diameter | Inches＊ Length |
| :---: | :---: | :---: | :---: | :---: |
| 25 VOLTS DC WORKING $10+10$ |  |  |  |  |
| ＇［9］1．－I）10－85 | $1.40$ | $10+10$ | ${ }^{4}$ | $1 \cdot 1 \times$ |
| 50 VOLTS DC <br> T1गJ－110．50 | $\begin{gathered} \text { WORKING } \\ 1.40 \end{gathered}$ | $10+10$ | 3 | 1＊s |
| 150 VOLTS DC | WORKING |  |  |  |
| 「リ）－IN－150 | 1.51 | $8+8$ | ${ }^{3}$ | 1＊＊ |
|  | 1.60 | $16+16$ | \％ | 150 |
| ＇10）${ }^{\prime \prime}$ | 1.65 | $20+20$ | ： | $15 \%$ |
| ${ }^{\prime \prime} 10 \mathrm{~L}-1030-150$ | 1.80 | $30+30$ | \％ | \％ |
| ＇91）．4020－151 | 1．75 | $40+20$ | 3 | 2 |
| ＇1914－403．30－151） | 1． N 0 | $40+30$ | 3 | $\because$ |
| ＇1） | 1.85 | $40+40$ | 3 | \％ |
| ${ }^{r} \times 111-5030-150$ | 1.95 | $50+30$ | ： | 2 |
|  | 2.111 | $50+50$ | ${ }^{5}$ | $\stackrel{y}{4}$ |
| ＇191）．－8030－150 | 2.20 | $80+30$ | is | 2 |
| ＇l＂I） | 2．ご | $80+40$ | 1 | $\because$ |
| ＇101－＊＊－2\％－150 | 2.30 | $80+50$ | 1 | 2 |
| ＇L＇LL－INSU－150 | 2.60 | $80+80$ | 1 | $21 / 2$ |
| 250 VOLTS DC WORKING |  |  |  |  |
|  | 1.85 | $20+20$ | ＂1 | $\because$ |
| ＂1）1．－1）30－250 | 2.611 | $30+30$ | Ix | $\stackrel{3}{ }$ |
| ＇111．－21030－3．al | 3.15 | $40+20$ | T | $\stackrel{3}{4}$ |
| ＇1＇1）－11．40－8ご1 | 2.15 | $40+40$ | 1 | $\stackrel{2}{2}$ |
| ＇1911－8010－250 | こ．う＂ | $80+10$ | 1 | $\underline{-}$ |
| 450 VOLTS DC WORKING |  |  |  |  |
| ＇1010－1）8－4in | 1.70 | $8+8$ | － | 1＂8＇s |
| ＇101，－816－450 | 2.6113 | $8+16$ | ${ }^{7} / 4$ | 2 |
|  | 1.85 | $10+10$ | F | $\because$ |
| ${ }^{\prime} 101 .-1116-4511$ | $\because{ }^{2 \prime \prime}$ | $16+16$ | 1 | 2 |
|  | こ．50 | $20+20$ | 1 | $21 / 2$ |
| ＇1910－1）30－4．80 | 3．14， | $30+30$ | ， | 3 |
| P1） | \％．95 | $40+20$ | 1 | $31 / 2$ |
| 「10，－1940－450 | 3．41） | $40+40$ | 1 | $3{ }^{3}$ ， |

## TDL TRIPLE－CAPACITOR UNITS

| WORKING |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| ＇以リ．－T20－150 | 2.15 | $20+20+20$ | 1 | 2 |
|  | 2.3 .11 | $30+30+30$ | 1 | 2 |
|  | 2.35 | $40+30+20$ | 1 | 2 |
| ＂ $111 .-4014020$－ 5 50 | 2．n5 | $40+40+20$ | 1 | 2 |
|  | 3.4 | $40+40+40$ | 1 | 2 |
| ＇191，－804020－150 | 2.75 | $80+40+20$ | 1 | 2 |
| ＊For overall size | add | to diamet | i |  |

## METL－CAN ELECTROLYTIC CAPACITORS

## Type MC

DC dry electrolytic capacitors．Assembled in screw－ base metal containers for maximum protection against humidity．6－inch flexible－wise insulated leads at one end．Supplied with palnut for mounting．


## Type TDL

Tynee－Dry dual－and triple－capacitor units with 6 －inch Hexible－wire insulated leads．Designed for $85^{\circ} \mathrm{C}$ ．oper－ ation．Each unit sealed in metal tubular case．Supplied with riveted radial mounting bracket over insulating cardboard sleeve．Low leakage．Long shelf life．Top quality in minimum space．


## TDL TRIPLE－CAPACITOR UNITS， MIXED SECTIONS

| Catalog Number | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Cap．in UF | Volts DC Working | Length＊ in Inches |
| :---: | :---: | :---: | :---: | :---: |
| DIAMETER 1＂ |  |  |  |  |
| T1）L－8332 | 3.05 | $80+30+300$ | 150－150－10 | 3 |
| T川年－222 | 2.15 | $20+20+20$ | 150－150－25 | $\because$ |
| TDL－432 | $\because$ | $40+30+20$ | 150－150－2\％ | $\underline{\square}$ |
| W以14－42 | $2 \cdot 5$ | $40+40+20$ | 150－150－2． |  |
| 「1）L－4412 | 2.45 | $40+40+100$ | 150－15リ－25 | － |
| TDL－532 | 2.25 | $50+30+20$ | 150－154－25 |  |
| ＇T1L－5．12 | 2.5 | $50+30+100$ | 150－154－25 | \％ |
|  | 2.75 | $50+30+200$ | 150－150－25 | $\because 14$ |
| 「いい。－\％ | 2.50 | $50+50+20$ | 150－150－25 | $2!$ |

## MC SINGLE－CAPACITOR UNITS

| Catalog <br> Number | List <br> Price | Cap． |
| :---: | :---: | :---: | :---: | :---: |
| in UF |  |  |$\quad$| Size in Inches |
| :---: |
| Length |

## TWIST－MOUNT ELECTROLYTIC CAPACITORS

## Type TM

Designed for $85^{\circ} \mathrm{C}$ ．operation．（Fur $100^{\circ} \mathrm{C}$ ．operation， see following Type TMH．）Type TM available in single－，dual－，triple－，and quadruple－capacitor units． Assembled in aluminum containers providing maxi－ mum protection against moisture．Easy to mount： supplied complete with metal and bakelite mounting plates．Low leakage．Long shelf life．Extremely com－ pact．Highly dependable．For use in applications where high temperatures，voltage surges，and ripple currents are encountered；as in radio and television receivers，amplifiers，and similar equipment．For mounting hardware，see Page P－157．


## TM SINGLE－CAPACITOR UNITS

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | size in Diameter | hes Length |
| :---: | :---: | :---: | :---: | :---: |
| 6 VOLTS DC WORKING |  |  |  |  |
|  | 1．80 | $\begin{aligned} & 1,000 . \\ & 2,000 . \end{aligned}$ | $\begin{aligned} & 1: \\ & 1: \\ & 1: \end{aligned}$ | $\stackrel{2}{2}$ |
| 10 VOLTS DC WORKING |  |  |  |  |
| TTM－3000－10 | 2.90 | 3，000． | 1\％＇s | $21 / 2$ |
| 15 VOLTS DC WORKING |  |  |  |  |
| TX－1000－15 |  | 1，000． | 1 | $21 / 2$ |
| $\cdots$ | ？ |  | 1 | $21 / 2$ |
| ＇1．入－＋000－15 | \％，ip | 4，000． | 1 \％ | \％ 16 |

## 25 VOLTS DC WORKING



## 250 VOLTS DC WORKING

| ＇丁入－15－9う！ | 1．55 | 15. | 1 | 2 |
| :---: | :---: | :---: | :---: | :---: |
| TM－30－2らい | 1．60 | 20. | 1 | 2 |
| ＇I可－30－250 | 1.711 | 30. | 1 | ＂ |
| ＇丁M－40－950 | 1．S0 | 40. | 1 | 2 |
| ＇TM－60－－\％0 | 2.05 | 60. | 1 | $21 / 2$ |
| $\cdots$＇15－80－9．70 | 2.15 | 80. | 1 | 3 |
|  | 3.10 | 150. | 13\％ | 21／2 |
| 300 VOLTS DC WORKING |  |  |  |  |
| ＇I＊ 1 －15－300 | 1.60 | 15. | 1 | 2 |



| TM DUAL Catalog Number | -CAPA | CITOR | UNITS <br> Diameter | ches | Catalog | $\xrightarrow[\substack{\text { List } \\ \text { Price }}]{\text { Lict }}$ | in ${ }_{\text {chap }}$ |  | Diameter $\begin{gathered}\text { Size in } \\ \text { D }\end{gathered}$ | $\xrightarrow{\text { hes }}$ Length |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 VOLTS OC W | $\underset{\text { working }}{\text { 4.1N0 }}$ | $1.000+500$ | $1 \times$ | 2 | 300 volts oc | （ec working | ${ }_{30+}^{20+}$ | ${ }_{30}^{20}$ | 1， |  |
| 15 volts oc w | ${ }_{4.40}^{\text {working }}$ | $1.000+1.000$ |  | ： | Ti－104－30 | 郞．4．10 | co <br> 60 <br> 60 | 40 60 60 | $1{ }^{1}$ |  |
| 25 voits de w | WORKING | $1,000+1.000$ |  |  |  | 4.4010 | $\stackrel{80+}{120+}$ |  | 118， |  |
| Trat－mazer | （tan | $40+$ <br> $150+$ <br> 10 | i | \％ | 350 voits de | C working |  |  |  |  |
| 50 Volts DC w | working |  |  |  |  |  | 30＋ |  |  |  |
| TM－1500－50， | 1．7） | 50＋ | 1 | z | ru－ | \％ | 40＋ | ${ }^{40}$ | \％ |  |
| 150 volts dC | working |  |  |  |  | 4．8i＂ | 80＋ |  | 1 ， |  |
|  | 1：\％ | $20+$ <br> $30+$ <br> 15 | 1 | 2 | 400 voits de | C Working |  |  |  |  |
|  | ，\％ |  | 1 | ${ }_{2}$ |  |  |  |  |  |  |
| TM－4130－5\％ | 1．x． | $40+30$ | 1 | 2 | ＂M－ | 3．4．40 | － $60+$ |  | ${ }_{1}$ |  |
| TM－180－150 | ！ 1.10 | $40+$ 50 50 30 | 1 | ${ }_{2}$ |  | 3.40 | $80+$ |  | 13／4 | 3 |
| （2x－150－5\％ | 515 | $50+50$ |  |  | 450 volts DC | C Working |  |  |  |  |
|  | 2， | $60+$ $60+$ 60 60 | 1 | $21 / 2$ | 边 | ， | $1{ }^{4}+$ |  |  |  |
| TM－ | 2．30 |  | 1 |  | TM1－2nio－40\％ | 2\％ | $20+$ | 10 | 1 | $22^{1 / 2}$ |
| TM， | \％ | $80+$ <br> 80 <br> 80 <br> 80 <br> 80 |  | 3／2 | Ta－190－45 | 2\％ |  |  |  |  |
| TM－110－1：010 |  | （10＋ | \％ | 31／2 | TM－3010－4\％ |  | 30＋ | ${ }^{10}$ | ， | 21／2 |
|  | 4.0 | 200＋ 200 | \％ | ＊ | TM－4，4n－4i＂ | 3．40\％ | $40+$ <br> $40+$ <br> 0 |  | \％ |  |
| 200 volts DC | working |  |  |  |  |  | ${ }_{60+}^{60+}$ |  |  |  |
|  | ， | $60+60$ | 1\％\％ | 2 |  | 3．60 | 80＋ | 10 | ， |  |
| 250 Volts dC | WORKING |  |  |  | TM－1） | 4．7．7） |  |  | $1{ }^{1}$ |  |
| NT－ | ！${ }^{\text {an }}$ | $20+$ 30 30 |  |  | 500 volts do | c working |  |  |  |  |
| TMT－4．20．en |  | $\begin{array}{lll}30+ & 30 \\ 40+ \\ 40+ \\ 40 \\ 40\end{array}$ |  | 1／2 |  |  | $\begin{aligned} & 10+ \\ & 20 \\ & 40+ \end{aligned}$ | $\begin{aligned} & 10 \\ & 20 \\ & 40 \end{aligned}$ |  | 1／2 |
| サッM－1） | \％ 1 | 150＋ 150 | 13 | 4 |  | 4．6i1 |  |  | ${ }_{1}{ }_{8}$ | $3 /$ |

## TM DUAL－CAPACITOR UNITS，MIXED SECTIONS

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Volts De <br> Working | Size in Diameter | Inches Length | Catalog Number | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \hline \end{aligned}$ |  |  | Volts Dc <br> Working | Size in Diameter | Inches Length |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ＂IJ－－－mal | コ．8： | $250+1,000$ | 11）－ 6 | $13 / 4$ | $\stackrel{\square}{2}$ |  | 3.40 | $80+$ | 20 | 450－25 | 1 \％ | 3 |
|  | 3．0．\％ | $40+150$ | （\％0）－25 | $1{ }^{1}$ | 2 | 「「入－201＂ | 3.75 | $80+$ | 50 | 450 | $1 \%$ | 3 |
| 「以－3003 | 1.711 | $40+20$ | 150－501 | 1 | $\because$ | 191－2013 | －3， 911 | $20+$ | 100 | 4：10－100 | $1 \%$ | $21 / 2$ |
| TM－シほご | 3.010 | $40+20$ | 2\％1）－251 | 1 | 2 | 「ハ1－2014 | 2．．in | $30+$ | 40 | 4．70－150 | 13 | 2 |
| FM－2004 | 2.15 | $40+25$ | 350－511 | 1 | 2 | 「ハー201\％ | $3 .+10$ | $20+$ | 80 | 450－3：0） | 13 | 3 |
| 「入1－200\％ | 3．6\％ | $100+150$ | 300－ 50 | $1 \%$ | 3 | ＇1． $11-21016$ | 2.60 | $40+$ | 10 | $4.50-350$ | $13 / 4$ | 2 |
| TXT－30018 | 1.97 | $20+20$ | 351）－35 | i | $\because$ | ＇「N－2103 | 3．80 | $80+$ | 50 | ．500－50 | 13 | $31 / 2$ |
| ＇TX－2017 | 3.35 | $40+20$ | 350－ 3.5 | 1 | 21\％ | 191－2017 | 3.75 | $60+$ | 80 | 500－150 | $13 / 4$ | $31 / 2$ |
| T T －－ 0 （1） | 1．71） | $10+20$ | 450－ | 1 | $2{ }^{-}$ | 「ハ－2018 | 8.30 | $40+$ | 50 | 5100－200 | $1{ }^{3}$ | $21 / 2$ |
| ＊「81－20n！ | 2.60 | $20+20$ | －1\％0）ご， | 1 | 2 | 9M－3023 | 3.30 | $15+$ | 20 | \％ $5100-300$ | 1 | $21 / 2$ |
|  | 2.45 | $40+20$ | 4\％0－ | 1 | 3 |  | 3.90 | $20+$ | 100 | 5，（10）－300 | $18 / 4$ | 3 |

## TM TRIPLE－CAPACITOR UNITS

| Catalog Number | List Price | Cap. | size in Diameter | hes Length | Catalog Number | List Price | Cap. | Size Diameter | hes Length |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 VOLTS DC WORKING |  |  |  |  | 「ハー8けこ010－300 | $3.80$ |  | $1 \%$ | $2_{4}^{1 / 2}$ |
| $\cdots 31-120-20$ | 1.95 | $20+20+20$ | 1 | 2 | ＇J－1 | $5.75$ | $120+60+40$ | $18 / 8$ | $4$ |
| 「1． | 2.15 | $40+40+40$ | 1 | 2 | 350 VOLTS DC WORKING |  |  |  |  |
| 50 VOLTS DC WORKING |  |  |  |  | 「\－T10－350 | 2.40 | $10+10+10$ | 1 | 2 |
| －1．11－130－．50 | 2.15 | $30+30+30$ | ； | 2 | TM－ 0 （0010－350 | 2.95 | $20+20+10$ | 1 | 3 |
| 150 VOLTS DC W | WORKI |  |  |  | $\cdots \mathrm{M}-806060-8.50$ | 5． 50 | $60+40+20$ $80+60+60$ | 1\％ | 4 |
| ＇TM－1＊20－150 | 2.30 | $20+20+20$ | 1 | 2 | 400 VOLTS DC WORKING |  |  |  |  |
| TM－3030110－150 | 4 | $30+30+10$ | 1 | 2 |  |  |  |  |  |
| ＂「M－402010－150 | \％．35 | $40+20+10$ $40+20+20$ | 1 | 2 | 450 VOLTS DC | WORK |  |  |  |
| －「3－403030－150 | 2.50 | $40+30+20$ | 1 | 2 | ＊入－「10－450 | 2.60 | $10+10+10$ | 1 | 21／2 |
| 「「3－1940－150 | 2，60 | $40+40+40$ | 1 | $21 / 2$ | ＇11－151こ11）－450 | 2.95 | $15+15+10$ | 1 | 3 |
|  | 3.100 | $50+50+50$ | 1 | 3 |  | 3.60 | $20+20+20$ | 13 | $21 / 2$ |
| ＇「入入－60t020－150 | 2.75 | $60+40+20$ | 1 | $21 / 2$ | ＇丁入1－1930－4．0） | 4.35 | $30+30+30$ | 13 | 31／2 |
| ＇5．${ }^{(1)-50.4040-150}$ | 2.95 | $70+40+40$ | 1 | 3 | ＇TM－401010－400 | 3.35 | $40+10+10$ | 13 | 3 |
| FS－804020－150） | 2.90 | $80+40+20$ | 1 | 21\％ | ＂ 9 －403020－450 | $4.31)$ | $40+30+20$ | 13／6 | 3 |
| TMA－TN0－150 | 3．7． | $80+80+80$ | $1 \%$ | ？ | 19，1－404010－450 | 4.20 | $40+40+10$ | $13 / 4$ | 3 |
| 「「M－1208040－1：50 | 3.80 | $120+80+40$ | $1: 3$ | $:$ | TSt－404020－450 | 4.45 | $40+40+20$ | $13 / 4$ | 3 |
| 250 VOLTS DC WORKING |  |  |  |  |  | 4.90 | $40+40+40$ $60+20+20$ | 13 | $31 / 2$ |
| ＇TAI－Thtino－zit | 2.45 | $15+15+10$ | 1 | 2 | TM－602020－40， | 4.60 4.60 | $60+20+20$ $60+30+10$ | $1{ }^{1}$ | 318 |
| TM－202010－250 | 2.50 | $20+20+10$ | 1 | 2 | FA－60．4020－450 | 4.10 5.40 | $60+30+10$ $80+40+20$ | 18 | 4 |
|  | 2.80 3.85 | $30+20+10$ $40+20+10$ | 10 | $21 / 2$ | 475 VOLTS DC WORKING |  |  |  |  |
| 「 $51-202020-250$ | 3.90 | $40+20+20$ | $1{ }^{8}$ | \＃＇ | ＇IM－＇10－4－5 | 2.70 | $10+10+10$ | 1 | 3 |
| 「M－8080tio－250 | 4.30 | $80+80+60$ | 1 w | $31 / 2$ | 500 VOLTS DC WORKING |  |  |  |  |
| 300 VOLTS DC W | WORKI |  |  |  | ＇TM－T10－50） | 2．50 | $10+10+10$ | 1 | 3 |
| TM－＇110－300 | 2.40 | $10+10+10$ | 1 | 3 | 「11－30：3020－500 | 4.45 | $30+30+20$ | 13 | 3 |
| TM－1940－300 | 3.90 | $40+40+40$ | $13 / 4$ | 3 | 111－401010－500 | 3.90 | $40+10+10$ | 12 | 3 |
| ＇TN－602010－300 | 3.45 | $60+20+10$ | $1 \%$ | $21 / 2$ | ＇TM－40．40］1）－500 | 5.05 | $40+40+10$ | 1 \％ | 4 |

## TM TRIPLE－CAPACITOR UNITS，MIXED SECTIONS

| Catalog Number | List Price | cap. | Volts DC Working | Size in Inches Diameter Length |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| TM－3069 | 2.65 | $100+50+25$ | 100－2．7－2．7 | 1 | ； |
| 1＇．11－3001 | 2.90 | $20+250+100$ | 150－15－15 | 1\％ | 2 |
| ＇19－3097 | 2.35 | $40+25+130$ | 150－25－15 | 1 | ： |
| TM－31067 | 2.40 | $30+20+100$ | 150－15\％－16 | 1 | 2 |
| TM－3003 | 2.50 | $30+30+200$ | 150－150－11 | 1 | 2 |
| TM－3070 | 2.70 | $40+20+250$ | 150－150－10 | 1 | $\stackrel{\square}{\square}$ |
| TM－3004 | 2.20 | $20+20+20$ | 150－1．51－2． | 1 | $\because$ |
| TM－3005 | 2.30 | $30+30+20$ | 150－1．0． | ， | \％ |
| ＇1．3－3006 | 2.30 | $40+20+20$ | 150－151－25 | 1 | $\stackrel{2}{2}$ |
| TM－3007 | 2.50 | $40+20+100$ | 150－1514－25 | 1 | 2 |
| T．${ }^{\text {a }}$－3008 | 2.70 | $40+20+200$ | 150－1：00－8． | 1 | $21 / 2$ |
| TA－3019 | 2.35 | $40+30+20$ | 150－1．70－2． | ， |  |
| Th1－3010 | 2.40 | $40+40+20$ | 150－150－2．5 | 1 |  |
| TM－3011 | 2.50 | $50+30+20$ | 150－154－25 | 1 |  |
| TM－3012 | 2.70 | $50+30+100$ | 150－150－25 | 1 | $21 / 2$ |
| TMT－3013 | 2.65 | $50+50+20$ | 150－150－25 | 1 | 21／2 |
| TM－3014 | 2.55 | $60+20+20$ | 150－1511－2． | 1 |  |
| TM－3015 | 2.65 | $60+40+20$ | 150－150－25 | 1 | $21 / 2$ |
| －19－3016 | 2.80 | $80+40+20$ | 150－150－ | 1 | $51 / 2$ |
| ＇1M－3017 | 3.35 | $120+60+20$ | 150－150－2．5 | $1 \%$ | $21 / 2$ |
| $\because \times-3071$ | 2.55 | $30+20+20$ | 200－200－2． | 1 | 2 |
| TM－3018 | 3.15 | $100+10+40$ | 2110－2010－511 | 13 |  |
| 19M－3098 | 3.30 | $80+40+50$ | 250－150－511 | $13 /$ | $21 / 2$ |
| ［19－3019 | 2.35 | $15+15+20$ | 250－250－2． |  |  |
| ＇TM－：3072 | 2.35 | $20+15+20$ | 250－250－25 | 1 | 2 |
| －M－3020 | 2.80 | $30+30+20$ | 250－250－25 | 1 | ： |
| TM－3621 | 3.90 | $70+70+20$ | 2550－250－50 | 13 | ？ |
| ［1．3－3073 | 2.70 | $40+20+10$ | 250－250－150 | $1 ;$ | 2 |
| ＇19－3094 | 4.20 | $100+60+20$ | 300－150－25 | 1 恕 | \％ |
| ＇丁M－3066 | 3.15 | $30+30+20$ | 300－250－25 | 1 | 3 |
| TM－3023 | 2.75 | $20+20+20$ | 300－300－2．3 | 1 | $21 / 2$ |
| ＇1． 1 －3075 | 2.95 | $40+15+20$ | 300－300－25 | 1 | 21／2 |
| TM－3076 | 2.10 | $30+30+25$ | 300－3061－511 | 1 |  |
| ＇TAT－3024 | 2.45 | $10+10+15$ | 300－300－2511 | j | 2 |
| TM－3100 | 3.10 | $20+50+100$ | 350－116－7．3 | 1 | ， |
| TM－3101 | 2.85 | $10+50+100$ | 350－150－50 |  |  |
| TM | 3.60 | $50+10+500$ | $330-250-7$ | 1 | $21 / 2$ |
| TMT－3い9 | 3.00 | $30+20+10$ | 350－350－2．01 | 1 |  |
| ＂M－3103 | 3.15 | $30+30+20$ | $350-30140$ | 1 | ： |
| 「M－3025 | 3.25 | $10+10+20$ | $350-3.80-25$ | 1 | － |
| T3－3026 | 2.50 | $15+10+20$ | （50）－3．00－2\％ | 1 |  |
| TM－3027 | 2.70 | $15+15+20$ | 350－350－25 | 1 | $\underline{\square}$ |
| ＇TM－3028 | 2.55 | $20+10+20$ | 350－350－25 | 1 |  |
| TM－： | 2.80 | $20+20+20$ | 350－350－25 | 1 | 21／2 |
| 「М－3030 | 3.05 | $30+10+20$ | ：350－350－25 | 1 | $21 / 2$ |
| PM－307 | 3.10 | $30+20+20$ | ：550－3， 0 － 20 | 1 | ： |
| TM－30：31 | 3.40 | $30+30+20$ | $3.80-380$ | 1 |  |
| TM－3032 | 3.60 | $40+40+25$ | $350-314-3$ | 1＊ | 210 |
| TM－3078 | $\therefore .75$ | $40+40+50$ | 350－：5511－95 | 1 ${ }^{\text {\％}}$ | $23 / 2$ |
| TM－：10：3 | 2.70 | $10+5+150$ | $3 \mathrm{n} 0-350-50$ | － | ．， |
| TM－： | 3.90 | $40+20+10$ | ：551－351－154 | 1 | ：3 |
| ＂M－303\％ | 3.05 | $30+10+20$ | 350－：350－250 | 1 |  |
| TM－：3104 | 4.20 | $60+40+20$ | 4（100－3（1）－ 25 | $13 \%$ | $31 / 2$ |
| TM－：30 | 2.90 | $10+40+10$ |  | 13 |  |
| TXI 3082 | 4.25 | $80+20+10$ | 410イ－3010－301 | $1:$ | $31 / 2$ |
| T＇M－：1196 | 3.11 | $10+50+30$ | 410－354－25 | 1 |  |


| Catalog | List | Cap． | Volts DC | Size in Inches |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Number | Price | in UF | Working |  |
| Diameter Length |  |  |  |  |

## TM QUADRUPLE－CAPACITOR UNITS

| Catalog Number | List Price | Cap. | size in Diameter | Inches Length |
| :---: | :---: | :---: | :---: | :---: |
| 150 VOLTS DC | WORKING |  |  |  |
| TM－4040 | 3.35 | $40+40+40+30$ | 13， | 2 |
| 300 VOLTS DC | WORKING |  |  |  |
| MM－ 01011 | 3.95 | $40+20+10+10$ | 13 | 2 |
| TM－4042 | 4.55 | $40+40+20+10$ | 1 ＂， | $21 / 2$ |
| TM－404＂ | 4.55 | $60+40+10+10$ | $1^{3}$ | $31 / 2$ |
| 350 VOLTS DC | WORKING |  |  |  |
| $\begin{aligned} & \mathrm{TM} \mathrm{O} 10-350 \\ & \mathrm{TM}-4044 \end{aligned}$ | $\begin{aligned} & 3.10 \\ & 4.55 \end{aligned}$ | $\begin{aligned} & 10+10+10+10 \\ & 80+10+10+10 \end{aligned}$ | $1^{13}$ | 3 |
| 400 VOLTS DC | WORKING |  |  |  |
| TMT－404\％ | 4.85 | $30+30+20+20$ | $13 / 3$ |  |
| TM－6046 | 5.05 | $80+20+10+10$ | 1 \％ | $31 / 2$ |


| Catalog Number | List Price | $\text { in } \mathrm{Cap}$ | Size in Diameter | Inches Length |
| :---: | :---: | :---: | :---: | :---: |
| 450 VOLTS DC | WORKING |  |  |  |
| TM－（25－450 | 3.00 | $5+5+5+5$ | 183 | 2 |
| TM－（1）10－450 | 3．：35 | $10+10+10+10$ | 1\％／8 | 2 |
| 「M－418！ | 3.70 | $20+10+10+10$ | $1^{3}$ | $21 / 2$ |
| T．入－（220－450 | 4.70 | $20+20+20+20$ | 13， | 21／2 |
| 「M－4000 | 4.45 | $30+15+15+15$ | $1{ }^{\prime \prime}$ | 3 |
| TM－404\％ | 4.70 | $30+30+15+10$ | $13 / \mathrm{k}$ | ， |
|  | 5.30 | $30+30+30+15$ | $13 / \mathrm{k}$ | $31 / 2$ |
| Tar－40．3 | 4.65 | $35+35+10+5$ | 1：3 | $31 / 2$ |
| 「T－41ヶ\％ | 4.15 | $40+10+10+10$ | 1\％ | 3 |
| ＇1． $\mathrm{M}-40.0$ | 4.45 | $40+20+10+10$ | 1\％ | 3 |
| 500 VOLTS DC | WORKING |  |  |  |
| TM－Q10－500 | 3.50 | $10+10+10+10$ | 1\％ | 2 |

TM QUADRUPLE－CAPACITOR UNITS，MIXED SECTIONS

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Volts DC Working | Size in Diam． | Inches Lyth． | Catalog Number | List <br> Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Volts DC Working | Size in Diam． | nches <br> Loth． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TM－4054 | 3.05 | $40+40+40+40$ | 130－150－25－35 | 174 | 2 | TM－4013 | 4.60 | $10+60+40+25$ | 450－350－350－25 | 1罗 | 31／2 |
| TM－40．5 | 3.35 | $40+40+100+100$ | 150－1511－2 |  | 2 | T3－4014 | 5.2 .8 | $10+100+10+20$ | $450-3511-350-25$ | $1^{24}$ |  |
| TM－4056 | 3.10 | $30+20+20+200$ | 1511－1511－151－111 | $1^{3 / 4}$ | 2 | TN－40！${ }^{\text {a }}$ | 5.15 | $30+40+40+10$ | $450-350-350-2011$ | $1=$ | $3^{1} 2$ |
| TM－405\％ | 3.25 | $40+40+20+200$ | 150－150－150－10 | 13 N |  | T31－4015 | 5.25 | $80+10+30+40$ | $4.50-40618010-150$ | 138 | 4 |
| TM－4058 | 3.50 | $60+40+20+200$ | 150－150－350－10 | 13 | 2 | 731－4052 | 2.95 | $10+10+20+20$ | $450-450-25-25$ | 13. | 2 |
| TM－4059 | 2.90 | $20+20+20+20$ | 150－1．50－1．50－25 | $1{ }^{4} 8$ | 2 |  | $\because .60$ | $20+20+20+20$ | 450－450－25－25 | 13． | 2 |
| TM－41019 | 3.20 | $30+30+30+50$ | 150－150－156－25 | 13. | 2 | T M－418． | 4.40 | $30+30+125+125$ | 450－4510－25－25 | 13 | 3 |
| TM－4061 | 2.95 | $40+20+20+20$ | 150－150－151－25 | 136 | 2 | TM－ 4116 | 3.85 | $10+10+60+100$ | ＋50－450－200－50 | 13 | 3 |
| TM－4003 | \％，19 | $40+40+30+20$ | 150－150－151－25 | 17.4 | 2 | TM－ 7117 | 4．65） | $35+25+20+100$ | $450-450-200-50$ | 12 n | I |
| ＇${ }^{\prime}$ M－4062 | 3.15 | $40+40+40+20$ | 150－1511－150－25 | 13. | 2 | TM－1128 | 4.50 | $20+20+30+30$ | $450-450-850-350$ | 13 | $31 / 2$ |
| TM－4063 | 3.35 | $40+40+40+100$ | 1511－150－150－25 | 13 | 2 | TM－4109 | ＋．60 | $40+10+35+10$ | $450-450-350-350$ | $1^{2 / n}$ | $31 / 2$ |
| TM－41964 | 3.50 | $40+40+40+160$ | 1511－121－154－25 | 12 | 2 | TM－ 11030 | 5.510 | $40+40+30+30$ | 450－450－350－350 |  |  |
| TM－406\％ | 3.45 | $50+30+30+100$ |  | $1^{4 / 4}$ | 2 | TM－4118 | 3．10 | $10+10+10+20$ | $450-450-450-25$ | $1{ }^{18}$ |  |
| TM－ 4003 | 3.55 | $50+50+50+20$ | 150－150－150－25 | 14 | 2 | TM－4054 | 3.35 | $10+10+10+100$ | $450-450-450-25$ | 138 | 2 |
| TM－ 4066 | 4.30 | $75+75+75+30$ | 150－150－150－25 | $1 \%$ | 3 | TM－4060 | 3.70 | $20+10+10+100$ | $450-450-450-25$ | 138 | 2 |
| T＇M－4004 | 3.79 | $80+40+30+100$ | 150－150－150－25 | $1^{3 / 5}$ | $21 / 2$ | TM－4019 | 8.85 | $20+20+20+20$ | $450-450-450-25$ | $1^{* *}$ | 3 |
| T3－403： | 3.55 | $80+40+40+20$ | 150－154－150－25 | $12 /$ |  | TM－4045 | 4.15 | $30+15+15+40$ | $450-450-450-25$ | $1{ }^{1}$ | $21 / 2$ |
| TM1－4067 | 3.75 | $80+40+40+100$ | 15015－150－150－25 | 13 c | $21 / 2$ | TM－4056 | 4．411 | $30+20+20+20$ | 450－450－450－25 | $1^{3} 8$ |  |
| 1＇．1－406s | 3.40 | $40+20+10+20$ | 250－350－3511－25 | $1^{3}$ |  | T． $11-4057$ | 4.35 | $30+30+10+20$ | $450-450-450-35$ | 13. | 3 |
| ＇TM－4005 | 5.15 | $100+40+10+100$ | 250－250－250－50 | $1^{7 \%}$ | $21 / 2$ |  | 4.65 | $30+30+20+20$ | $450-450-450-25$ | 15 | 8 |
| T＇M－4006 | 5.10 | $80+60+40+20$ | 2511－2－11－2511－150 | $1^{12}$ | 316 | T31－4020 | 4.65 | $40+10+10+250$ | $450-450-450-25$ | $1{ }^{18}$ | 3 |
| ＇T＇M－4069 | 4.5 | $100+40+80+20$ | 3011 － $511-25-25$ | 16 | $21 / 2$ | TM－4099 | 4．25 | $40+20+10+20$ | $450-450-450-25$ | $1{ }^{12}$ | 3 |
| TM－4070 | 5.30 | $20+150+150+100$ | $306-1511-100$ | $1^{11} 8$ | 4 | TM－1100 | 4．611 | $40+20+20+20$ | 150－450－450－25 | $13 /$ | 8 |
| TM－4071 | 5.10 | $10+200+140+30$ | 3010－150－150－150 | $1{ }^{10}$ | 4 | TM－4021 | 4．65 | $40+20+20+40$ | $450-450-450-25$ | $1^{48}$ | 3 |
| 「M－10\％） | 5．15， | $120+20+100+20$ | \＃1010－250－50－25 | x | 4 | TM－4022 | 4.50 | $40+30+10+20$ | $450-450-450-25$ | 15 | 31／2 |
| TMI－4073 | 5.45 | $200+20+100+20$ | 3010－25！－511－25 | $1^{3} 8$ | 5 | T21－4033 | 4.70 | $40+40+10+25$ | $450-450-450-25$ | 13 | $31 / 2$ |
| TM－4007 | 5.45 | $100+10+200+30$ | 306－300－150－150 | 134 |  | T3－4101 | 3.70 | $10+10+10+150$ | 450－450－450－50 | $1{ }^{10}$ | $21 / 2$ |
| TM－4008 | 4.65 | $60+40+20+50$ | $3010-3010-3010-25$ | 13 | $3^{1 / 2}$ | TA1－4102 | 4.55 | $20+20+20+100$ | 450－450－450－50 | 10 |  |
| T＇M－4009 | 4.90 | $40+40+40+20$ | 206－3010－2010－1．9） | $1^{7 \%}$ | 3 | T31－402t | 4.55 | $30+30+15+30$ | $450-450-450-50$ | 14.8 | 3 |
| ＇1＇N－4010 | 4.55 | $20+150+80+20$ | $850-150-150-25$ | $1^{3} \mathrm{k}$ | 3 | Г．11－4103 | 4.10 | $30+30+15+100$ | $450-450-450-50$ | 13 | $31 / 2$ |
| IJI－4074 | 4.05 | $40+50+20+80$ | 350－150－150－50 | $1 \pi_{8}$ | 3 | TM－1104 | 4.65 | $40+20+10+100$ | $450-450-450-50$ | $13 /$ | 31／2 |
| TM1－4075 | 4.50 | $15+80+40+200$ | $3501-3010-2010-25$ | 10 | 8 | TM－1102 | 4.70 | $40+40+10+25$ | 450－450－450－519 | 12 | 312 |
| リM－4076 | 4．60 | $20+40+10+250$ | 350－300－150－ 50 | $1^{3}$ | 3 | TM－4025 | 5.35 | $40+40+10+100$ | 450－450－450－100 | $12 \%$ | $31 / 2$ |
| TM－4077 | 2.95 | $10+10+10+20$ | $3511-3501-350-25$ | 1 析 | 2 | TA 4026 | 4．fin | $60+10+10+20$ | $450-450-450-150$ | 138 | 3 |
| TM－4078 | 3.10 | $20+10+5+20$ | 350－350－350－35 | 1 H／6 | 2 | TM－4027 | 4.60 | $35+35+10+10$ | 450－450－450－200 | $13 / 8$ | 3 |
| T．11－4079 | 4.10 | $30+20+20+20$ |  | $1{ }^{3}$ | $21 / 2$ | 19M－40：1 | 4.45 | $20+40+100+80$ | 475－300－50－25 | 13／8 | 3 |
| T．15－4080 | 4.25 | $40+20+20+25$ | 8510851050 | 18 | $21 / 2$ |  | 4.80 | $10+40+80+100$ | $455-3511-200-50$ | $13^{\prime}$ | $311 / 2$ |
| TM1－4181 | 4.70 | $40+40+20+20$ | $3501-8.511-30-25$ | $13 \%$ | 3 | TM－4n32 | 3.85 | $10+10+80+50$ | 475－450－200－60 | 1 \％ | 3 |
| TM－1082 | 5.20 | $40+40+40+40$ |  | $1 \%$ | 3 |  | 4.95 | $25+20+40+100$ | 475－450－300－50 | $1 \%$ | 3 |
| TM－408：3 | 3.80 | $15+15+15+50$ | 350－3．30－3501－50 | $1 \% / 4$ | 2 | ＇T． 1 －4133． | 5.5 .5 | $10+60+30+125$ | 475－450－400－50 | $13 / 8$ | 4 |
| TN－4684 | 4.40 | $40+30+10+50$ | 350－3511－3501－50 | $1 \%$ | 3 | T入1－t03 ${ }^{\text {cta }}$ | 4．s0 | $15+15+80+40$ | 47テ－45－300－501 | $1^{3} \%$ | 3 |
| TM－4011 | 5.70 | $40+40+40+150$ | 3．010－？．11－3．810－． 11 | 13 | 31／2 | 「M－40：\％ | 4.15 | $40+10+4+40$ | 475－475－350－3（0） | $13 / 8$ | 3 |
| 13－4085 | 4.40 | $10+50+30+30$ | 400－：2910－850－35 | $1{ }^{1}{ }_{*}$ | 3 | TN－4036 | 4.90 | $10+5+80+40$ | ＋65－475－450－50 | $13 / 8$ | 3 |
| T $31-4086$ | 4.70 | $40+10+80+10$ | 1010－400－250－259 | $13 / 8$ | 31／2 | TM－＋10：36 | 4.85 | $40+20+10+10$ | 475－475－475－35 | $13 /$ | ？ |
| J＇H－408 | 4.65 | $5+5+50+80$ | 4（10－40） | $1: 3$ | 3 | T31－40：8 | 4.190 | $30+30+10+20$ | 506－500－450－95 | $1^{3} \mathrm{~s}$ | 31／2 |
| TM－408s | 5.75 | $60+40+40+10$ | 400－4100－3510－50 | $13 / 8$ | 31／2 | TM－4108 | 4.80 | $20+20+10+10$ | 510－500－500－300 | $13 / 8$ | $21 / 2$ |
| TM－401： | 4.15 | $20+80+20+50$ | $450-2101)-20010$ | 10 k | 3 | ＇190－416： | 5.60 | $50+30+10+20$ | 500－500－500－300 | $13 / 8$ | 4 |
| TM1－4090 | 4.90 | $10+100+20+20$ | 450－300－800－25 | $13 / 4$ | $31 / 2$ |  |  |  |  |  |  |

HI－TEMP TWIST－MOUNT ELECTROLYTIC CAPACITORS

## Type TMH

Designed for $100^{\circ} \mathrm{C}$ ．operation．Aluminum containers provide maximum protection against moisture．Fasy to mount：supplied complete with metal and Bakelite mounting plates．Low leakage．Long shelf life．Ex－ tremely compact．Highly dependable．For information on values other than those listed，write to Pyramid Sales Engineering Dept．

## TMH SINGLE－CAPACITOR UNITS

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UFF } \end{aligned}$ | Size in Inches <br> Diameter Length |  |
| :---: | :---: | :---: | :---: | :---: |
| 200 VOLTS DC | WORKING |  |  |  |
| TMH2－30－200 | 1.90 | 30. | 1 | 21／2 |
| TMH13－40－900 | 2.09 | 40. | 1 | $21 / 2$ |
| T111－50－200 | 2.10 | 50. | 1 |  |
| TNH2－80－200 | 2.85 | 80. |  | $21 / 2$ |
| TM112－125－200 | 3.45 | 125. | 1\％／3 | $3{ }^{1 / 2}$ |



| Catalog <br> Number | List <br> Price | Cap．in UF | Size in Inches <br> Dength |
| :--- | :---: | :---: | :---: |


| 300 VOLTS DC | WORKING |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| TMPIS－10－300 | 1．5i | 10. | 1 | 2 |
| ＇1．3H：3－20－300 | 1．810 | 20. | 1 |  |
|  | 1.5 | 30. | 1 | $21 / 2$ |
| T．${ }^{\text {CHS－40－360 }}$ | 2.15 | 40. | 1 |  |
|  | 2.38 | 50. | 1 |  |
| TMIIf3－60－3019 | 2.60 | 60. | $13 \%$ | $21 / 2$ |
| TMIT：3－80－300 | 8．05\％ | 80. | $13 / 3$ |  |

## HARDWARE FOR TYPE TM AND TYPE TMH CAPACITORS

Catalog List
Number Price
＂TWIST－MOUNTER＂WRENCH
TJIN－1 1.25 F゚or monnting＂lope＇IM and＂TMII capacitors．

## BAKELITE WASHERS


METAL WASHERS
II－2？
$11-2.507$

Catalog List
Number Price Nunlber Price Purpose

## MOUNTING CLIPS（FUSE TYPE）

3．2－2 15 F゙or $1^{\prime 2}$－diameter cans，
INSULATING TUBES







CARTRIJ－DRY ELECTROLYTIC CAPACITORS


CDB SINGLE－CAPACITOR UNITS， 450 VOLTS DC WORKING

| Catalog Number | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Size in Inches |  |
| :---: | :---: | :---: | :---: | :---: |
| （ 111 ）－16－4．5） | 1.31 | 10. | Tx | $?$ |
| （1）1：－20－4．5） | 1.5 .5 | 20. | \％ | 2 |
| （1） $1:-30-4.00$ | 1.70 | 30. | 1 | $\underline{3}$ |
| （ 1$) 1:-40150$ | 1．80 | 40. | 1 | $21 \%$ |
| （ 61$) 1 ;-50-4.50$ | 2.10 | 50. | 1 | $\because 12$ |
| （1）1：－80－450） | 2.80 | 80. | 1 | $3: 1$ |
| （＇I）1：－100－450 | 3.10 | 100. | 1. | $3 \%$ |

## CDB DUAL－CAPACITOR UNITS， COMMON NEGATIVE

| Catalog <br> Number | List <br> Price | Cap． <br> in UF | Size in Inches <br> Diameter |  |
| :---: | :---: | :---: | :---: | :---: |
| Length |  |  |  |  |

## Type CDB

DC dry electrolytic capacitors assembled in wax－filled， impregnated cardboard tubes．$i$ i－inch Hexible leads at one end．Assembled mounting strap．Low leakage． Long shelf life．

## CDB DUAL－CAPACITOR UNITS， SEPARATE SECTIONS



| Catalog <br> Number | List | Cap． | Size in Inches <br> in UF |
| :--- | :---: | :---: | :---: |

150 VOLTS DC WORKING
 （1）1：130－1．20 （1）：－40．3（20－1．30
$20+20+20$ ． $40+30+20$



## CDB TRIPLE－CAPACITOR UNITS， MIXED SECTIONS，COMMON NEGATIVE

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Volts Dc <br> Working | Size in Diameter | Inches Length |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | ： 11. | $80+30+300$ | 150－1：0－10 | 1 | $\therefore 1$ f |
| （1）1：－14？ | 2.25 | $40+40+20$ | 1511－15）－2．3 | 1 | $2 \cdot 1$ |
| （1）1：－4 1－2 | 8.4 .7 | $40+40+100$ | 1．00－150－3 | 1 | 2： |
| （11） $3-3 \%$ | $\because$ | $50+30+20$ | 151－150－85 | 1 | $2: 4$ |
| （ 1 ） $1:-5)^{\prime} 12$ | 3．5． | $50+30+100$ | 150－150－2．5 | 1 | $2:$ |
|  | 2．6．5 | $50+30+200$ | 150－1．50－25 | 1 | 2：1 |
| （’）1：－5．う？ | 2．701 | $50+50+20$ | 150－150－2\％ | 1 | 231 |
| （＇1）1＇－7： 1.7 | 2．0．5 | $70+30+150$ | 150－1．90－35 | 1 | $2 \%$ |

## PLUG－IN ELECTROLYTIC CAPACITORS

## Type DO

Designed for $85^{\circ}$ C．operation．Hermetically sealed in round aluminum containers．Provided with four pins （Nos．1，3，5，7）on standard octal base．Plugs into standard 8 －pin octal socket．Ideally suited for any application where guick capacitor changes are re－ quired．Grounding lug supplied for grounding case to chassis．（In accordance with military standards， a low variable resistance exists between pin 1 ｜nega－ tive］and the case；to ground pin 1 ，a direct ground connection must be made from the corresponding lug on the socket．）For mounting rings，see Page P－151．


## DO CAPACITORS

| Catalog | List | Cap．Volts DC | Size in Inches |
| :--- | :--- | :--- | :--- |
| Number | Price | in UF Working Diameter Length |  |

SINGLE－CAPACITOR UNITS

|  | $\therefore$ Sis | 100. | ：3\％1 | 13 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4．10．： | 10. | 4.11 | 18 | $21 / 2$ |
| $110-30-4.0$ | 1．：3 | 20. | 4514 | 13 | 21\％ |
| （w）－4い－4．う | 4.8 | 40. | 4511 | 132 | 51\％ |
| （131－80－4．00 | $\therefore \cdots$ | 80. | firl | 1：3 | $\therefore 16$ |
| 101－40－5101 | $\therefore 114$ | 40. | \％） 11 | 1：\％ | －1 ${ }^{2}$ |

## DUAL－CAPACITOR UNITS

|  | 4． 31 | $20+20$ | 1.11 | ， |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1．411 | $40+40$ | 1．10 | 1 | 24 |
|  | 4．15\％ | $50+50$ | 1.110 | 1 | $21 / 2$ |
| Í1－｜バイ－15\％ | $\therefore 1$. | $80+80$ | 1．11 | $1{ }^{\frac{1}{8}}$ | 21\％ |
| ［11－J111－4．w | 1.111 | $10+10$ | 1.11 | 1． | 214 |
|  | －． 0. | $20+20$ | 4.4 | $1{ }^{3}{ }_{8}$ |  |
| 111516 | － | $30+30$ | 4 | $1:^{4}$ | 218 |
| $131-1040-4.01$ | － 5111 | $40+40$ | 1．010 | $13_{s}$ | 3114 |
|  | －1， 11 | $20+20$ | 느․ | $1{ }^{8}$ | $81 / 2$ |

## TRIPLE－CAPACITOR UNITS

|  | 4．入： | $20+20+20$ | 1.0 | 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\therefore 111$ | $40+40+40$ | 1511 | 13 | 112 |
| （\％）－9111－4．11 | $\bigcirc .111$ | $10+10+10$ | 450 | 15 | 514 |
|  | （i．111 | $20+20+20$ | 4．11 | 1：${ }_{8}$ | ？ |
| ｜以ー： 0101 | ！ 1.611 | $40+20+20$ | $450+25$ | $1: 3$ |  |
|  | －311 | $10+10+10$ | －1610 | $13 / 8$ | 214 |

## QUADRPULE－CAPACITOR UNITS

| D0－4007 | 5.65 | $10+10+10+20$ | $4.08+25$ | ， | 21 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1\％-41108 | ¢．ふ． | $30+30+10+20$ | 4 Col | $13 / 8$ | 41 |

HIGH－CAPACITANCE LOW VOLTAGE ELECTROLYTIC CAPACITORS


## Type PFB

Designed for $85^{\circ} \mathrm{C}$ ．operation．Assembled in hermeti－ cally seater？round aluminum cans，with insulating cardboard sleeve．For use in applications requiring high capacitance at low working voltages，as in motion－picture sound equipment．For mounting rings， see Page P－151．

## PFB CAPACITORS

Overall Length：Jlll＂s＂tugiverl（＂an Leensith．


## 10 VOLTS DC WORKING

|  | $\therefore .111$ | 500. | $\because 3$ | $13 \%$ | 17 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | ：1，$\%$ \％ | 1.000 | －3\％ | 13 | $1{ }^{3}$ |
| 1F！ | ：\％ | 1.500. | $\because{ }^{3}$ | 13 | 13 |
|  | －3．4．0 | 2，000． | －5\％ | 138 | $1{ }^{\prime \prime}$ |
| 12 VOLTS DC WORKING |  |  |  |  |  |
| リドリー－ | 3．20 | 500. | ご菏 | $13_{4}^{4}$ | $1 \%$ |
|  |  | 1.000 | $33^{4}$ | 1： | $1 \%$ |
|  | ： 6. | 1.500 ． | －54 | 1： | 1 |
|  | ＋．1－7 | 2.000. | ？ 1 16 | 13－ | $1 \%$ |

15 VOLTS DC WORKING

|  | 3．3－： | 500. | 236 | 13 | 17 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ［ドイ－110\％－7． | ＂，¢＂ | 1.000. | $\mathrm{ys}_{4}$ | i：3 | 1 |
|  | 4.91 | 1.500. | ？－4 | 1？ | 1 |
| 1190－2ツ（1）－15 | 4.81 | 2，000． | 枵 | 1：， | $1{ }^{\text {\％}}$ |

25 VOLTS DC WORKING


35 VOLTS DC WORKING

|  | 3．71 | 500. | $\because 1 / 8$ | $1{ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1＂10］：－10101－： | 5．1111 | 1，000． | $8:^{1}$ | 1：4 |
|  | S．114 | 2.000 ． | 418 | 13 |

50 VOLTS DC WORKING





[^43]$\qquad$

## MOLDED TUBULAR PAPER CAPACITORS

## Type IMP

Non－inductive extended－foil section molted in non－ inflammable thermosetting plastic．High insulation resistance．Excellent power factor．Withstands stand－ ard RETMA Humidity－resistance Test．Extremely rugged．Very long life．
＇Temperature Rating：$-10^{\prime \prime}$ to $-1000^{\circ} \mathrm{C}$ ．
Standard Tolerance：． $0001-.001 \mathrm{UF}:-25 \%$ to $+60 \%$

$$
.0011-.009 \mathrm{UF}:-20 \% \text { to }+40^{\prime}
$$

$$
.01-1.0 \text { UF : - } 20 \text { ! } ; \text { to }+20^{\prime \prime}
$$



## IMP CAPACITORS

| Catalog Number | List Price | Cap. | Size <br> Diameter | hes Length | Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Size in Inches |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 200 VOLTS DC | WORKING |  |  |  | 19196－15 | 2. | ． 0015 | 10． | 7 |
|  |  |  |  |  | （1mbli－1） | 2－10 | ． 002 | i． |  |
| 1ヵリージィ | \％ | ． 047 | － | 1 | 1，116－1320 | 3 | ． 0022 | i |  |
|  | ． 31 | ． 05 | 1. | 1 |  | \％ | ． 003 | ＊ | 1 |
| $\mid 111 \cdots-1 \cdot 1$ | A | ． 1 | 2 | 1\％ | （．1．6－1） | －－ | ． 0033 | \％ | 1 |
|  | ：3， | ． 15 | \％ | $1{ }^{\circ}$ |  | $\underline{1}$ | ． 004 | 3 | $1{ }^{3}$, |
|  | ． 41 | ． 22 | $i:$ | $15^{*}$ | 12116－1947 | 0 | ． 0047 | 8 | $1)^{3,}$ |
| ｜M1－2－19．0 | ． 15 | ． 25 |  | 1－8 | 1．1106－10， | － | ． 005 | \％ | 1. |
| 1．119－197 | ． 80 | ． 47 | $\because$ | 21\％ | 1．11仿－1\％ | 2－10 | ． 006 | \％1． | $11^{3}$ |
|  | ． Bi | ． 5 | \％ | $21 / 8$ | 1916－1368 | ． 31 | ． 0068 | \％\％ | $1{ }^{3} \mathrm{~s}$ |
| CTE－1＊ | ．x．， | 1.0 | ic | $2 \%$ | 19106－5\％ | ．31） | ． 0075 | \％ | 1.4 |
|  |  |  |  |  |  | \％ | ． 01 | 7 | $17^{3}$. |
| 400 VOLIS DC | WORKING |  |  |  | 1．11P6－S15 | ， 31 | ． 015 | \％ | $1^{3}$ |
| $1 \mathrm{ll\|r-s\|}$ | － | ． 01 | 8 | 13.8 |  | ： | ． 02 | 1 | $1^{-1} \times$ |
| $1 \times 19+8$ | \％ | ． 02 |  | 1. | 1．116－82－3 | $\cdots$ | ． 022 | 10 | 1＂＊ |
|  | 2 | ． 022 | \％ | 13 | 1．11180－s．3 | \％ | ． 025 | \％ | $1{ }^{\text {\％}}$ |
| 1M1尤－ミ゙す | \％10 | ． 047 | \％ | 1 ＊＊ |  | 3. | ． 03 | 1，2 | $1{ }^{\text {\％}}$ |
|  | $\because 11$ | ． 05 | 20 | $1{ }^{\text {w }}$ | 1．1156－st | \％ | ． 04 | 12 | 1： |
| 419－8心s | 涼 | ． 068 | 曻 | $1{ }^{\text {F }} \times$ | 1． 11165 | ． 111 | ． 047 |  | $1{ }^{*} \times$ |
|  | ． 10 | ${ }^{1} 1$ | \％ | $1{ }^{-1}$ | 1．1116 6 －S | ．41 | ． 05 | 1． | 1 －s |
| 1114－120 | －10 | ． 15 | $\because$ | －${ }^{2}$ | 1．31－6i－s | 410 | ． 06 | 1. | $1{ }^{\circ} \times$ |
| 1．11194－10．5 | －4． | ． 25 | \％ | 91\％ | 13119－sis | ．19 | ． 068 | ＂ | ${ }^{2}$ |
| 1ND＇4－1＇5 | ． 611 | ． 5 | \％ | 21\％ | 1．1166－8．\％ | 4\％ | ． 1075 | t | ${ }_{2} 1^{1} \times$ |
| 600 VOLTS DC | WORKING |  |  |  | 1．110\％－15 | － | ． 15 | 4 | $\cdots{ }^{2}$ |
| 1.1116 | ．2． | ． 0001 | ti． |  | 1．2116－190 | 5． | ． 2 | 3 | $\underline{2} \times$ |
|  | 二． | ． 00025 |  | \％ | 1，1116－6－8．3 | （5） | ． 25 | 3. | $\underline{1}$ |
| 191＇6－94 | 2： | ． 0004 | 1 | T／s | （rri－1＂） | ．si） | ． 5 | 1， | 2 |
|  | \％ | ． 0005 | $\cdots$ | 8 |  |  |  |  |  |
| 1．116－D1 | 2 | ． 001 | i | \％ | ＊Supplied | eral－o | pregn | ceramic－ca | units． |

## MINIATURE TUBULAR PAPER CAPACITORS

## Type 85LPT

Non－inductive extendedi－foil section assembled in phenolic－impregnated tuhe Plastic emi－seals．With－ stands standard RETMA Humidity－resistance Test． Sturdy construction permits continuous operation at rated DC voltage，yet retains all the advantages of extremely small size．

Temperature Rating：$-40^{\circ} 10+85$ C．
Standard Tolerance：．0001－．001 UF：－25r，to $+60 \%$ $.0011-.009 \mathrm{UF}^{\prime}:-20^{\circ}, 10+40^{\circ} \mathrm{r}$ （1）$-1.0 \mathrm{UF}:-20^{\circ}$ ， $10+20^{\prime}$＇


## 85LPT CAPACITORS

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Size in Inches <br> Diameter Length | Catalog Number | List Price | Cap． in UF | Size in Diameter | hes Length |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 200 VOLTS DC | WORKING |  |  |  | .65 .70 | ． 15 | 5／8 | $11 / 8$ |
| 85LIPTe－T5 | ． 35 | ． 005 | 1\％5 | 85 L | ．75 | ． 25 | \％ | $11 / 2$ |
|  | ． 3.5 | ． 006 | 1： |  | ． 85 | ． 5 | \％ | $2{ }^{3}$ |
| $85 \mathrm{LPT}{ }^{\text {2 }}$－ 81 | .40 | ． 01 | 了 |  |  |  |  |  |
| 85140 | －45 | ． 02 | \％${ }^{168}$ | 600 VOLTS DC | WORKING |  |  |  |
|  | $\therefore 1$ | ． 05 | it 1 |  | WORKING |  |  |  |
| 85LP＇9－1 | ． 618 | ． 1 | 13 1110 | 85LPT6－T1 | ． 3. | ． 00001 | 17 |  |
| 85 La | ． 610 | .15 | 涪 ${ }^{11 / 4}$ | 85LIPT6－T5 | ． 35 | ． 00005 | 1.4 | 5／8 |
| $85 \mathrm{LA} \mathrm{P}^{\text {¢ }}$ | ． 65 | ． 22 |  |  | 䢒 | ． 0001 | 1／4 | 名 |
|  | ． 80 | ． 5 | \％ $11 / 2$ | 85L1m6－1）3 | ． | ． 003 | 3 | $1{ }^{13}$ |
| 400 VOLTS DC | WORKING |  |  | 85LPT6－D4 <br> 851，PT6－1）5 | ． 35 | $\begin{array}{r} .004 \\ .005 \end{array}$ | 3818 | 13 |
|  | ． 3 \％ | ． 003 | 14 | 851，P1＇6－136 | ．49 | ． 006 | \％ | 12 |
| 85LPTM4－D4 | ． 35 | ． 004 | $1:$ 等 | 85LP＇T6－S1 | ． 40 | ． 01 | ใf |  |
|  | ． 2 | ． 005 | $\cdots$ |  | ． 0 | ． 02 | 12 | 1 |
|  | ． 8 | ． 006 | ${ }^{1}$ | 85LPT6－S5 | ．5． | ． 05 | $1{ }^{6}$ | $11 / 8$ |
| ＊ | 411 | ． 01 | \％ | ＊5LP＇T6－P1 | ． 110 | ． 1 | 管 | $11 / 8$ |
| 85LITT4－s2 | ． 4 | ． 02 | $\cdots \quad 1$ |  | ．7in | ． 15 | \％ | $1^{13 / 4}$ |
|  | ．50 | ． 05 | \％${ }_{11}$ | $8511 \times T 6-P 2$ | ． 810 | ． 25 | \％ | $1_{2}^{3 / 4}$ |
| 8かっ19－P1 | （6） | ． 1 | \％ 1 s | Si＞PT6－P20 | ． 80 | ． 25 | 18 | 2 |

## CERAMIC－CASED TUBULAR PAPER CAPACITORS

## Type CT

Non－inductive extended－foil section assembled in finest grade ceramic（steatite）tube．Tinned leads firmly imbedded．Permanently sealed against mois－ ture and humidity．End－seals cannot soften or melt at rated operating temperatures．

Temperature Rating：$-40^{\circ}$ to $+85^{\circ} \mathrm{C}$ ．
Standard Tolerance：．0001－． $001 \mathrm{UF}:-25 \%$ to $+60 \%$

$$
.0011-.009 \mathrm{UF}:-20 ; \text { to }+40 \%
$$

$$
.01 \text {-1.0 UF: }-20 \% \text { to }+20 \%
$$

## CT CAPACITORS AND BUFFER CAPACITORS

| Catalog Number | List Price | Cap． | Size in Diameter | hes <br> Length | Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in } \mathcal{F} \end{aligned}$ | Size in Inches |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 200 VOLTS DC | WORKI |  |  |  | （196－1） 5 | ． | ． 005 | $3 / 4$ | 1 |
| CT2－S5 | ． 30 | ． 05 | 7 | 17 | － $96-768$ | － | ． 0066 | 劅 | 1 |
| CT9－11 | ． 35 | ． 1 | $1 \%$ | 12\％ | （106－1068 | $\cdots$ | ． 0068 | \％ | 1 |
| （ ${ }^{12}$－${ }^{2}$ | ． 411 | ． 25 | 5 | 13. | －＂6－s15 | \％3110 | ． 015 | \％ | 1 |
|  | ． 55 | 1．5 | 寿 | 21／8 | （T6－s2 | ．30 | ． 02 | \％ | $1{ }^{7}$ |
|  |  |  | 16 |  | （T6－S22 | －30 | ． 022 | 隹 | 11 |
| 400 VOLTS DC | WORKIN |  |  |  | （T6－s20 | \％ | ． 025 | ${ }^{7}$ | 176 |
| CT＋4－S1 | ．${ }^{\text {a }}$ | ． 01 | 3 | 1 | －T6－st | \％ | ． 04 | 1／20 | 1\％ |
| CT4－S2 | ．25 | ． 02 | ， | 1 | －「6－sti | ． 40 | ． 047 | \％ | 15／8 |
| Cr4－S2 | ． 30 | ． 022 | $1 \%$ | 17 | （The－N5 | ． 411 | ． 05 | \％ | $1 \%$ |
| C10－S5 | ．30 | ． 05 | $1 / 2$ | 117， | CT6－S68 | .411 | ． 068 | \％ | 15 |
| （1）4－s68 | － | ． 05 | 1／2 | 18 | （T6－1＇3 | ． 41 | ． 15 | \％ | 13 |
| （194－11 | \％ | ． 1 | 1／2 | 10x | （T6－P15 | ．al | ． 15 | ＂ | $1{ }^{10}$ |
| Cr＇4－P15 | 83 | ． 15 | \％ | $1{ }_{1}{ }^{\text {\％}}$ |  |  | ． 25 | $1{ }^{1}$ | 21／8 |
| －14－r＂3 | ． 411 | ． 22 | ${ }_{4}$ | $1^{3}$ | （196－1） | ． 810 | ． 5 | 哭 | 2 |
| CT4－I＇25 | ． 45 | ． 25 | 3 | 2 |  |  |  |  |  |
| CT4－P | ． 5 | ． 5 | \％ | 234 | 1，000 VOLTS | WOR |  |  |  |
| 600 VOLTS DC | WORKI |  |  |  | $\begin{aligned} & C T 10-D 1 \\ & C T 10-D 15 \end{aligned}$ | $\begin{aligned} & 4 \pi \\ & .4 i \end{aligned}$ | $\begin{aligned} & .001 \\ & .0015 \end{aligned}$ | ${ }_{\text {\％}}^{\text {k }}$ | $1^{15}$ |
| CTG－75 | ． 25 | ． 0005 |  |  | （T10－1）2 | ． 45 | ． 002 | \％ | 1 |
| （T6－I） | ． 25 | ． 001 | \％ | ， | （T10－122 | ． 45 | ． 0022 | 3／4 | 1 |
| （19－115 | ． 25 | ． 0015 | \％ | 怣 | （T10－1）3 | ． 40 | ． 003 | 38 | 1 |
| CT6－1）2 | ． 25 | ． 002 | ， | \％ | CT10－D33 | ． 45 | ． 0033 | 3／4 | 1 |
| CT6－122 | ．25 | ． 0022 | fis | \％ | （r10－D4 | ． 45 | ． 0004 | $3 / 4$ | 1 |
| （＂T6－1）＂ <br> （T6－1）33 | ． 25 | ． 00033 | 盛 | 碄 | （T10－D10．05 | ． 45 | ． 00047 | 产， | 1 |
| （＂16－1）4 | ．25 | ． 004 | 15 | ， | CT10－D56 | .45 | ． 0056 | \％ | 1 |
| CT6－D． 4 | ．25 | ． 0047 | ${ }^{\text {\％}}$ | 1 |  | Cont | d on $n$ | page |  |

## CT CAPACITORS

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \text { in UF } \end{aligned}$ | Size in Inches |  |
| :---: | :---: | :---: | :---: | :---: |
| （＂11）－1）6s | ． 4.5 | ． 0068 | 1 | 1 |
| （＂「11－1）－ | ． 4. | ． 0075 | $\cdots$ | 1 |
| （＇1）10－1）8゙と | ． 1.5 | ． 0082 | 1. | 1 |
| い＂1い－ざ1 | ． 4.5 | ． 01 | 1. | 1 |
| （＂1］11－ざ1う | ． 45 | ． 015 | $\therefore$ | $1 \%$ |
| （＂1い－ざり | 4.8 | ． 02 | 12 | 1 |
| （＂10111－ざッ＂ | ． 4.5 | ． 025 | ？ | 1 － |
| （＂10111－s： | ． 4.5 | ． 03 | 1. | $1 \%$ |
| べ1＋1－s！ | ． 4. | ． 04 | $\ddot{\square}$ | 1：－ |
| （＂1110－ざ， | ． 511 | ． 05 | \％ | $1: 4$ |
| （＂1＊11－ごf心 | ．in | ． 068 | $\because$ | $1: 1$ |
| （＂111－1＇1 | ．1i． | ． 1 | $\because$ | $\because$ |
| （＂1110－1＇15 | ．sil | ． 15 | $\therefore$ | ${ }^{-314}$ |
| －＂111－1＂ | ． 60 | ． 2 | 1.1 |  |
| 1，600 VOLTS DC | WORKING | （ $B$ UFFER | ACITORS） |  |
| （＂120－I）1 | ．fis | ． 001 | ＂＇s | 1 |
| （＂｜1际1） 5 | ． 5.5 | ． 0015 | 1. | 1 |
|  | ．6．7 | ． 002 | 1： | 1 |
| （＂116－1）${ }^{(1)}$ | ．16．） | ． 0022 | 1 | 1 |
| （＂11ti－1）${ }^{\text {（ }}$ | ．5．） | ． 003 | \％ | $11^{7}$ |
| （＂1）${ }^{\text {c／－1）}}$ | ． 6.1 | ． 0033 | 1 | $11^{2}$ |
| （＇116－1）4 | ．fis | ． 004 | 1 | $1 \%$ |
| －＂11ti－l） | ． B | ． 0047 | \％， | 12 |
| （＂1） 6 －I ） | －．6\％ | ． 005 | \％ | 1 |
| （＂IL6－1）．66 | ． 6.5 | ． 0056 | \％ | $1 \%$ |
| （＂I＇16－1）6 | ．65） | ． 006 | $\mathrm{I}^{7}$ | $1{ }_{1} / 6$ |

## BATHTUB－TYPE OIL－PAPER CAPACITORS

## Types PDM，PDMT，PDMB

Section assembled in hermeticall：sealed tin－coated drawn－shell container．Mineral－oil impregnated and filled．Lug－type terminal seals．Meets electrical re－ quirements of MIL－C－25A．

$$
\text { Temperature Rating: - } 50 \text { to }+85 \mathrm{C} \text {. }
$$

$$
\text { Standard Tolerance: }-10^{\prime} \text {; to }+20^{\prime \prime} \text {; }
$$

IPD：Terminals on side；similar to MIL Type ClיB． Order by Catalog Number from I＇loll Tables． PDMT：Terminals on top；similar to MIL Type（CDI． To order：Select desired unit fiom PDM Tables；in unit Catalog Number，insert Letter T after l＇IM．
IPDAB：Terminals on bottom；similar to MIL Type Cl：5．
To order：Select desired unit from IPDM Tables；in unit Catalog Number，insert letter 13 after I＇DM．

## PDM SINGLE－CAPACITOR UNITS


＊Add $\stackrel{1}{4 \prime \prime}^{\prime \prime}$ to Height when ordering these units with top or bottom terminals．

## PDM DUAL－CAPACITOR UNITS

| 400 VOLTS | WORKING |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| こりハ入4－s\％ | 2．4\％ | ． $05+.05$ | 1 | 1 | 3 |
| こ1＇1．14－1＇！ | 8.0 .5 | $.1+.1$ | 1 | 1 | 3 |
| $\because 19011-1 \times 5$ | ：3．in | ． $25+.25$ | 1 | 1 | 1 \％ |
| －1934－15 | 3.85 | $.5+.5$ | 2 | 1相 | \％＇／ |
| ご1）\4－1 | 1．811 | $1.0+1.0$ | 2 | 2 | $1{ }^{3}{ }^{3} *$ |


| Catalog Number | List Price | $\begin{aligned} & \text { cap. } \\ & \text { in } \cup F \end{aligned}$ | Size i <br> Diameter | hes Length |
| :---: | :---: | :---: | :---: | :---: |
|  | ．15） | ． 0068 | $1 / 2$ | 11 |
|  | ．1．7 | ． 007 | $1 / 2$ | $1 \%$ |
| （＂1114－1）－5 | ．15） | ． 0075 | $1 / 2$ | 1 |
| －い1年－1心 | 1i．i | ． 008 | $1 \%$ | $1{ }_{1}$ |
|  | ．15 | ． 0082 | $1 / 2$ | $11^{7}$ |
| －＂1矿 | ． 71 | ． 01 | 1\％ | 1 \％ |
| （＂1＂16－s．\％ | ．110 | ． 015 | \％ | 10 |
|  | \％10 | ． 02 | ＂\％ | $11 / 1$ |
| （＂111i－ざき． | ． 710 | ． 025 | \％ | $1: 4$ |
| C＂I＇1位心\％ | ． 71 | ． 03 | 3 | 1：1／2 |
|  | ． 71 | ． 033 | 3 | 2 |
| 1＂1＂1b－st | ． 11 | ． 04 | \％ | 2 |
| （＇1ti－si＇） | ．7－3 | ． 05 | ${ }_{3}$ | $21 / 8$ |
|  | ．${ }^{\text {a }}$ | ． 068 | 1： | $23 / 4$ |
| （＂T14－1＇1 | ． 8.7 | ． 1 | 10 | $2{ }^{\text {\％}}$ |
| 6，000 VOLTS DC WORKING |  |  |  |  |
| （＂1tin－1＂－ | 1．30 | ． 0005 | 59 | 13 |
| （＂「り！－1）］ | 1．：30 | ． 001 | 5 | 1 |
| （＂160－1）． | 1． 30 | ． 005 | $1{ }^{18}$ | 21／8 |
| 10，000 VOLTS DC WORKING |  |  |  |  |
| （＇110117\％ | 1．．51 | ． 0005 | 5／3 | $13 / 4$ |
| （＂1＇114－I］ | l．，30 | ． 001 | $\%$ | 21／2 |
| 12，500 VOLTS DC WORKING |  |  |  |  |
| C「1－5－Tゴ， | 1．71 | ． 00025 | \％／4 | 21／2 |
| C＇125－1\％ | 1.70 | ． 0005 | \％ | 21／2 |



Distance between Mounting Hole Centers：

| Length $\times$ Width | Distance |
| :---: | :---: |
| $112 \times 1$ | $21 / 8$ |
| $2 \times 13$ | $23 / 8$ |
| $2 \times 2$ | 23 |
| $2 \times 28$ |  |


| Catalog Number | List Price | $\begin{gathered} \text { Cap. } \\ \text { in } \cup F \end{gathered}$ | Length | Vidth | $\begin{aligned} & \text { es } \\ & \text { Height } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 600 VOLTS DC WORKING |  |  |  |  |  |
| －11） | $\therefore .+i . \%$ | ．05＋．05 | $1 \%$ | 1 | 8 |
| ごリハ！t－1＇1 | ：3． 711 | $.1+.1$ | 1 ． | 1 | \％ |
| －119118－19\％ | ：3．7． | $.25+.25$ | 11.6 | 1 |  |
|  | 1． 26 | ． $5+.5$ | $\because$ | 131 |  |
|  | 万．：31 | $1.0+1.0$ | $\because$ | 2 | $1{ }_{3 i}^{3}$＊ |

1，000 V JUTS DC WORKINE

| 2．1＇M11－ざ， | $\therefore$ ， | ． $05+.05$ | 11. | 1 |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 4.1011 | $.1+.1$ | 11. | 1 |  |
|  | 4.20 | ．25＋． 25 | $\because$ | 1 \％＇ | \％ |
|  |  | $.5+.5$ | $\because$ | 1 | $11 / 3$ |

＊Add A＂to Height when ordering these units with top or botton terminals

## PDM TRIPLE－CAPACITOR UNITS

400 VOLTS DC WORKING

| ？jlintill | \＃，－i， | $.1+.1+.1$ | 118 | 1 | O |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 31＇1）N4－13．5 | 4．10 | $.25+.25+.25$ | 2 | 13 | T |
| ：1＇0．14－1＇5 | 5.10 | $.5+.5+.5$ | 2 | 3 | $1^{1 / 6}$ |

600 VOLTS DC WORKING

1，000 VOLTS DC WORKING


## METAL TUBULAR OIL－PAPER CAPACITORS <br> Types PTIM，PTIMV， 4PTIM，4PTIMV，7PTIM

Non－inductively wound section assembled in hermeti－ cally sealed metal tubular case．Mineral－oil impreg－ nated and filled．Neoprene－Bakelite end－discs．Meets electrical requirements of MIL－C－25A．

$$
\text { Temperature Rating: }-55^{\circ} \text { to }+85^{\circ} \mathrm{C} \text {. }
$$

Standard Tolerance：$-10 \%$ to $+20 \%$
PTIM ：Basic type：similar to MIL Type CP25．Order by Catalog Number from PTIM Tables．
I＇TIMV：With insulating outer plastic sleeve；similar to MIL Type CP＇26．To order：Select desired unit from PTIM Tables；in unit Catalog Number，insert letter V after ITIM；to List Price，add $\$ .20$ ；to Diameter， add ${ }^{1 / 6}$＂；to Length，add $1 / s^{\prime \prime}$ ．
4PTIM：With riveted radial bracket（Pyramid Mount－ ing Style $4^{*}$ ）；similar to MIL Type CP＇27．To order： Select desired unit from PTIM Tables；in front of unit Catalog Number，place number 4；to List Price，add \＄． 10 ．
HPTIMV：With riveted radial bracket and insulating outer plastic sleeve（Pyramid Mounting Style 4V＊）； similar to MIL Type CP＇28．To order：Select desired unit from PTIM Tables；to unit Catalog Number，add prefix 4，and insert letter $V$ after PTIM ；to List Price， add \＄．30．
7PTIM：With soldered tangential bracket（Pyramid Mounting Style 7＊）；similar to MIL type CP29．To order：Sclect desired unit from PTIM Tables；in front of unit Catalog Number，place number 7；to List Price，add \＄．40．
Illustrations of Pyramid Mounting Styles shown at right．


## PTIM CAPACITORS

| Catalog <br> Number | List | Capice | in UF |
| :--- | :---: | :---: | :---: |$\quad$| Size in Inches |
| :---: |
| Length |

## 600 VOLTS DC WORKING

| PrIM6－D？ | ． 80 | ． 003 | is | $1^{1 / 4}$ |
| :---: | :---: | :---: | :---: | :---: |
| 「「1入6－以う | ． 80 | ． 005 | in | $11 / 4$ |
| 『71．16－1）6 | ． 80 | ． 006 | in | 11／4 |
| FTIM6－s］ | ． 80 | ． 01 | $\cdots$ | $11 / 5$ |
| PTIM6－S2 | .90 | ． 02 | if | 11／8 |
| Pr1M6－85 | ． 95 | ． 05 | \％ | $11 / 10$ |
| 1P1A6－＇1 | 1.10 | ． 1 | \％ | 15 |
| 19IM6－125 | 1.50 | ． 25 | \％ | 21 |
| 1TIN6－15 | 2.00 | ． 5 | 1 | 21 |
| 1.000 VOLTS DC WORKING |  |  |  |  |
| ［TtM10－I33 | ． 95 | ． 003 | 8 |  |
| PTIM10－I5 | ． 35 | ． 005 | ？ | $11 / 6$ |
| PTIM10－［）6 | .95 | ． 006 | in | 11／6 |
| PriM10－S1 | ． 1.95 | ． 01 | 10 | 11／6 |
| PriM10－S2 | 1.05 | ． 02 | 58 | $11 / 4$ |
| PTIM10－S5 | 1.10 | ． 05 | 5 |  |
| P＇TIM10－P1 | 1.35 | ． 1 | 38 | $1^{7}$ |
| PTIM10－P25 | 1.85 | ． 25 | 4 | 21 |
| PTIM10－P5 | 2.65 | ． 5 | 1 | 316 |

Section asembled in hermetically sealed tin－coated containes．Mineral－oil impregnated and filled．Lug－ type temmal scals．Suitable for use in compact efuipment．Meets electrical requirements of Mll－C－ 2－A．

Temperature Rating：－ $55^{\circ}$ to $+85^{\circ} \mathrm{C}$ ． Standard Toleranee：$-10^{\prime \prime}$ ； $0+20^{\prime \prime}$ ；
fKM：Easic type；similar to MIL Type Cl＇61．Order by Catalow Number from IhM Tables．

IKMF：With footed bracket；similar to MLL Type CDGI with CPOGF bracket．To order：Select desired unit from I＇KM Tables；in unit Catalogr Number， insert letter $F$ after I＇K．M．
IRMs：With spade bracket；similar to MIL Type Clbl with cPoss bracket．To order：Select desired unit from PKM Tables；in unit Catalog Number， insert letter S after I＇KM．
PKMT：With channel bracket on end opposite termi－ nals；similar to MIL Type CP63．To order：Select de－ sired unit from PKM Tables；in unit Catalog Number， insert letter T after I＇M．
PKMIS：With channel bracket on same end as ter－ minals；similar to MIL Type CI＇68．To order：Select desired unit from I＇KM Tables；in unit Catalog Num－ ber insert letter IS after I＇KM．

尸KM，РKMT，PKMB，etc，Case Dimensions：
Length： 1 ．
Width： $57 / 64^{\prime \prime}$
Height：Consult table．
PKMT．I＇KB Channel Bracket Dimensions： Overall Length： 2 副＂
OverallWidth：49／64＂（max．）
Length between Mounting Slot Centers：15＂
Mounting Slot Width： $3^{2} 2^{\prime \prime}$

## PKM CAPACITORS

| Catalog Number | List Price | Cap． <br> in UF | Height in Inches |
| :---: | :---: | :---: | :---: |
| 400 VOLTS DC WORKING |  |  |  |
| 1「ツ！－ミ゙， | $\cdots$ | ． 05 | 1 |
| リバ入ー！ | 3．15 | ． 1 | 1 |
| 1バ入｜－19\％ | 3.8 | ． 25 | 1：\％ |
|  | 3．2． | ． 5 | $1 \%$ |
| 1バッ4－1 | 3.65 | 1.0 | $21 \%$ |
| 600 VOLTS DC WORKING |  |  |  |
| りにM6－s．． | 3.10 | ． 05 | 11： |
| リにながリ | \％ | ． 1 | $1{ }^{1}$ |
| 1－1慁i－1念： | \％ | ． 25 | 1\％ |
| リババーに， | 3．3\％ | ． 5 | 2 |
| リたいが1 | 3.75 | 1.0 | 21／2 |
| 1，000 VOLTS DC WORKING |  |  |  |
| 1K入10－s． | 3.15 | ． 05 | 11 |
| 「10．116－1． | 3 25 | ． 1 | 1\％ |
|  | 3.35 | ． 25 |  |
|  | $3.6 \overline{5}$ | ． 5 | 23 |



PKMB


## SMALL－BASE OIL－PAPER CAPACITORS



## Types PEM，PEMT，PEMB

Section assembled in hermetically sealed tin－coated container．Mineral－oil impregnated and filled．Lag－ type mineral seals．Suitable for use in compact equip－ ment．Meets electrical requirenents of MILL－C－25A．
Temperature Rating：$-55^{\circ}$ to $+85^{\circ} \mathrm{C}$ ．
Standard Tolerance：$-10 \%$ to $+20 \%$
PEM：Basic type．Order by Catalog Number from PEN Tables．
PENIT：With channel bracket on end opposite termi－ nals；similar to MIL Tspe CP67．To order：Select desired unit from I＇EN Tables；in unit Catalog Num－ ber，insert letter T after PEM．
PEMB：With channel bracket on same end as termi－ nals；similar to MIL＇Гype CP＇69．To order：Select desired unit from lPEM Tables；in unit Catalog Num－ ber，insert letter 13 after PEM．
PEMCase Dimensions：
Length： 1 楛＂
Widıh：5／8＂
Height ：Consult tables．
PEMT，PLMB Channel Bracket Dimensions：
Overall Length： 2 ？
Orerall Width：41 64＂（max．）
Length between Mounting Slot Centers： $21 / 8^{\prime \prime}$
Mounting Slot Width： $3_{2}^{5}$＂
Case Dimensions：Same as Type PEM．
PEM SINGLE－CAPACITOR UNITS

| Catalog <br> Number | List <br> Price | Cap <br> in UF | Height <br> in Inches |
| :--- | :---: | :---: | :---: |

600 VOLTS DC WORKING

| Pro．ali－s． | 3.10 | ． 05 | $1{ }_{1}{ }^{\text {c }}$ ， |
| :---: | :---: | :---: | :---: |
| P10．16－P1 | 3.211 | ． 1 | 1 |
| 1－36－195 | 3.25 | ． 25 | 11.2 |
| P1：316－125 | 3.35 | ． 5 |  |
| 1F：316－1 | 3.6 | 1.0 | $21 / 2$ |
| 1.000 VOLTS DC WORKING |  |  |  |
| PR，M10－s5 | 3.15 | ． 05 | 1 10， |
| 1以入10－1 | 3.25 | ． 1 | 11 |
| 1PM10－1家 | 3.35 | ． 25 | $11 / 2$ |
| 16．416－15 | 3．6．5 | ． 5 | $2 \%$ |

## PEM DUAL－CAPACITOR UNITS

600 VOLTS DC WORKING

|  | 4.20 | ． $05+.05$ | $1{ }^{1}$ |
| :---: | :---: | :---: | :---: |
|  | 4.30 | $.1+.1$ | $1 \frac{1}{1 / 2}$ |
|  | 4.35 | ． $25+.25$ | 2 |
|  | 4.95 | $.5+.5$ | 212 |
| 1，000 VOLTS DC WORKING |  |  |  |
| $21.60110-5$ | 4．5．） | ． $05+.05$ | 1 1． |
|  | 4.911 | $.1+.1$ | $11 / 2$ |
| 21FM10－125 | 5.00 | $.25+.25$ | $21 / 2$ |

## PEM TRIPLE－CAPACITOR UNITS

600 VOLTS DC WORKING

| ？PEMfictis | 5.00 | ． $05+.05+.05$ | 11 |
| :---: | :---: | :---: | :---: |
| 3P6．16－1＂ | 5．6） | $.1+.1+.1$ | $11 / 2$ |
| 3PF．016－1＇25 | 5.95 | $.25+.25+.25$ | $21 / 2$ |
| 1，000 VOLTS DC WORKING |  |  |  |
| 3 3F\％，110－s． | 5.90 | ． $05+.05+.05$ | $11 / 2$ |
| 3PFM10－1＇5 | 6.10 | $.1+.1+.1$ | ， |

## HIGH－VOLTAGE OIL－PAPER CAPACITORS

Types PLM，PLMF，PLMS，PLMU， PLMR

Section assembled in lacquer－finished terneplate case． Mineral－oil impregnated and filled．Ceramic teminal insulators with screw studs．Designed for heary－duty continuous service．Fulfills the exacting requirements of power－supply and filter applications．Meets elec－ trical requirements of MIL－C－25A．For higher volt－ age ratings and other information，write to Pyramid Sales Engineering Dept．

$$
\begin{aligned}
& \text { Temperature Rating: }-55^{\circ} \text { to }+85^{\circ} \mathrm{C} \text {. } \\
& \text { Standard Tolerance: } \pm 10 \%
\end{aligned}
$$

PLA：Basic type；similar to MIL Type CP70．Order by Catalog Number from I＇LM Tables．
PLAMF：With footed bracket；similar to MIL Type Clי70 with ClPo7F bracket．To order：Select desired unit from PLM Tables；in unit Catalog Number，in－ sert letter F after I＇LM．
PLAS：With spade bracket；similar to MIL Type Clito with（P07S bracket．To order：Select desired unit from l＇LM Tables；in unit Catalog Number，insert letter $S$ after P＇IM．
PLMU：With universal mounting bracket．To order： Select desired unit from PLM Tables；in unit Catalog Number，insert letter $\mathbf{U}$ after PLM．
PLMR：With riveted solder－lug（MIL Type B）ter－ minals；furnished only through 2,000 －VDCW rating． To order：Select desired unit from IPM Tables：in unit Catalog Number，insert letter R after PLM．


| Catalog | List | Cap． |
| :--- | :--- | :--- |
| Number | Price | in UFase Size in lnches |
| Nength Width Height |  |  |

2，000 VOLTS DC WORKING

| PIX6－P5 | 4.70 | 5 |
| :---: | :---: | :---: |
|  | 5.80 | 1.0 |
| ！＇，16－2 | 7． 15 | 2.0 |
| 11，\6－3 | 8.25 | 3.0 |
| 1＇SAE－4 | 9.001 | 4.0 |
| 11，\6－5 | 10.50 | 5.0 |
| 1＇IAN6－6 | 1．1．30 | 6.0 |
| I＇LAN6－8 | 13．511 | 8.0 |
| PLAIE－10 | 15.00 | 10.0 |


| 18 | 1 1 | 15／8 |
| :---: | :---: | :---: |
| $11 \%$ | 11. | 21 |
| 1 | 111 | 311 |
| $1{ }^{\text {a }}$ | 11 | $4: 1$ |
| 21 | 13 | $3^{1 / 2}$ |
| 214 | $1{ }^{3 / 4}$ | 41\％ |
| $2^{12}$ | $1{ }^{3}$ | $4: 3$ |
| $3: 4$ | $11:$ | $4{ }^{1}$ |
| 3\％ | 1\％1 | 4 |

## 1,000 VOLTS DC WORKING

| 「1，${ }^{\text {d }} 10$－P1 | 4．15 | ． 1 |
| :---: | :---: | :---: |
| 1＇1，\10－P25 | 4．7） | 25 |
| 11．M10－P5 | 5.100 | 5 |
| 11，\110－1 | 6.8 | 1.0 |
| 1＇1s．110－2 | 入．2．\％ | 2.0 |
| 1＇1910－3 | （1． 50 | 3.0 |
| f＇L，1110－4 | 10.50 | 4.0 |
| I＇1，\］ $00-5$ | 12.50 | 5.0 |
| 13，1］ $10-6$ | 14，00 | 6.0 |
| ］ 1 － 1 10－8 | 15.00 | 8.0 |
| IT，\10－10 | 16.55 | 10.0 |
|  | 18． 5 | 12.0 |
| 1＇LSI10－15 | 20.1010 | 15.0 |


| $1{ }^{3}$ | 1 ！ | 15 |
| :---: | :---: | :---: |
| 18 | 1 | $15^{5}$ |
| $1{ }^{1}$ | 11 | 21 ！ |
| 13 | 11 | $2^{7}$ |
| $1{ }_{16}^{13}$ | 13 | $4 \%$ |
| $21 / 2$ | 13 ， | 11\％ |
| 210 |  | 4 |
| 33. | 13 | $4{ }^{3}$ |
| 3： | 1： 1 | 1 |
| 3\％1 | 1314 | 4 |
| 331 | 21／1 | 4：1 |
| $3^{3} 3$ | 21 | $5{ }^{1 /}$ |
| $3 \cdot 1$ | $3{ }^{3}$ | 43 |

## 1，500 VOLTS DC WORKING

| 1＇1．${ }^{\text {P15－P5 }}$ | 6.25 | ． 5 | 13 | 116 | 2\％ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 11，M15－1 | $7 . .10$ | 1.0 | 11. | 11. | $43 \%$ |
| $1 \mathrm{l}, \mathrm{M15}$－ | 11.811 | 2.0 | 213 | $1 \%$ | 431 |
| リ1．${ }^{\text {P15－3 }}$ | 12.50 | 3.0 | $3:$ | $11 /$ | 4：1 |
| 118．15－4 | 16.10 | 4.0 | $3 \%$ | $11 / 2$ | $4: 6$ |
| 1＇1．入115－5 | 15．00 | 5.0 | 334 | 2 | 43 |
| 1＇1． 1 15－6 | 17.06 | 6.0 | 3：4 | 211 | 43 |
| 19A115－8 | 21.001 | 8.0 | 33 | $\because 1 / 2$ | $4 \%$ |
| 11．．1715－10 | 25．110 | 10.0 | $3{ }^{3}$ | $3{ }_{3}{ }^{3}$ | $51 / 2$ |
| 1「．入15－1？ | 27.25 | 12.0 | 33 | $3{ }^{3}$ | $51 / 2$ |
| I＇L．M15－15 | ：110．010 | 15.0 | $4{ }^{3}$ | 3： | $51 /$ |

PLM CAPACITORS

| Catalog | List | Cap． | Case Size in Inches |
| :--- | :--- | :--- | :--- |
| Number | Price | in UF | Length Width Height |

600 VOLTS DC WORKING

|  |
| :---: |
|  |  |
|  |  |


| DC WO |  |
| :---: | :---: |
| 6.50 | ． 1 |
| 7.011 | ． 25 |
| 7． .11 | ． 5 |
| ［1．111 | 1.0 |
| 10．75 | 2.0 |
| 1\％．25 | 3.0 |
| 15．00 | 4.0 |
| 16.75 | 5.0 |
| 20.1011 | 6.0 |
| 2\％．00 | 8.0 |
| 30.70 | 10.0 |
| 3：1．00 | 12.0 |


| 1 | $1 ?$ | 21 |
| :---: | :---: | :---: |
| 1 | $1!$ | 27 |
| 1．1． | 1. | 37 |
| $2^{1}=$ | $1{ }^{3}$ | 41 |
| $3{ }_{1}$ | 11. | $4{ }^{1}$ |
| 3： | 13 | $4^{3}$ |
| $: 3 ;$ | 21, | 4.1 |
| ： $3: 3$ | $33^{312}$ | 43 |
| $3 \% 1$ | $3{ }^{3}$ | 512 |
| 4 |  | 515 |
| 4 | $3: 3$ | 6 |
| 4 | $3 \cdot 3$ | $7^{1}=$ |

2，500 VOLTS DC WORKING

|  | 11.50 | ． 5 | $2^{14}$ | $1{ }_{1}^{3}$ | 37 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1：1．00 | 1.0 | 83 | 1 | $3{ }^{1 /}$ |
| 11－19\％－2 | 21.50 | 2.0 | 3 | 21. | $4{ }^{3}$ |
|  | ：30．00 | 4.0 | 4 位 | $3{ }^{3}$ | $4^{3}$ |
| $\mathrm{P}^{3} \mathrm{~L}$ M $\mathrm{L}_{5} \mathrm{~F}-10$ | 75.00 | 10.0 | 4 | 334 | 81／2 |

## 3，000 VOLTS DC WORKING

|  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |

P1，1： $0-1$－
PI，N：31－
pคsi：0－2

4,000 VOLTS DC WORKING

| P「＿140－P1 | 25.00 | ． 1 |
| :---: | :---: | :---: |
| PLJI40－1－25 | 26.50 | 25 |
| ［＇［A140－1＇5 | 30.010 | 5 |
|  | 86.50 | 1.0 |
| P1，M40－3 | 16．．711 | 2.0 |
| PL」M40－4 | 67.00 | 4.0 |

5，000 VOLTS DC WORKING

| PLAM50－15 | 33.00 | 5 |
| :---: | :---: | :---: |
| P「，\50－1 | 43.00 | 1.0 |
| P1s\50－2 | 5.3 .50 | 2.0 |

.1
.25
.5
1.0
2.0
4.0

| 113 | 11. | 27\％ |
| :---: | :---: | :---: |
| $21 \%$ | 1 \％ 18 | $3^{1 / 4}$ |
| 21. | $1{ }^{3}$ | 43 |
| $3: 1$ | $2{ }^{1}$ | $4^{12}$ |
| 2\％ | 31 | 431 |
| $\mathrm{f}_{1}$ | $3 \cdot 1$ | $51 / 2$ |


.5
1.0
2.0

## KRAFT－TUBE METALLIZED PAPER CAPACITORS



## Type MT

Extended－foil section assembled in a special kraft tube．Vacuum－impregnated in microcrystalline min－ eral wax．l＇lastic end－scals．Overall coating of highly moisture－resistant wax． $15 / 8$－inch minimum lead length．Self－healing．Low r－f impedance．Fxcellont power factor over a wide temperature range．（For High－temperature Type IITR，see page P－170．）

Temperature Rating：$-40^{\circ}$ to $+70^{\circ} \mathrm{C}$ ．
Derating： 0 ，at $+55^{\circ} \mathrm{C} .15 \%$ at $+70^{\circ} \mathrm{C}$ ． Standard Tolerance：－ 20 \％ to +30 \％

## MT CAPACITORS

| Catalog <br> Number | List <br> Price | Cap． <br> in UF | Size in Inches <br> Diameter |
| :--- | :---: | :---: | :---: | :---: |
| 200 VOLTS DC | WORKING |  |  |


| Catalog Number | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { in } u p \end{aligned}$ | Size in Inches |  |
| :---: | :---: | :---: | :---: | :---: |
| $11 \%+1 \cdot 1$ | ，＊ | ． 1 | 18 | $11^{1 \times}$ |
| 310 1－120 | 1.101 | ． 25 | $\cdots$ | 11 |
| 119－15 | 1．1．； | ． 5 | in | 11 |
| 11 T | 1．${ }^{\text {a }}$（i） | 1.0 | 4 | 1.1 |
| $\cdots{ }^{1}+4-2$ | 2， | 2.0 | 10 | 2\％ |
| 600 VOLTS DC WORKING |  |  |  |  |
| Mツ\％－ふ1 | ． 70 | ． 01 | $1 / 4$ | \％ |
| －114－s\％ | － 11 | ． 02 | \％ |  |
| M16－5゙3 | ．su | ． 03 | 3／8 | \％ |
| M1\％－5 | ＊ 11 | ． 05 |  |  |
| MT6－11 | ．90 | ． 1 | 榣 | $1{ }^{1} \times$ |
| M＇64－125 | 1.10 | ． 25 | \％／400 | $1^{1} \times$ |
|  | 1.45 | ． 5 | 5／80 | 13 |
|  | 1．80 | 1.0 | \％ | \％ $2 \times$ |
| MT6－2 | 3.10 | 2.0 | 1 \％ | $23 \%$ |

## BATHTUB－TYPE METALLIZED PAPER CAPACITORS

## Types MPDK，MPDM and Variations

Extended－foil section assembled in hermetically sealed tinned bathtub－type case．Lug－type terminal seals． Basic Type MPDK impregnated in microcrystalline mineral wax．Basic Type MPDM impregnated in mineral oil．Self－healing．Low r－f impedance．Excel－ lent power factor over a wide temperature range． （For High－temperature Type MPI）R，see Page P－169．）

$$
\begin{aligned}
& \text { Temperature Rating: - } 55^{\circ} \text { to }+855^{\circ} \mathrm{C} \text {. } \\
& \text { Derating: } 0^{\prime} \text {, at }+55^{\circ} \mathrm{C} .30^{\prime} \text { at }+85^{\circ} \mathrm{C} \text {. } \\
& \text { Standard Tolerance: } \pm 20^{\prime}
\end{aligned}
$$

MIDK，MIDIM：Basic types，with terminals on side． Orter by Catalog Number from MPIDK－MPIDIT Tables． MPDKT，MPDMT：With terminals on top．To order： Select desired unit from MPDK－MPloM Tables；in unit Catalog Number，insert letter T after MPDK or MrIm．

MPDK，MPIMB：with terminals on bottom．To order：Select desired unit from MPINK－MIDM Tables；

in unit Catalog Number，insert letter B after MIDL or MPDM．
Distance between Mounting IIole Centers：
Length x Width Distance


## MPDK－MPDM SINGLE CAPACITOR UNITS

| Catalog Number | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{gathered} \text { Cap. } \\ \text { in } \cup f \end{gathered}$ | Leng | in | $\begin{aligned} & \text { es } \\ & \text { Height } \end{aligned}$ | Catalog <br> Number | List Price | in Cap. | Leng | in In Width | Height |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 150 VOLTS DC | WORKING |  |  |  |  | 400 VOLTS DC WORKING |  |  |  |  |  |
| M1免に゙1．5－3 | 5.10 | 3.0 | 16 | 1 | 34 | M1JMI4－I25 | 3．3\％ | ． 25 | $11 \%$ | ！ | 3， |
| \1गバ1．5－4 | 5.75 | 4.0 | 18 | 1 | 74 | －119M4－1． | 8.5 |  | $1{ }^{3}$ | ， | 31 |
| M1Pバ1．5－6 | 6． 10 | 6.0 | 2 | 1：1 | $\cdots$ | M1］M4－1 | 3.45 | 1.0 | 11.6 |  | ${ }_{7}$ |
| いやらに゙1．．う－8 | 8.40 | 8.0 | 2 | 3 | ＂ | M19） | － 8.8 | 4.0 | ${ }_{2}$ | 24 | 115 |
| いけいバ1．5－10 | 9.70 | 10.0 | 2 | 2 | 1 | Mlगsilt | 7．8： | 4.0 | 2 |  | 1. |
| ハリगドィ．5－13 | 11.00 | 12.0 | 2 | 2 | 1 | 600 VOLTS DC WORKING |  |  |  |  |  |
| 200 VOLTS DC | WORKING |  |  |  |  |  | \％ | ． 12 | $11 \%$ | ， | $\cdots$ |
|  | 3.30 | ． 5 | 113 | 1 | 3 | 1111016－1： | 1．27 | ． 5 | $1:$ | 1 | 3 |
| いリいだざ， | 3.55 | 1.0 | 1 1\％ | 1 | 3 |  | 4.96 | 1.0 | $1{ }^{1}$ | \＃， | ${ }^{\text {T－}}$ |
| M以リバージ | 4.45 | 2.0 | 116 | 1 | \％ |  | 6.35 | 2.0 | 2 | $\because$ | 1 |

## MPDK－MPDM DUAL－CAPACITOR UNITS

| 150 VOLTS DC WORKING |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{array}{r} 9.010 \\ 11.50 \end{array}$ | $\begin{aligned} & 4.0+4.0 \\ & 6.0+6.0 \end{aligned}$ | $\stackrel{2}{2}$ | $\frac{2}{2}$ | $1^{7 /}$ |
| $2 ⿹ 0$ VOLTS DC WORKING |  |  |  |  |  |
| 2M1リに゙2－1 | 5.00 | $1.0+1.0$ | $1^{17}$ | 1 | 3 |
| されいけドざき | 6．：30 | $2.0+2.0$ | 11. | 1 | $7 / 4$ |
| 400 VOLTS DC WORKING |  |  |  |  |  |
| 2MIPMM4－125 | \％． 80 | ． $25+.25$ | 118 | 1 | 3 |



600 VOLTS DC WORKING


## METAL－CAN METALLIZED PAPER CAPACITORS Types MPGK，MPGM and Variations

Extended－foil section assembled in hermetically sealed metal tubular case．Glass－to－metal end－seals．Basic Type MPGK impregnated in microcrystalline mineral wax．Basic Type MIPGM impregnated in mineral oil 15 －inch minimum lead length．Self－healing．Low r－f impedance．Excellent power factor over a wide tem－ perature range．（For High－temperature Type MPGR． see P＇ages P－169，170．）
MPGK，MPGM：Basic types，with grounded case Order by Catalog Number from MIPGK－MPGM Table
MPGIK．MPGIM：With floating case．To order：Select lesired unit from MPGK－MPGM Table；in unit Cata－ $\log$ Number．insert leter I after MI＇G：to List Price． $\therefore$ dd $\$ . \overline{75}$ ；to Length，add is＂．
MPGKV．MP（iMV：With insulating outer plastic slecse．To order：Select desired unit from MPGK MPGM Table；in unit Catalog Number，insert letter V after MPGK or MP＇M：to List Price，aced \＄20；to Diameter，add $1^{\prime \prime}$＂；to Length，add $1 / 8{ }^{\prime \prime}$
3MIPGK．3MIP（iM ：With threaded end bushing（Pyra－ mid Mounting Style 3＊）．To order：Select desired unit from MIPGK－MPGM Table；in front of unit Cata－ log Number，place number 3；to List Price，add $\$ .80$ ．


Temperature Rating：$-55^{\circ}$ to $+85^{\circ} \mathrm{C}$
Werating：or at $+55^{\circ} \mathrm{C} .30 \%$ at $+85^{\circ} \mathrm{C}$ ． Standard Tolerance：$\pm 20$ r，
GMPGK．GMIPGM：With soldered transverse bracket （ Pramid Mounting Style 6＊）．To order：Select de－ sired unit from MlPK－MP（iN Table；in front of unit Catalog Number，place number 6；to List Price，add $\$ .40$ ．
7MPGK．7MPGM：With soldered tangential bracket （Pyramid Mounting Style 7＊）．To order：Select de－ sired unit from MI＇GK－MI＇GM Table；in front of unit Catalog Number，place number 7；to List Price．add $\$ 40$ ．
＊For illustrations of Pyramid Mounting Styles see Page P－162．

## MPGK－MPGM CAPACITORS，GROUNDED CASE

| Catalog Number | List Price | $\begin{aligned} & \text { Cap. } \\ & \operatorname{in} U F \end{aligned}$ | Size in Diameter | Inches Length |
| :---: | :---: | :---: | :---: | :---: |
| 150 VOLTS DC WORKING |  |  |  |  |
| MI？バ1．5－？ | 5.95 | 3.0 | 750 | 1： |
| 入1矿1．⿹－1 | 7.51 | 4.0 | 1.1001 | $1 \because$ ； |
| い！リバ1．ォ－6 | 8.7 | 6.0 | 1.00 M | 1：1 |
| M1riに゙1．5－8 | ！ 1.75 | 8.0 | 1.000 | $21 /$ |
| ？ 000 VOLTS DC WORKING |  |  |  |  |
|  | 2．6：） | ． 01 | 2：\％ | ， |
|  | 2.70 | ． 02 | 23\％ | 3 |
| 111020－s | 2.75 | ． 03 | 235 | 3 |
| M以162－s4 | 2． 81 | ． 04 | ．235 | ${ }^{3}$ |
|  | 2．8． | ． 047 | 235 | \％ |


| Catalog Number | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | $\begin{gathered} \text { Cap } \\ \text { in } \cup \mathrm{F} \end{gathered}$ | Disize in Inches |  |
| :---: | :---: | :---: | :---: | :---: |
| M | \％ | ． 05 | 235 | 3 |
|  | 290 | .068 | 312 312 | \％ |
|  | \％io | ． 15 | 312 | 1 |
| Mロパーツ | \％ 5 | ． 22 | 312 | ， |
| 1110\％2－195 | \％ 10 | ． 25 | ？11 | 1 |
|  | 35 | ． 33 | 400 | 1 |
|  | 8 | ． 47 | ． 400 | 1 |
|  | 4.06 | ． 5 | 100 | 1. |

# MPGK-MPGM CAPACITORS 



## METAL-TUBE METALLIZED PAPER CAPACITORS Types MPTIK, MPTIM and Variations

Extended-foil section assembled in hermetically sealed metal tubular case. Spun-over synthetic rubber enddises. Basic Type MPTIK impregnated in microcrystalline mineral wax. Basic Type MIPTIM impregnated in mineral oil. 1 whinch minimum lead length, Selfhealing. Low r-f imperlance. Excellent power factor over a wide temperature range.

MDPIK, MIPTM: Basic trpes, with floating case. Order by Catalog Number from Mprik-illotil Table.
MPTK, MITM: With grounded case. To order: Solect desired unit from Mrlili-MPTISM Table; from unit Catalog Number, delete letter I; from Ioength, deduct

MDTIVV, MPTMV: With insulating outer plastic sheeve To order: Scleet desired unit from MillikMP'TIM Table; in unit Catalog Number, insert letter
 to Diameter, add in "; to Iength, add ${ }^{1}$ s".
AMPTIK, 4MPTM: With riveted radial bracket (I'yramid Mounting Style for $^{*}$. To order: Select desired unit from MPTli-MITNM Table; in front of unit


Temperature Rating: $-55^{\circ}$ to $+85^{\circ} \mathrm{C}$. Derating: (0): at $+55^{\circ} \mathrm{C}$. 30 : at $+85^{\circ} \mathrm{C}$. Standard Tolerance: - $20^{\prime \prime}$; to +30'f
Catalog Number. pace number i; to List Price, add $\$ .10$.
AMPTIVV, MMPLMV: With riveted radial bracket and insulating outer plastic slece (l'yamid hounting style 4 V ). To order: Seleet desired unit from MPTK-MPTIM Table; to unit Catalog Number, add prefix 4, and insert letter Vafter Marlis or Mirom; to List Pricé, ad! $\$ .30$.
TMPTIK, TMDTIN: With soldered tangential bracket I'ramid Mounting Style 7 \%). To order: Select desired unit from MPTli-MPTIN Table; in front of unit Catalog Number, place number 7; to List lrice, add $\$ .40$.

For illustrations of Pyrannid Mounting Styles. see Page

## MPTIK-MPTIM CAPACITORS, FLOATING CASE




# MPTIK－MPTIM CAPACITORS 

| Catalog Number | List Price | $\begin{aligned} & \text { Cap } \\ & \text { inUPF } \end{aligned}$ | size in <br> Diameter | hes Length |
| :---: | :---: | :---: | :---: | :---: |
| dl＂リ1314－1 | 2.51 | 1.0 | \％ | 2 |
|  | 3.611 | 2.0 | 1 | 3 |
| 600 VOLTS DC | WORKING |  |  |  |
| \＄1JTIJ16－S1 | 1.85 | ． 01 | \％ | $\cdots$ |
|  | 1.45 | ． 02 | Tis | \％ |
| MF＇T］\6－s： | 1.50 | ． 03 | 1\％ | ， |


| Catalog Number | List Price | Cap． <br> in UF | Size in Inches |  |
| :---: | :---: | :---: | :---: | :---: |
| A1Plo 11 i－s． | 1． $\mathrm{\therefore}$ | ． 05 | $1 / 2$ | ！ |
|  | 1．71 | ． 1 | 1／2 | 1 \％ |
|  | $\because .111$ | ． 25 | $5 \%$ | 1 \％ |
|  | 3.16 | ． 5 | $\because$ | 1 |
| \1191．11\％－1 | ：．mb | 1.0 | ， | 2 |
|  | 4.90 | 2.0 | 1 1／4 | $21 \%$ |

## BATHTUB－TYPE HI－TEMP METALLIZED PAPER CAPACITORS Types MPDR，MPDRT，MPDRB

Extended－foil section assembled in hermetically sealed
tinned bathtub type case．Impregnated in solid ther－ mosetting resin．Vitrified ceramic（or glass）lug－type terminal seals．Self－healing．Low r－f impedance． Excellent power factor over a very wide temperature range．
MPDR：Terminals on side．Order by Catalog Number from MIDIR Tables．
MPDRT：Terminals on top．To order：Select desired unit from MPDR Tables；in unit Catalog Number， insert letter T after MPDR．
MIDINRS：Terminals on bottom．To order：Select de－ sired unit from MPDR Tables；in unit Catalog Num－ ber，insert letter Is after MPDR．

Temperature Rating：$-55^{\circ}$ to $+125^{\circ} \mathrm{C}$ ．
Derating： $0^{1 /}$ at $+100^{\circ} \mathrm{C} .25^{\circ}$ ；at $+125^{\circ} \mathrm{C}$ ．
Standard Tolerance：$\pm 20 \%$

## MPDR SINGLE－CAPACITOR UNITS

| Catalog | List | Cap． | Size in Inches |
| :--- | :--- | :---: | :---: |
| Number | Price | in UF | Length Width Height |

## MPDR DUAL－CAPACITOR UNITS

| Catalog | List | Cap． | Size in Inches |
| :--- | :--- | :--- | :--- |
| Number | Price | in UF | Length Width Height |

## 1 SO VOLTS DC WORKING

| มl？リ「1．5－3 | 9.00 | 3.0 | 113 | 1 | \％ 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | ！ 1.81 | 4.0 | 1. | 1 | － |
|  | 13．2\％ | 5.0 | 1 1 | 1 | $\stackrel{\square}{-}$ |
| 111）l：1．．う－6 | $1 \because .4$ | 6.0 | 1 1： | 11／1 |  |
| ハ1］リこう．5－8 | 14.711 | 8.0 | $\stackrel{\sim}{2}$ | $\because$ | － |
| ถ191：1．5－11 | 17．20 | 10.0 | 2 | 3 | 1 |
|  | 19.611 | 12.0 | $\stackrel{3}{2}$ | $\because$ | 1 |

200 VOLTS DC WORKING

| M1－1リI： $\mathrm{P}_{5}$ | 6．2\％ | ． 5 | $11:$ | 1 | 34 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 小1「リご－1 | 6.75 | 1.0 | $1:$ | 1 | $3 / 4$ |
|  | 7.80 | 2.0 | $1:$ | 1 | \％ |



## 600 VOLTS DC WORKING

 A1ग11：6－I日里 М110 M以1）

| 8.00 | .1 |
| :---: | :---: |
| 8.30 | .25 |
| 8.813 | 1.0 |
| $1 . .611$ | 2.0 |
| 11.00 | 2.0 |


| 13 | 1 |
| :---: | :---: |
| $1{ }^{3}$ | 1 |
| $1^{3}$ | 1 |
| 1 家 | $11 / 4$ |
| 2 | 2 |



| 150 VOLTS DC WORKING |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 9入1） $1: 1.5-4$ | $1+i .20$ | $4.0+4.0$ $6.0+6.0$ | $\stackrel{9}{2}$ | 3 | $1^{\text {7\％}}$ |
|  | $\because 10.711$ | $6.0+6.0$ | $\stackrel{\square}{2}$ |  |  |
| 200 VOLTS DC | WORKING |  |  |  |  |
|  | ！\％$\quad 1$ | $1.0+1.0$ | 1 | 1 | 3 |
|  | 12．464 | $2.0+2.0$ | 11. | 1 | 7 |

400 VOLTS DC WORKING

|  | 6．ご， | $.25+.25$ | 11. | ， | \＃i |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 7．8．7 | ． $5+.5$ | 113 | 1 | ＂／ |
| ゴ1や）： | ！ 1.11 | $1.0+1.0$ | $\stackrel{\square}{2}$ | 13／4 | $7 / 4$ |
|  | 14.51 | $2.0+2.0$ | $\because$ | $\pm$ | $1^{1 / 4}$ |

600 VOLTS DC WORKING

|  | 7.40 | $.1+.1$ | $11:$ | 1 | S |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 8．4＇1 | $.25+.25$ | 1 | 1 | 3 |
| －${ }^{\text {a }}$ | 110．E． | $.5+.5$ | $1{ }^{1}$ | 11／4 | 7 |
|  | 11．191） | $1.0+1.0$ | $\because$ | $\underline{2}$ | 1 |

## METAL－CAN HI－TEMP METALLIZED PAPER CAPACITORS Type MPGR and Variations

Extended－foil construction assembled in hermetically sealed metal tubular case．Impregnated in solid ther－ mosetting resin．Glass－to－metal end－seals． $15 / 8$－inch minimum lead length．Self－healing．Low r－f impe－ dance．Excellent power factor over a very wide temperature range．

> Temperature Rating: $-55^{\circ}$ to $+125^{\circ} \mathrm{C}$. Ierating: $0 \%$ at $+100^{\circ} \mathrm{C} .25^{\circ}$ at $+125^{\circ} \mathrm{C}$. Standard Tolerance: $+20^{\circ} \%$


## MPGR CAPACITORS

MPGR: Basic type, with grounded case. Order by Catalog Number from MPGR Table.
MPGIR: With floating case. To order: Select desired unit from MPGR Table; in unit Catalog Number, insert letter I after MP'( $\mathbf{1}$; to List Price, add $\$ .75$; to Length, add
MPGRV: With insulating outer plastic sleeve. To order: Select desired unit from MP'GR Table; in unit Catalog Number, insert letter V after MPCR; to List Price, add \$.20; to Diameter, add ${ }^{1}{ }^{\prime \prime}$ "; to Length, add 1/8"
3MIPGR: With threaded end bushing (Pyramid Mounting Style $3^{*}$ ), To order: Select desired unit

MPGR CAPACITORS, GROUNDED CASE


## KRAFT-TUBE HI-TEMP METALLIZED PAPER CAPACITORS Type MTR

Extended-foil section assembled in a special kraft tube. Impregnated in solid thermosetting resin. Plastic end-seals. Overall coating of highly moistureresistant wax. $15 / 8$-inch minimum lead length. Selfhealing. Low r-f impedance. Excollent power factor over a very wide temperature range.

$$
\begin{aligned}
& \text { Temperature Rating: }-40^{\circ} \text { to }+100^{\circ} \mathrm{C} \text {. } \\
& \text { Standard Tolerance: }-20 \% \text { to }+30 \%
\end{aligned}
$$

from MPGR Table; in front of unit Catalog Number. place number 3 ; to list Price, add $\$ 80$.
6MPGR: With soldered transverse bracket (Pyramid Mounting Style 6*). To order: Select desired unit from MPGR Table; in front of unit Catalog Number. place number 6; to List Price, add $\$ .40$.
7MPGR: With soldered tangential bracket (Pyramid Mounting Style 7*). To order: Select desired unit from MP(iR Table; in front of unit Catalog Number, place number 7; to List Price, add $\$ .40$.

```
*For illustrations of Pyramid Mounting Styles, see Page
    P.162.
```



Pyramid＂GIASSEAL＂capacitors are subminiature metal cased tubular units which have been designed to meet severe and rigid operating requirements， especially where an important design consideration is limited space．
＂GLASSEALS＂have proven themselves to be unsur－ passed in reliability over the entire operating temper－ ature range from $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$ ．Rigid inspection throughout the manufacturing processes assure their continued excellence．

# HERMETICALLY SEALED 

subminiature
TUBULAR PAPER CAPACITORS

for $125^{\circ} \mathrm{C}$ operation at full rating

Pyramid＂GLASSEAL．S＂are available in a variety of impregnants，and internal constructions hermeti－ cally sealed with glass－to－metal end scals in non－ magnetic metal tubular cases．They are available in many mounting styles．See Engineering Catalog P（i－3 for full details．Pyramid＂GLASSEALS＂are manu－ factured in accordance with MIL－C－25／1B and may be secured with MIL designations CP04，05，08，09， 10 and 11 whenever required．

$$
\text { STANUARI TOI.ERANCE: } \pm 20 \%
$$

The listing below indicates those types and values normally available from I＇yramid＇s Authorized Industrial Distributors＇stocks．All are B．ISIC STY゙IE—Floating case－

| Catalog Number | $\begin{gathered} \text { Capacity } \\ \text { in } \mu \mathrm{f} \end{gathered}$ | VWDC | Diameter | Length | Lis！ Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| P（ilN1－11 | ． 1 | 1010 | ． 312 | \％$/$ | \＄1．711 |
| PG1N1－194 | .47 | 100 | ． 562 | $11 / 8$ | 4.45 |
| 1（ilス2－11 | .1 | 200 | ． 400 | 7／4 | 8．s： |
| P（idN2－147 | ． 47 | 2111 | ． 562 | $13 \%$ | 4．6－1 |
| P（idxt－P1 | ． 1 | 4110 | ． 4001 | $13 / 8$ | 4.15 |
| PGIXt－122 | ． 22 | 4111 | ． 562 | $13 \%$ | 4.65 |
| P（aIXt－ए4\％ | ． 47 | 4110 | ．6711 | 1\％ | 5.41 |
| P（ildibl） | ． 001 | 61111 | ．235 | $\pi / 4$ | 3.611 |
| P（ix＇6－1）22 | ． 0022 | 6011 | ． 235 | $3 / 4$ | $3.6{ }^{\text {3 }} 1$ |
| P（iJN6－1） 47 | ． 0047 | 6111 | ．2：\％ | $3 / 4$ | $\therefore .710$ |
| PGIX6－1）68 | ． 0068 | 6111 | ．20\％ | $3 / 4$ | 3.71 |
| P（ildo－s1 | ． 01 | 6111 | ．312 | 7／8 | ：．811 |
| P（ildi－s22 | ． 022 | 6111 | ． 12 | $7 / 8$ | ：s， |
| P（idib－S47 | ． 047 | 61010 | ． 4011 | $11 / 8$ | 4．0， |
| P（aIN6－S68 | ． 068 | 6011 | ． 41110 | $13 / 8$ | 4．20： |
| P（ilतf－1＇1 | ． 1 | 6010 | ． 562 | $11 / 2$ | 4.51 |
| 1（：1才6－P22 | ． 22 | 600 | ． 562 | 17／\％ | 5.6 |
| P（iNCG－P4T | ． 47 | 6011 | ． 750 | $21 / 3$ | 5.85 |

Two Watt Wire－Wound TV and Industrial Potentiometers


For replatement of positioning，hold and fox wo controls in＇TV：Also
 long．screw driser，slotted，insulated whaft．All hase lime．．r resistance Changer
 and（＇ontrols Section，this catalog．

| Cit．No． | （）hms <br> Resistana＇e | $\begin{aligned} & \text { liset } \\ & \text { fricer } \end{aligned}$ | （．1． 10. |  | $\begin{gathered} 1.101 \\ \text { 1ヶric! } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| H2I． | 2 | \＄1．25 | K50（＇T | －n | \＄1．4． |
| 12：31， | 3 | 1.25 | R1001． | 1110 | 1．25 |
| H．51， | 5 | 1．25 | R2501． | － 51 | 1.25 |
| H61． | $(1$ | 1．25 | K5001． | $\therefore$ 二小） | 1.25 |
| H8L | H | 1.25 | R7501． | $\bigcirc$－in | 1．25 |
| H10L | 111 | 1.25 | R1000I． | 10100 | 1.40 |
| H1OCT | 111 | 1.85 | R15001． | 17.110 | 1.40 |
| H15L． | 1.5 | 1.25 | H25001． | $\therefore \therefore 10$ | 1.40 |
| H20I， | $\cdots$ | 1.25 | K3000L | 30101 | 1.40 |
| H2OCT $\dagger$ | 20 | 1.85 | R5000I， | －1010 | 1.40 |
| H251． | \％ | 1.25 | R7500L | －is（1） | 1.50 |
| H301， | （3） | 1.25 | K16MI． | 116110 | 1.50 |
| H30CT $\dagger$ | （3） | 1.85 | K1．5MI． | 1．81000 | 1.50 |
| H5OL， | $\therefore 0$ | 1.25 | R20．${ }^{\text {M1 }}$ ． | $\because 60010$ | 1.50 |

All if type are linear No． 4 tapmer rece Fixplanation iff Matlory Fitpers，


## Attachable Switches for Above Controls

| （ $\because 11$ ．No． | 1） masarciption | L．ist l＇rice |
| :---: | :---: | :---: |
| US30 | Sinfle frole－single＇Throw | \＄0．60 |
| （15：32 | I Mouble Probe－single 「hrow | ． 75 |

Two Waft Wire－Wound Potentiometers and Rheostats

1／16＂dianneter．＂ $0^{\prime \prime}$ di－ ameter hy ${ }^{d_{8}{ }^{\prime \prime}}$ longe shati With serew ririver shot．
For use in tost ind spore cial instrumantuts．hias centrol and bridge cir－ cuits．Hias groumded contact arm，lरheostint

posinion－all have linear No． 4 taper Fev Fixplanation of Mablory Forr Dial mate $39 \%$ ，see page ${ }^{5}$ ，Nallory lewistor－and Controls Section，this catalog．

| Potentiometer |  |  | Wheostat |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ciataloge <br> Numbers | $\begin{aligned} & \text { l.ist } \\ & \text { l'rice } \end{aligned}$ | Cataloд <br> Number | $\begin{gathered} \text { l.心1 } \\ \text { l'riu! } \end{gathered}$ | （1）．14\％ | （＇ap）．in Amperes |
| C6P | \＄1．50 | C6H | \＄1．25 | 13 | ．5\％ |
| （10） | 1.50 | CIOK | 1.25 | 111 | ． 4.15 |
| C151） | 1.50 | C15R | 1.25 | $1{ }^{-1}$ | .37 |
| C201 | 1.50 | （20R | 1.25 | － 0 | ．33 |
| （30） | 1．50） | C30K | 1.25 | （1） | $\because 6$ |
| （10） | 1.50 | （－10R | 1.25 | 201 | －2， |
| （50） | 1.50 | C．04 | －-2.25 | －int | ．2－ |
| 61000 | 1.50 | C100R | － 1.25 | 1010 | ． 14 |
| C200］ | 1.50 |  |  | － 1101 | ． 1 |
| （4001） | 1.50 |  |  | －4（M） | .117 |
| （1MP | 1.75 |  |  | IM | ． 1.4 .5 |
| （ 3 MP | 1.75 |  |  | 3M1 | 02.5 |
| C．5MP | 2.00 |  |  | － 11 | －12\％ |
| （6MP） | 2.00 |  |  | 1in | ． 1118 |
| （10MP | 2.00 |  |  | 10.11 | ． 0114 |
| （15MP | 2.00 |  |  | 1．11 | ． 1111 |

Four Waft Wire－Wound
Potentiometers and Rheostats


Ferur－watt．wire－wombl controls designed espuedially for low voltage ＂IV．test eduipment，industrial amd elec＂ponic applieations，＇I hesse ＂obutrohs are supplied with at＂y＂lomg bushimg and have＇s＂rentord





| fortentiometer |  |  | Hheostat＊ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| （ Citabos <br> N＂unhber | 1．isi I＇rise | （ atalor <br> Number | List I＇rice | Ohms | （ ${ }^{\circ}$ ap）．in Amperes |
|  |  | MobkK | \＄1．25 | $1^{1 / 2}$ | 2.80 |
| \115 | \＄1．50 | M1HK | 1.25 | 1 | 2．00 |
|  |  | M2RK | 1.25 | 2 | 1.1 |
| M3PK | 1.50 | M3HK | 1.25 | ：3 | 1.15 |
|  |  | M4KK | 1.25 | 4 | 1.0 |
| M6PK | 1.50 | M6HK | 1．25 | （i） | ．82 |
| M101K | 1.50 | M10HK | 1.25 | 10 | ， 63 |
| M15 ${ }^{\text {¢ }}$ | 1.50 | M15 HK | 1.25 | 15 | ． $5 \cdot 3$ |
| M20）K | 1.50 | M20RK | 1.25 | 20 | ． 45 |
| M25アK | 1.50 | M25 HK | 1.25 | 25 | ． 40 |
| M301K | 1.50 | M30HK | 1.25 | 30 | ． 37 |
| M40PK | 1.50 | M－10 KK | 1.25 | 40 | A2 |
| M50РK | 1.50 | M50HK | 1.25 | 51 | ． 28 |
| M601＇ | 1.50 | M60HK | 1.25 | 6 | ． 26 |
| M 75 PK | 1.50 | M 75 KK | 1.25 | 75 | ． 28 |
| M1001PK | 1.50 | M100KK | 1.25 | 100 | ．20 |
| M2001＇K | 1.50 |  |  | 200 | ． 14 |
| M．1001PK | 1.50 |  |  | 400 | ． 10 |
| M5001＇K | 1.50 |  |  | 500 | ． 09 |
| M6001＇K | 1.50 |  |  | （00） | ． 1882 |
| M1MPK | 1.75 |  |  | 1 M | ． 11.15 |
| M1．5MPK | 1.75 |  |  | 2 M | ． 0.45 |
| M2M1K | 1.75 |  |  | 3M | ．0：37 |
| M2．5MIK | 1.75 |  |  | 4 M | ．032 |
| M：3MPK | 1.75 |  |  | 5 M | ． 028 |
| M－1 M PK | 1.75 |  |  | 10 M | ． 020 |
| MбM1K | 1.75 |  |  | 15 M | ． 0161 |
| M10MPK | 2.00 |  |  | 20 M | ．014 |
| M15MPK | 2.00 |  |  | 25 M | ． $01: 3$ |
| M20MPK | 2.00 |  |  | 610M | ． 0109 |
| M25MPK | 2.00 |  |  | 70 M | ． 0075 |
| MбоMPK | 2.10 |  |  |  |  |
| M70MPK | 2.10 |  |  |  |  |
| M 75 MPK | ：3．50 |  |  |  |  |
| M100M1＇K | 33.50 |  |  |  |  |
| ＊＂Open＂ | ＊（9）t＂¢xsilion conntor－chockwise． |  |  |  |  |
|  | Center Tapped Potentiometer |  |  |  |  |
| MTIOPK | \＄2．25 |  |  | 10 | ． 13.3 |
| MT20РK | 2.25 |  |  | 20 | ．15 |
| MT：30РK | 2.25 |  |  | ：30） | .37 |

## Seven Waft Wire－Wound



PR. MALLORY \& CO., INC. INDIANAPOLIS
MALLORY

Type "K"
Vitreous
Wire-Wound
Power Rheostats
and
Potentiometers


Mallory Power therostats and Fotentiometers are used with batlery Chargers. Glue brim Machines, Ibentat and Medical Equipmomi Fans, liilm I'rinters. (Benerators. Motion D'icture l'rojectors. Motors and other applications where it is desired to vary atable curnent. Mallory Fower liheostats and Potentionoters are construeted by
 tective coathg of vitreous emame. 'The element contact arm is hinged and under constatht pressure to insure proper contant with
 sailable. in adtlition to thowe below. A knob and dial plate ure supplied with anct ithaest at

Type 25K-25 Walts
Outside Diameter - 19 /16
Angle of Kotation-295

| Cat. No. | Ohms | Max. <br> Current Amps. | Steps <br> (Approx.) | LISt Price |
| :---: | :---: | :---: | :---: | :---: |
| 25K1P | 1 | 5.000 | 28 | \$7.00 |
| 25K2P | 2 | 3.540 | 28 | 6.20 |
| 25 K 3 P | 3 | 2.880 | 53 | 6.20 |
| 25 K 6 P | 6 | 2.040 | 51 | 6.20 |
| 25K8P | 8 | 1.770 | 56 | 6.20 |
| 25 K 10 P | 10 | 1.580 | 54 | 6.20 |
| 25K15P | 15 | 1.290 | 88 | 6.20 |
| 25K25P | 25 | 1.000 | 117 | 6.20 |
| 25K35P | 35 | . 845 | 129 | 6.20 |
| 25K50P | 50 | . 707 | 149 | 6.20 |
| 25 K 75 P | 75 | . 575 | 174 | 6.20 |
| 25K100P | 100 | . 500 | 184 | 6.20 |
| 25K125P | 125 | 447 | 187 | 6.20 |
| 25K175P | 175 | . 378 | 178 | 6.20 |
| 25K250P | 250 | . 316 | 200 | 6.20 |
| 25K350P | 350 | . 267 | 227 | 6.20 |
| 25K500P | 500 | . 222 | 256 | 6.20 |
| 25K750P | 750 | . 182 | 303 | 6.20 |
| 25 K 1000 P | 1000 | . 155 | 318 | 7.00 |
| 25K1500P | 1500 | . 129 | 310 | 7.00 |
| 25K2500P | 2500 | . 100 | 405 | 7.00 |
| 25 K 3500 P | 3500 | . 084 | 432 | 7.40 |
| 25K5000P | 5000 | . 070 | 471 | 7.40 |

Type 50K - 50 Watts
Outside Diameter-2'a, ${ }^{\prime \prime}$
Angle of Hotation- $\mathrm{bOO}^{\circ}$

| Cat No. | Ohnis | Max. <br> Cutrent Alips | Sieps <br> (Approx) | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 50 \mathrm{~K} .5 \mathrm{P} \\ & 50 \mathrm{~K} 1 \mathrm{P} \\ & 50 \mathrm{~K} 2 \mathrm{P} \\ & 50 \mathrm{~K} 4 \mathrm{P} \end{aligned}$ | $\begin{aligned} & 15 \\ & 1^{5} \\ & 4 \end{aligned}$ | $\begin{array}{r} 10.00 \\ 7.07 \\ 5.00 \\ 354 \end{array}$ | $\begin{aligned} & 25 \\ & 37 \\ & 42 \\ & 66 \end{aligned}$ | $\begin{array}{r} \$ 7.80 \\ 7.80 \\ 7.80 \\ 7.00 \end{array}$ |
| $50 \mathrm{K6P}$ 50 K 8 P 50 K 12 P 50 K 16 P | $\begin{array}{r} 6 \\ 8 \\ 12 \\ 16 \end{array}$ | $\begin{aligned} & 2.89 \\ & 2.50 \\ & 2.04 \\ & 1.76 \end{aligned}$ | $\begin{array}{r} 79 \\ 84 \\ 100 \\ 106 \end{array}$ | $\begin{aligned} & 7.00 \\ & 7.00 \\ & 7.00 \\ & 7.00 \end{aligned}$ |
| 50 K 22 P 50 K 35 P 50 K 50 P <br> 50 K 80 P | $\begin{aligned} & 22 \\ & 35 \\ & 50 \\ & 80 \end{aligned}$ | $\begin{array}{r} 1.50 \\ 1.19 \\ 1.00 \\ \hline 79 \end{array}$ | $\begin{aligned} & 145 \\ & 145 \\ & 163 \\ & 210 \end{aligned}$ | $\begin{array}{r} 7.00 \\ 7.00 \\ 7.00 \\ 7.00 \end{array}$ |
| $\begin{aligned} & 50 \mathrm{~K} 125 \mathrm{P} \\ & 50 \mathrm{~K} 150 \mathrm{P} \\ & 50 \mathrm{~K} 225 \mathrm{P} \\ & 50 \mathrm{~K} 300 \mathrm{P} \end{aligned}$ | $\begin{aligned} & 125 \\ & 150 \\ & 225 \\ & 300 \end{aligned}$ | $\begin{array}{r} .63 \\ .58 \\ .47 \\ .41 \\ \hline \end{array}$ | $\begin{aligned} & 204 \\ & 244 \\ & 298 \\ & 268 \\ & \hline \end{aligned}$ | $\begin{aligned} & 7.00 \\ & 7.00 \\ & 7.00 \\ & 7.00 \end{aligned}$ |
| 50K500P 50K800P 50 K 1000 P 50K1600P | $\begin{array}{r} 500 \\ 800 \\ 1000 \\ 1600 \end{array}$ | $\begin{aligned} & .32 \\ & .25 \\ & .226 \\ & .176 \end{aligned}$ | $\begin{aligned} & 205 \\ & 363 \\ & 354 \\ & 449 \end{aligned}$ | $\begin{aligned} & 7.00 \\ & 7.40 \\ & 7.10 \\ & 7.10 \end{aligned}$ |
| 50K2500P <br> 50 K 3500 P <br> 50 K 5000 P <br> 50 K 8000 P | $\begin{aligned} & 2500 \\ & 3500 \\ & 5000 \\ & 8000 \end{aligned}$ | $\begin{aligned} & 14 \\ & .12 \\ & .10 \\ & .08 \end{aligned}$ | $\begin{aligned} & 455 \\ & 500 \\ & 550 \\ & 690 \end{aligned}$ | $\begin{aligned} & 7.40 \\ & 7.80 \\ & 7.80 \\ & 7.80 \end{aligned}$ |

Type 100K - 100 Watts
Outside Dianeter-is'"
Angle of Rotation- $300^{\circ}$

| Cst. No | Othins | Max. <br> Current Amps | Steps <br> (Approx) | List Prict |
| :---: | :---: | :---: | :---: | :---: |
| 100K.5P | 5 | 1420 | 30 | \$11.70 |
| 100KIP | 1 | 1000 | 40 | 11.70 |
| 100K2P | 2 | 7.07 | 42 | 11.70 |
| 100K3P | 3 | 571 | 56 | 11.70 |
| 100K5P | 5 | 447 | 59 | 11.70 |
| 100 K 7.5 P | 75 | 365 | 96 | 10.95 |
| 100 K 10 P | 10 | 3.16 | 101 | 10.95 |
| 100K16P | 16 | 2.50 | 128 | 10.95 |
| 100K25P | 25 | 2.00 | 160 | 10.95 |
| 100 K 50 P | 50 | 141 | 200 | 10.95 |
| 100K75P | 75 | 115 | 240 | 10.95 |
| 100 K 100 P | 100 | 1.00 | 250 | 10.95 |
| 100K200P | 200 | . 71 | 315 | 10.95 |
| 100K300P | 300 | . 58 | 302 | 10.95 |
| 100K 100 P | 400 | . 50 | 316 | 10.95 |
| 100K500P | 500 | . 45 | 342 | 10.95 |
| 100 K 750 P | 750 | . 37 | 406 | 10.95 |
| 100 K 1000 P | 1000 | . 32 | 435 | 11.70 |
| 100K 1500P | 1500 | . 26 | 520 | 11.70 |
| 100K2000P | 2000 | . 22 | 544 | 11.70 |
| 100K2500P | 2500 | . 20 | 535 | 11.70 |
| 100K5000P | 5000 | 14 | 692 | 12.45 |
| 100K7500P | 7500 | . 12 | 820 | 13.25 |
| 100K1J00UP | 10000 | . 10 | 840 | 14.00 |

Type 150K-150 Watls
Outside Diameter-4132" Angle of kotation-305

| Cat. No. | Ohms | Max. <br> Current Amps | Steps (Appiox.) | List Price |
| :---: | :---: | :---: | :---: | :---: |
| 150K.5P | 5 | 1730 | 31 | \$14.85 |
| 150KIP | 1 | 12.30 | 38 | 14.85 |
| 150K2P | 2 | 8.66 | 51 | 14.85 |
| 150K3P | 3 | 7.07 | 73 | 14.85 |
| 150K5P | 5 | 5.48 | 77 | 14.85 |
| 150K7.5P | 7.5 | 4.47 | 70 | 14.85 |
| 150K10P | 10 | 3.87 | 145 | 14.00 |
| 150K15P | 15 | 3.16 | 138 | 14.00 |
| 150 K 25 P | 25 | 2.45 | 142 | 14.00 |
| 150K35P | 35 | 2.07 | 198 | 14.00 |
| 150 K 50 P | 50 | 1.73 | 182 | 14.00 |
| 150K75P | 75 | 1.41 | 218 | 14.00 |
| 150K 100 P | 100 | 1.22 | 229 | 14.00 |
| 150K150P | 150 | 1.00 | 276 | 14.00 |
| 150K200P | 200 | . 87 | 289 | 14.00 |
| 150K250P | 250 | . 77 | 360 | 14.00 |
| 150K350P | 350 | . 66 | 350 | 14.00 |
| 150 K 500 P | 500 | . 55 | 400 | 14.00 |
| 150K750P | 750 | . 45 | 460 | 14.85 |
| 150K1250P | 1250 | . 35 | 490 | 14.85 |
| 150K1800P | 1800 | . 290 | 555 | 15.60 |
| 150K2250P | 2250 | . 26 | 547 | 15.60 |
| 150 K 3000 P | 3000 | . 22 | 729 | 15.60 |
| 150K4500P | 4500 | 18 | 689 | 16.35 |
| 150 K 7500 P | 7500 | 14 | 930 | 17.15 |
| 150K10000P | 10000 | 12 | 980 | 18.70 |

Type 300K - 300 Watts
Outside Diameter-fi'in"
Angle of Rotation- 315

| Cat No. | Otims | Max. <br> Current Amps. | Steps (Approx.) | $\begin{aligned} & \text { List } \\ & \text { Pice } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 300 KIP | 1 | 17.30 | 48 | \$21.05 |
| 300K2P | 2 | 12.25 | 60 | 21.05 |
| 300 K 3 P | 3 | 10.00 | 64 | 21.05 |
| 300K4P | 4 | 8.66 | 80 | 21.05 |
| 300 K 5 P | 5 | 7.75 | 80 | 21.05 |
| 300K7.5P | 7.5 | 6.32 | 100 | 21.05 |
| 300 K 10 P | 10 | 5.48 | 139 | 21.05 |
| 300K15P | 15 | 4.47 | 128 | 21.05 |
| 300K25P | 25 | 3.46 | 182 | 21.05 |
| $300 K 50 \mathrm{P}$ | 50 | 2.45 | 228 | 21.05 |
| 300K75P | 75 | 2.00 | 271 | 21.05 |
| 300K100P | 100 | 1.73 | 287 | 21.05 |
| 300 K 150 P | 150 | 1.41 | 338 | 21.05 |
| 300 K 200 P | 200 | 1.22 | 361 | 21.05 |
| 300 K 300 P | 300 | 1.00 | 427 | 21.05 |
| 300 K 400 P | 400 | . 87 | 460 | 21.05 |
| 300K700P | 700 | . 66 | 555 | 21.05 |
| 300 K 900 P | 900 | . 58 | 564 | 21.05 |
| 300 K 1200 P | 1200 | . 50 | 605 | 21.05 |
| 300 K 1500 P | 1500 | 45 | 755 | 21.05 |
| 300K 1750P | 1750 | . 41 | 691 | 21.05 |
| 300K2500P | 2500 | . 35 | 785 | 21.05 |

Order by wattage and resistance. For example: $\mathbf{A}$ 25-watt 100 ohm unit is indicaled by 25K100P. A 100-watt 12 ohm unit is 100K12P. Or, a 50-walt . 5 ohm unit is 50K.5P . . . etc.


Mercury "A" Batteries


I'rovide up to 4 times enorgv-volnmer rat io of other tybes of bat teries. Ideal for use in portable electronic equipmont, etc. Ferform under wide range of adverse weather and humidity conditions. No need for rotation or rest periods. Uniform and optimam discharge voltage throughout long service life. 1.34 volts. Button height . $0.58^{\prime \prime}$

## Mallory Power-Pak Batteries

| Catalog <br> Number | Description | Nominal Voltage | Capacity <br> MAH |
| :---: | :---: | :---: | :---: |
| 302108 | Martin Aircraft Fi-7.4600 | 5. 3 | 3.200 |
| 302157 | S(1-10 Radiation Vetector "A" | 1.34 | 36,000 |
| 302158 | SU-10 Radiation Deteetor "I3" | $\dagger$ | 1.000 |
| 302189 | Navy 'Transmejver . . . . . . . . | ()-130 | 32.200 |
| 302240 | Martin Eatitiolo | 21 | 2,000 |
| 302249 | Radiation letector | 6.7 | 250 |
| 302250 | Radiation Wetector | 9.4 | 250 |
| 302268 | Navy Mark of Computor | 4.0 | 3.600 |
| 302271 | Air Force Multimetor | 1.3-12 | 3,500-250 |
| 302:351 | Home F-ire Aarm Battery | 5.2 | 2.400 |
| 3302425 | Mallory Standard. . . . . | 45 | 250 |
| 3302435 | Radiation Iotector | 6.7 | 250 |
| 33024.37 | Radiation loutector | 9.4 | 250 |
| 302462 | ( 135 "Iransmitter "13" Supply | 9 MT 4 | 1.000 |
| 30246:3* | Now Style Cieophysical. | 1.34 | 18.000 |
| :302464 | New Style Geophysical | 6.7 | 3.1000 |
| 302.165 | Now Siyle Geophysiozal. | 45 | 1,000 |
| 302.475 | Double" "(." Photoflash cartridge | 2.7 | 3,600 |
| 302478 | Minifon Remorder | 9 | 2.300 |
| 302604 | Signal "(?" Rarlation I)eteretor | 5.2 | 250 |
|  | Std. "1)"Size (edl | 1.38 | 14,000 |
| $\mathrm{KM}-42 . \mathrm{T}$ | Std. "I)" Cedl with ratis | 1.38 | $1.9,000$ |

* Renlacobllle ly $12 \mathrm{Mi}^{-42}$



## Shafis-Couplers-Bushings-Dial Plates



| Citt No. | 17:stripiont | 1.ist Jrice |
| :---: | :---: | :---: |
| ECD20 |  I) | \$0.7.7 |
| F13247 |  | .2\% |
| $1 \mathrm{I}_{1311}$ |  | . $9 \%$ |
| 178 |  | . $7 \%$ |
| R心2.12 |  | . 10 |
| 12Sid. ${ }^{\text {d }}$ |  | . 10 |
| Ksiz41 |  | . 40 |
| 1282.5 |  | .45 |
| 369 |  (comprombine sc:ald. | -20 |
| 391 | 1heronse Volume Ifl labostats and Prolentionmpers 1 $\quad \mathbf{N}$ | .15 |
| :393 |  <br>  | .25 |
| [395) |  <br>  stats amd lotentionmerers | .25) |
| :396 | 0-10 For standard Wire-Wimmed fontrols: With switeh type eover | . 25 |
| 397 | 0-10 For Statheard ('arbont (ontrols with lelain eover-2" $\mathbf{N}$ | . 25 |
| 398 | 0) 10 fior Sitambird ("arbon (eantrols with swilals fype "over-2'a" (N | .25 |
| 399 |  (N) | . 25 |


| " A " <br> I3at1ery | IViam. (Inches) | Height <br> (lmeless) | Volunse ( ('u. In.) | $\begin{aligned} & \text { Weipht } \\ & (0) \mathrm{O} .) \end{aligned}$ | $\begin{aligned} & \text { Capacity } \\ & (M \wedge I) \end{aligned}$ | Max. I)rain (Ma.) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| RM1000 | .625 | .65) | . 20 | .43 | 1000 | 100 |
| RM13000 | .973 | . 650 | . 50 | . 93 | 2000 | (6) |
| RM4000 | 1.187 | . 35.50 | .72 | 1.60 | 3200 | 80 |
| KM1200 | .625 | 1.950 | . 60 | 1.40 | :3fiol | 250 |
| KM-1010 | . 465 | 1.140 | . 18 | .40 | 800 | 100 |
| RM6250T | . 6106 | . $2 \cdot 25$ | .07 | . 14 | 200 | 20 |
| RMらO20 | .538 | 1.950 | . 4.4 | 1.05 | 2400 | 200 |



Mallory Military Batteries

| Catialogr <br> Number | Description | $\begin{aligned} & \text { Nominal } \\ & \text { Voltage } \end{aligned}$ | $\begin{aligned} & \text { Capacity } \\ & \text { MAB) } \end{aligned}$ | Max. I)rain (Ma.) |
| :---: | :---: | :---: | :---: | :---: |
| BA-1051 U | $\begin{gathered} \text { "ramseceiver "13" } \\ \text { Battery. ... } \end{gathered}$ | 6.4 | 650 | JAN |
| BA-1277 U | Sl'-10 Military Ranliation Foror civilian use sulastiture 302157 | 1.34 | 38,400 |  |
| BA-1278 U | stiolo Alilitary <br> Radlation Forer civilian use sulbatitute:3021.58 | $\dagger$ | 650 |  |
| 13A-1293 U | Military Psias Bithery | 1 | 650 | $J \backslash N$ Spec. |

## Yard-Ohm Resistance Kits

Fiach V:ard-ahm kit monsist of the following: 1 yard spiral wound resistanore whe: 1 var! insulatat! hraid; ed spiral wire leads. The kit



| (Batulag <br> Number | liswistames. <br> V": <br> ( ()hums <br> mor (nu-b) | f:arrumb <br>  <br> in <br> - Wmpras | (:atalong Nimber | Resistance <br>  <br> ( ${ }^{\text {Bhbses }}$ <br> per Inedt | ('arrying <br> ('ibacity <br> in <br> Amperes |
| :---: | :---: | :---: | :---: | :---: | :---: |
| YO. 1 | 1 | .90- | Y'0-50) | . 10 | 100 |
| Y()-5 | 5 | . 31. | Y()-100 | (10) | .1) 71 |
| Y()-10 | 10 | . $2 \cdot 2 ; 3$ | Y'0-250 | 2501 | (0).14 |
| Y()-2.5 | 25 | . 1.11 | Y'0-500 | 500 | . 031 |

Adjustable Mounting Brackets

| (:al. No. | 1)esicription | List Price |
| :---: | :---: | :---: |
| K13248 | $1{ }^{3}{ }_{4}^{\prime \prime}$ Mowning Centers (A). | \$0.25 |
| R132.19 | $2^{1 / 2} 2^{\prime \prime}$ Mounting (enters (13) | . 25 |
| 12132:54 | Universal. | . 25 |

## Mallory Fixed and Adjustable Vitreous Enamel Resistors



Wirc-wound, covered with a special, vitreous. non-alkaline, non-hygroseopic enamel coating which assures exceptional sealing and permanence of electrical characteristics. Adjust-

able types equipped with slider. 5 and 10 watt sizes have tinned-copper leads. All others supplied with mounting feet.

## Fixed Types

Type HHJ-5 Watt Rating
Tube Size 5/16" $\times 1^{\prime \prime}$

| Resistance Ohms |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 10 | 40 | 250 | 700 | 1250 | 3500 |
| 1.5 | 12 | 50 | 300 | 750 | 1500 | 4000 |
| 2 | 15 | 75 | 350 | 800 | 1750 | 4500 |
| 3 | 20 | 100 | 400 | 900 | 2000 | 5000 |
| 4 | 25 | 125 | 450 | 1000 | 2250 |  |
| $\square$ | 30 | 150 | 500 | 1100 | 2500 |  |
| 7.5 | 3.5 | 200 | 600 | 1200 | 3000 |  |
| Ohms |  |  |  |  | List Price |  |
| 1 Thru 1000. |  |  |  |  | \$0.67 |  |
| 1100 'Thru 5000. |  |  |  |  | . 75 |  |


| Type $1 \mathrm{HJ}-10$ Watt Rating Tube Size $5 / 16^{\prime \prime} \times 13 / 4^{\prime \prime}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Resistance Ohms |  |  |  |  |  |  |
| 1 | 25 | 225 | 800 | 2500 | 8500 | 18000 |
| 2 | 30 | 250 | 900 | 3000 | 10000 | 20000 |
| 3 | 35 | 300 | 1000 | 3500 | 11000 | 22500 |
| 4 | 40 | 350 | 1100 | 4000 | 12000 | 25000 |
| 5 | 50 | 400 | 1200 | 4500 | 1250\% | 30000 |
| 7.5 | 75 | 450 | 1250 | 5000 | 13500 | 35000 |
| 10 | 100 | 500 | 1500 | 6000 | 14300 | 40000 |
| 12 | 125 | 600 | 1750 | 7000 | 15000 | 45000 |
| 15 | 150 | 700 | 2000 | 7500 | 16000 | 50000 |
| 20 | 200 | 750 | 2250 | 8000 | 17500 |  |
| Ohms |  |  |  |  |  |  |
| 1 'Thru 1000 . . . . . . . . . . . . . . . . \$0.75 |  |  |  |  |  |  |
| 1100 Thru 5000. |  |  |  |  |  | . 80 |
| 6000 Thru 10000. |  |  |  |  |  | . 92 |
| 11000 Thru 20000 |  |  |  |  |  | 1.03 |
| 22500 Thru 50000. |  |  |  |  |  | 1.11 |

Type 2H.J-20 Watt Rating


| Resistance ( hmm |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 100 | 500 | 2000 | 4000 | 12500 | 40000 |
| 10 | 150 | 750 | 2250 | 4500 | 15000 | 50000 |
| 15 | 200 | 1000 | 2500 | 5000 | 20000 | 75000 |
| 25 | 250 | 1250 | 2750 | 6000 | 25000 | 100000 |
|  | 300 | 1500 | 3000 | 7500 | 30000 |  |
| 75 | 400 | 1750 | 3500 | 10000 | 35000 |  |
| Ohms |  |  |  |  | List IPrice |  |
| 5 Thru 1000. |  |  |  |  |  | \$0.95 |
| 1250 Thru 5000 |  |  |  |  |  | . 97 |
| 6000 Thru 10000 |  |  |  |  |  | 1.12 |
| 12500 Thru 20000 |  |  |  |  |  | 1.20 |
| 25000 Thru 40000 |  |  |  |  |  | 1.37 |
| 50000. |  |  |  |  |  | 1.50 |
| 75000 Thru 100000 |  |  |  |  |  | 1.75 |

Type 5HJ-50 Watt Rating
Tube Size $9 / 16^{\prime \prime} \times 4^{\prime \prime}$

| Resistance Ohms |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 250 | 1500 | 7500 | 20010 | 50000 |
| 25 | 500 | 2000 | 10000 | 2,000) | T500\% |
| 50 | 750 | 2500 | 12500 | 30000 | 100000 |
| 100 | 1000 | 5000 | 15000 | 4000) |  |
| Ohms |  |  |  |  | List I'rice |
| 10 Thru 5000 |  |  |  |  | \$1.75 |
| 7500 'Thru 10000 |  |  |  |  | 1.92 |
| 12500 'thru 20000. |  |  |  |  | 2.12 |
| 25000 'Thru 40000. |  |  |  |  | . 2.33 |
| 50000 |  |  |  |  | - 2.58 |
| 75000. |  |  |  |  | 2.92 |
| 100000. |  |  |  | . | 3.20 |

Type $\mathbf{1 0 H J}-100$ Watt Rating Tube Size $34^{n \prime} \times 6^{1 / 2} 2^{\prime \prime}$

| Resistance Ohnis |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 25 | 500 | 2000 | 10000 | 25000 | 50000 |
| 50 | 750 | 2500 | 15000 | 30000 | 75000 |
| 100 | 1000 | 5000 | 20000 | 40000 | 100000 |
| 250 | 1500 | 7500 |  |  |  |
| Ohms |  |  |  |  | List Yrice |
| 25 'Thru 1000 |  |  |  |  | \$2.48 |
| 1500 'Thru 5000 |  |  |  |  | 2.53 |
| 7500 Thru 10000. |  |  |  |  | 2.70 |
| 15000 Thru 20000 |  |  |  |  | 2.97 |
| 25000 Thru 40000 |  |  |  |  | 3.26 |
| 50000. |  |  |  |  | 3.37 |
| 75000. |  |  |  |  | 3.58 |
| 100000 |  |  |  |  | 3.80 |

Type 20HJ-200 Watt Rating
Tube Size $116^{\prime \prime} \times 1012^{\prime \prime}$

| Resistance Ohms |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 100 | 750 | 2000 | 5000 | 20000 | 50000 |
| 50 | - 250 | 1000 | 2500 | 7500 | 30000 | 75000 |
| 75 | 500 | 1500 | 3000 | 10000 | 40000 | 100000 |
| Ohms |  |  |  |  |  | at I'rice |
| 25 Thru 1000. |  |  |  |  |  | 3.29 |
| 1500 'Thru 5000. |  |  |  |  |  | 3.34 |
| 7500 'Thru 10000 |  |  |  |  | . . | 3.54 |
| 20000. |  |  |  |  |  | 3.75 |
| 30000 Thru 40000. |  |  |  |  |  | 3.90 |
| $50000 . . . . . . . .$. |  |  |  |  | . . | 4.03 |
| 75000. |  |  |  |  | . | 4.25 |
| 100000 |  |  |  |  | . . . | 4.53 |

## Adjustable Types

Type 1 AV-10 Watt Rating Tube Size $5 / 16^{\prime \prime} \times 13 / 4^{\prime \prime}$

| Resistance (hmm |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 15 | 150) | 500 | 1500 | 4000 | 8000 |
| 2 | 20 | 200 | 6\%O | 2000 | 4500 | 8500 |
| 3 | 2.5 | $\underline{29}$ | 750 | 2050 | 5000 | 9000 |
| 5 | 50 | 300 | 800 | 2500 | 6000 | 10000 |
| 7.5 | \% 7 | 350 | 1000 | 3000 | 7000 |  |
| 10 | 100 | 400 | 1250 | 3500 | 7500 |  |
| Ohms |  |  |  |  |  | List I'rice |
| 1 Thru 1000 |  |  |  |  |  | \$1.47 |
| 1100 'Thru 5000 |  |  |  |  |  | 1.53 |
| (600) Thru 10000 |  |  |  |  |  | 1.63 |

Type 2AV-25 Watt Rating 'Tule Size $9 / 6^{\prime \prime} \times 2^{\prime \prime}$

| Resistance (Jhms |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 25 | 200) | 750 | 2500 | 6000 | 20000 |
| 3 | 50 | 250 | 1000 | 3000 | 7500 | 25000 |
| 5 | 7. | 300 | 1250 | 3500) | 10000 |  |
| 10 | 100 | 400 | 1500 | 4000 | 12000 |  |
| $1 \%$ | 1:6) | 500 | 2000 | 5000 | 15000 |  |
| Ohens |  |  |  |  |  | I ist I'rice |
| 1 Thru 1000 |  |  |  |  |  | \$1.84 |
| 1250 'Thru 5000 |  |  |  |  |  | 1.88 |
| 6000 'thra 100000 |  |  |  |  |  | 2.03 |
| ${ }^{12000} 2000$ Thru 20000 |  |  |  |  |  | 2.08 |
|  |  |  |  |  |  | 2.28 |

Type 5AV-50 Watt Rating Tube Size $9 / 16^{\prime \prime} \times 4^{4 \prime}$


Type 10AV-100 Watt Rating
Tube Size $3^{3 / 1} \times 61 / 2^{\prime \prime}$

| Resistance 0 hms |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50 | 2000 | 5000 | 15000 | 30000 | 50000 |
| 100 | 2500 | 7500 | 20000 | 35000 | 75000 |
| 500 | 3000 | 10000 | 25000 | 40000 |  |
| 1000 | 4000 |  |  |  |  |
| Ohms |  |  |  |  | List l'rice |
| 50 'Thru 1000 |  |  |  |  | \$3.55 |
| 2000 'Thru 7500000. |  |  |  |  | 3.67 |
|  |  |  |  |  | 3.87 |
| 15.000 Tha 20000 |  |  |  |  | 4.12 |
| 25000 'Thru 40000 |  |  |  |  | 4.37 |
| $50000 . . . . . . . .$. |  |  |  |  | 4.57 |
| 75000 |  |  |  |  | . 4.75 |

Type 20AV-200 Watt Rating
Tube Size $1 / 8^{\prime \prime} \times 101 / 2^{\prime \prime}$

| Resistance Ohms |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 50 | 1000 | 2500 | 20000 | 50000 |
| 100 | 1500 | 5000 | 25000 | 75000 |
| 500 | ) 2000 | 10000 | 30000 |  |
| Ohms |  |  |  | List Price |
| 50 Thru 1000. |  |  |  | \$4.37 |
| 1500 Thru 5000 |  |  |  | 4.45 |
| $10000 .$ |  |  |  | 4.70 |
|  |  |  |  | 4.92 |
| ${ }_{50000}^{25000}$ Thru 30000 |  |  |  | 5.03 |
|  |  |  |  | 5.17 |
| 75000. |  |  |  | 5.42 |

## DEPOSITED CARBON RESISTORS

Types HS and DC Deposited Carbon Resisfors

(Resistors illustrated are approximately $\eta_{3}$ actual size)

## Type DC $\pm 1 \%$ Deposited Carbon Presision Resisfors

Mallory Deposited Carbon Prucision Resistors are designed primarily as low-cost replacements for expensive wire-wound resistors in high-quality laboratory instruments. Their unique operating characteristics also make them ideal for replacement or substitution in all radio, television, electronic, or clectric circuitry where stability. chose olerance, low-noise and bow inductance are desired. Average shelf life change will mot exceed '4"; per year. One thousand lomer load life test indjeates a maxinum thenge not excerding $\pm 1 \%$
These resistors are formed of pure. cristalline-carton particles deposited on specially compounded ceramic. Fach Mallory Deposited Carbon Resistor is equiped with $1 \cdot z^{\prime \prime}$ tinned eoppor, axially-placed Jeads ripidly attached to silver plated hrase ond-atas. Raked mois-turn-resistant insulation is incorporated in construction for protection against humidity. Wach resistor is calibrated at a nominal temperature of $25^{\circ} \mathrm{C}$. and each has a negative temperature condficient range
 resistances exdeding 1 megohm.

Each unit is insperted aceording to requirements of accepted government specifications. and each is marked with resistance value, type and tolerance. except the smaller types which have a separate label.


All DC Types are packaged in this dust-free plastic tube, assuring adequate physical protection

| Cat No. | Wattage | Working Volts | Size (in inches) Dia. Length | Standard Value Reststance Range | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| DC1/4 | . 25 | 300 | $3_{32} \times 17{ }_{32}$ | 50 ohms-1 Meg. | \$1.50 |
| DC1/2 | . 50 | 500 | $1164 \times 1{ }^{13} 16$ | 70 ohms - 5 Meg. | . 67 |
| DC $1 / 2 \mathrm{~A}$ | . 50 | 350 | $11 / 64 \times 1932$ | $41 \mathrm{ohms}-2.2 \mathrm{Meg}$. | . 67 |
| DC $1 / 2 \mathrm{C}$ | . 50 | 350 | $11 / 64 \times 1538$ | $20 \mathrm{hms}-1.1 \mathrm{Meg}$. | . 67 |
| DC1 | 1.00 | 500 | 9 9, $\times^{18 / 16}$ | $41 \mathrm{ohms-4.5} \mathrm{Meg}$. | 1.00 |
| DC2 | 2.00 | 750 | 9/32 $\times 21 / 16$ | 5.0 Meg . 120 ohms 10 Meg. | 1.10 1.20 |

Each of the six DC types is available in the following resistance values, within resistance ranges shown in the table above:

| Ohms | Ohms | Ohms | Ohms | Ohms | Ohms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 50 | 1000 | -. 5 K | 40.0 K | 225.0 K | 1.0 Meg. |
| 100 | 1500 | 10.0 K | 50.0 K | 250.0 K | 1.5 Meg. |
| 200 | 2000 | 12.5 K | 60.0 K | 300.0 k | 2.0 Meg . |
| 250 | 2200 | 15.0 K | 75,0 K | 400.0 K | 2.5 Meg. |
| 300 | 2500 | 20.0 K | 100.0 K | 500.01 k | 5.0 Meg . |
| 400 | 3.0 K | 22.5 K | 125.0 K | 600.0 K | 10.0 Meg . |
| 500 | 3.5 K | 25.0 K | 150.0 K | 750.0 K |  |
| 600 | 4.0 K | 30.0 K | 175.0 K | 900.0 K |  |
| 700 | $5,0 \mathrm{~K}$ | 35.0 K | 200.0 K |  |  |

When ordering specify type and resistance value desired

## Type HS $\pm \mathbf{1 0 \%}$ Deposited Carbon Resistors

For the first time the well-hnown atvantages of high-stability low indurfance, and smatl siza of Modlorv beposited Carbon kesistors aro available at moderitue cost lim use in many dommercial applications where accuracy of resistance is of less importance that the consisfency of operation over lane pertimes of time and through many changes of temperature. Averoge shell life ehange will mot exceed $1 / 4 \%$ per year. (Dne thomsand hour hom dife dest indieates at maximum change not exereding t
Television sorviemen. laburatorv lechomaths, athet model shop, enginerers, in particular, will find the en remstons idnal fon eritiond television and other ossillator titraits where constanev of resistance

 ception of the resistance toluramer whinh has heren inderised to $\pm \mathbf{1 0 \%}$ of the mominal value. 'The sime quation and tomperature coselficient, as featured in the DC: types, is maint.and thrunghout.

| Cat. No. | Wattage | Working Volts | $\begin{aligned} & \text { Size (in inctirs) } \\ & \text { Dia. Lengith } \end{aligned}$ | Standard Value fiesmstance kange | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HS1/2 | . 50 | 500 | $11 / 64 \times 13 / 14$ | 47 ohms -8.2 Mer. | \$0.35 |
| HS1/2A | . 50 | 350 | 11/60 $\times 143$ | 10 utions 3.3 Meg. | . 40 |
| $\mathrm{HS}^{1 / 2} \mathrm{C}$ | . 50 | 350 | ${ }^{11 / 64 \times 15}$ | 10 utims 12 Meg . | . 45 |
| HS1 | 1.00 | 500 | $9_{32} \times 15$ | 100 ahms 10 Meg . | . 50 |

Each of the four HS types is :availathe in the following IR'MMA resistance values, within resistabee rathens shown in the chart above:

| Ohms | Ohms | Ohms | ( Hinus | ( Hhms | Ohmes |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 100 | 1 K | 10 K | 104 K | Meg. |
| 12 | 120 | 1.2 K | 12 K | 120 K | 1.2 Mer. |
| 15 | 150 | 1.5 K | 15. K | 150 K | 1.5 Meg . |
| 18 | 180 | 1.8 K | 18K | 180 K | 1.8 Meg. |
| 22 | 220 | 2.2 K | 22 K | 220 K | 2.2 Meg . |
| 27 | 270 | 2.7 K | 27 K | 270 K | 2.7 Meg. |
| 33 | 3330 | 3.3 K | 3:1 K | 330 K | 33.3 Meg. |
| 39 | 390 | 3.9 K | 36に | 3901 K | 33.4 Meg. |
| 47 | 470 | 4.7 K | 47 K | 470 K | 4.7 Meg. |
| 56 | 560 | 5.6 K | 56 K | 560 K | 5.6 Meg. |
| 68 | 680 | 6.8 K | tix K | 680 K | (i.K Meg. |
| 82 | 820 | 8.2 K | * K | 820 K | ․․ 2 Meg. 10) Мея. |

When ordering specify type and rexist.aner value desired.

## SPECIAL ORDERS <br> - Made to Your Specifications

Mallory Deposited Carbon Precision Resistors are also available in DC types made to exact customer specifications requiring a wider range of resistance values from 2 ohms to 50 megohms. DC type resistors are also available in hermetically sealed types and with special coatings or sleeves.

## （®）

## RESIST－0－CABINETS

and RESIST－0－KITS






| ASSÓRTMENT \＃AT <br>  |  |  | COMBINATION ASSORTMENT \＃6 4 Insulated fersisions and loype I）C Foblerance I＇revistors．List Prize $\$ 23.54$ |
| :---: | :---: | :---: | :---: |
| Uantitr range | quanlilit range | quantity range | RANGE 12 WATt 1 WAIT 2 Whit dit |
| 4tio lunt | 1tisumux | 4 4， | 15. |
|  | \％own | \％ |  |
|  |  |  |  |
|  | 边 | \％ | 1．，inu ulumux |
| So | ，whms |  | ， 200 otius |
|  | \％ | \％ | man mine $1:-$ |
| Nek | 4．0．0 itum： | 3 | \％un |
| 27\％ | \％ | Tie\％ | 1uk |
| tik Mhans： | Shim： | 1： |  |
| Son | ask whune： |  |  |
| \％20k wimus | cose | cisw | Hicosum |
| Stisk blums |  | Sewe： | ${ }^{\text {cosen }}$ |
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|  | cionk | 4720： |  |
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|  |  |  | 1\％ |

RESIST－O－KITS


1lama mocket－size motal kit of 3

 an earh resistor in Kit．ledeal toe kerb wee calls．

List Price $\$ 750$


1 WATT ASSORTMENT \＃8 30 BTA 1 Watt Resistor； ＊inlicates popular IV ranges．

| QUANTITY | RANGE |
| :---: | :---: |
| 1 | 1．000 0hatso |
| ＊ | －．200 いhtas |
| ？ | 4.500 vhats＊ |
| 3 | 10K゙ ohmm＊ |
| $\because$ |  |
| 4 |  |
| 4 | 100に ohmas |
| ＊ | $\because$ ？$\because$ K 山hms |
| 4 |  |
| 3 | 1．0 1156\％ |

## (®) <br> IISULATED RESISTORS

## COLOR CODING AND STAMPING

Resistance values are clearly indicated by standard RETMA Color Code. All resistors in Distributor Packages, except BTR. are individually stamped with value and wattage.

## TYPE BT FIXED COMPOSITION CARBON RESISTORS



More IRC Filament Thm bit hesistors are used in the eloctmone industry than any aber boam of fixed composition rasistom. For original equipment. SBC BT's are hy tar the lewing choje of Electronic Enzeiners. For replacement. Service Techniciana favor IHC BT's ower all other brand combined.

HEC"s exelasive filamenttyre restance clement is eombined with superior construction teatures to protide a stable resistor of extemely hw operating temperature and excellent power dissipation in a compact. lizht woinht. fully insulated unit.

| IRC TYPE NUMBER | BTR | BTS | BTA | BTB | BW-1/2 | BW-1 | BW-2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Element Style | Carbon Filament | Carbon Filament | Carbon Filament | Carbon Filament | Wire Wound | Wire Wound | Wire Wound |
| Equiralent MIL TYPE | RC09 | RC 20 | RC80 | RC41 | R43 <br> Max. 470 ohms | RU4 <br> Max. <br> 2200 ohms | RU゙6 <br> Max. 3300 ohms |
| mll Characteristics | BF, GF | BF, GF | BF |  | D | B |  |
| hating in Watts $40^{\circ} \mathrm{Aml}$ ient | 3/4 | 1/2 | 1 | 2 | 1/2 | 1 | 2 |
| Nintmum Resistance | $\begin{gathered} \$ 2 \\ \text { Ohms } \end{gathered}$ | $\begin{gathered} 10 \\ \text { Ohins } \end{gathered}$ | $\begin{gathered} 100 \\ \text { Ohms } \end{gathered}$ | $\begin{aligned} & 330 \\ & \text { Ohms } \end{aligned}$ | $0.24$ | 0.47 <br> Ohm | $\begin{gathered} 1.0 \\ \text { Ohm } \end{gathered}$ |
| Maximum Resistance | 22 <br> Meg. | 22 <br> Mes. | $\begin{gathered} 22 \\ \mathrm{Meg} . \end{gathered}$ | $\begin{gathered} 22 \\ \mathrm{Meg} . \end{gathered}$ | $\begin{gathered} 820 \\ \text { Ohms } \end{gathered}$ | $\begin{gathered} 5100 \\ \text { Ohms } \end{gathered}$ | $\begin{gathered} 8200 \\ \text { Ohms } \end{gathered}$ |
| Rated Voltage | 250 V | 350 V | 500 V | 500 V |  |  |  |
| Dimensions (Fig. 1) <br> A-Bocar Length <br> B-Body Diameter <br> C-Lead Length <br> D-Lead Diameter | $\begin{gathered} 13^{\prime \prime} \\ 33^{3} " \\ 11 / 2 \pm 1 / 8^{\prime \prime} \\ .02 S^{\prime \prime} \end{gathered}$ | $\begin{gathered} 19{ }^{10} \\ 1 / 8 "^{\prime \prime} \\ 11 / 2 \pm 1 / \mathbf{n}^{\prime \prime} \\ .03 \mathbf{Z}^{\prime \prime} \end{gathered}$ | $\begin{gathered} \frac{27}{3 z} \\ 1 / "^{\prime \prime} \\ 11 / 2 \pm 1 / 8^{\prime \prime} \\ .040^{\prime \prime} \end{gathered}$ | $\begin{gathered} 11 / 4^{\prime \prime} \\ 3 / 4^{\prime \prime} \\ 11 / 2 \pm 1 / 8^{\prime \prime} \\ .043^{\prime \prime} \end{gathered}$ | $\begin{gathered} 58^{\prime \prime \prime} \\ 3 i^{\prime \prime \prime} \\ 11 /{ }^{\prime \prime} \pm 1 / 6^{\prime \prime} \\ .032^{\prime \prime} \end{gathered}$ | $\begin{gathered} 11 / 4^{\prime \prime} \\ 1 / 4 \prime \prime \\ 11 / 2 \pm 1 / 8^{\prime \prime} \\ .036^{\prime \prime} \end{gathered}$ | $\begin{gathered} 13 / 4 " \\ 21 / 61^{\prime \prime} \\ 11 / 2 \pm 1 / 8^{\prime \prime} \\ .036^{\prime \prime} \end{gathered}$ |
| List Price $10 \%$ Tolerance $5 \%$ Tolerance | $\begin{aligned} & \$ 0.17 \\ & \$ 0.33 \end{aligned}$ | $\begin{aligned} & \$ 0.17 \\ & \$ 0.33 \end{aligned}$ | $\begin{aligned} & \$ 0.25 \\ & \$ 0.50 \end{aligned}$ | $\begin{aligned} & \$ 0.33 \\ & \$ 0.67 \end{aligned}$ | $\begin{aligned} & \$ 0.20 \\ & \$ 0.38 \end{aligned}$ | $\begin{aligned} & \$ 0.30 \\ & \$ 0.58 \end{aligned}$ | $\begin{aligned} & \$ 0.38 \\ & \$ 0.75 \end{aligned}$ |

NOTE: Consult your INC Distributor tor arices in lots of 100 and over per item.

Figure 1
Dimensions


TYPE BW INSULATED WIRE WOUND RESISTORS

Type BW's are exceptionally stable, inexpensive wire wound resistors for low range requirements. These small, completely insulated units are similar in appearance to insulated composition resistors but are readily identifed by the double width of the first color code band.

The wire element is uniformly and tightly wound on an in sulated core. Tinned, solid wire leads are keyed to the element by a apecially desizned terminal. Leads are anchored inside the insulation and cannot turn or pull lonse.

## 1RC <br> IISULATED RESISTORS

## STANDARD STOCK VALUES

BT and BW Insulated Resistors are available in RETMA Ranges within the maximum and minimum values for each type. Stock values are listed below.

STANDARD VALUES AT $\pm 10 \%$ TOLERANCE

| OHM | OHMS | OHMS | OHMS | OHms | ohms | онms | megs | megs |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - | 1.0 | 10 | 100 | 1.000 | 10K | 100K | 1.0 | 10 |
| - | 1.2 | 12 | 120 | 1.200 | 12K | 120K | 1.2 | 12 |
| - | 1.5 | 15 | 150 | 1.500 | 15K゙ | 150 K | 1.5 | 15 |
| - | 1.8 | 18 | 180 | 1.800 | 18K | 180 K | 1.8 | 18 |
| - | 2.2 | 22 | 220 | 2.200 | 22 K | 220 K | 2.2 | 22 |
| 0.27 | 2.7 | 27 | 270 | 2,700 | 27K | 270 K | 2.7 | - |
| 0.33 | 3.3 | 33 | 330 | 3.300 | 33 K | 330 K | 3.3 | - |
| 0.39 | 3.9 | 39 | 390 | 3.900 | 39 K | 390 K | 3.9 | - |
| 0.47 | 4.7 | 47 | 470 | 4.700 | 47 K | 470 K | 4.7 | - |
| 0.56 | 5.6 | 56 | 560 | 5.600 | 56 K | 560 K | 5.6 | - |
| 0.68 | 6.8 | 68 | 680 | 6.800 | 68 K | 680 K | 6.8 | - |
| 0.82 | 8.2 | 82 | 820 | 8.200 | 82K | 820 K | 8. 2 | - |
| STANDARD VALUES AT $\pm 5 \%$ TOLERANCE |  |  |  |  |  |  |  |  |
| онм | ohms | онмs | ohms | онмs | онms | OHMS | megs | MEGS |
| - | 1.0 | $1{ }^{10}$ | 100 | 1,000 | 10K | 100K | 1.0 | 10 |
| - | 1.1 | 11 | 110 | 1,190 | 11K | 110 K | 1.1 | 11 |
| - | 1.2 | 12 | 120 | 1,200 | 12K | 120K | 1.2 | 12 |
| - | 1.3 | 13 | 130 | 1,300 | 13K | 130K | 1.3 | 13 |
| - | 1.5 | 1.7 | 150 | 1,500 | 15K | 150K | 1.5 | 15 |
| - | 1.6 | 16 | 160 | 1,600 | 16 K | 160K | 1.6 | 16 |
| - | 1.8 | 18 | 180 | 1,800 | 18K | 180K | 1.8 | 18 |
| - | 2.0 | 20 | 200 | 2,000 | 20K | 200K | 2.0 | 20 |
| - | 2.2 | 22 | 220 | 2,200 | 22K | 220 K | 2.2 | 22 |
| 0.24 | 2.4 | 24 | 240 | 2,400 | 24 K | 240K | 2.4 | - |
| 0.27 | 2.7 | 27 | 270 | 2.700 | 27K | 270K | 2.7 | - |
| 0.30 | 3.0 | $31)$ | 300 | 3.060 | 30 K | 300 K | 3.0 | - |
| 0.33 | 3.3 | 33 | 330 | 3.300 | 33 K | 330 K | 3.3 | - |
| 0.36 | 3.6 | 36 | 360 | 3,600 | 36 K | 360 K | 3.6 | - |
| 0.39 | 3.9 | 39 | 390 | 3.900 | 39 K | 390 K | 3.9 | - |
| 0.43 | 4.3 | 43 | 130 | 4,300 | 43 K | 430 K | 4.3 | - |
| 0.47 | 4.7 | 47 | 470 | 4,700 | 47 K | 470 K | 4.7 | - |
| 0.51 | 5.1 | 51 | 510 | 5,100 | 51 K | 510 K | 5.1 | - |
| 0.56 | 5.6 | 56 | 560 | 5,600 | 56 K | 560 K | 5.6 | - |
| 0.62 | 6.2 | 62 | 620 | 6,200 | 62 K | 620 K | 6.2 | - |
| 0.68 | 6.8 | 68 | 680 | 6,800 | 68 K | 680 K | 6.8 | - |
| 0.75 | 7.5 | 75 | 750 | 7.500 | 75 K | 750 K | 7.5 | - |
| 0.82 | 8.2 | 82 | 820 | 8.200 | 82 K | 820K | 8.2 | - |
| 0.91 | 9.1 | 91 | 910 | 9,100 | 91 K | 910 K | 9.1 | - |

## （Inc） TYPE $Q$ VOLUME CONTROLS

## 1／4＂LONG BUSHING

Shorter hushing and compact fiow Asign suit Q Controls to at
small sets，yet hamelle laren sat medels an well．

## RADIO－TV TECHNICIANS＇ <br> TYPE Q VOLUME CONTROL

IRC＇s Thpe（）（iontrol is the Ikiside control for all set servicing．
 with a
 assure customer satistaction．Rasitr installation and dememblble pertormane proside mone protitahle servicine．

## KNOB MASTER STANDARD FIXED SHAFT

Standand shaft is kimelend，flatted amel slotted and tits most hnobs
 cut to length．Fin wersize，worn or wer tye knobs，split shaft sot hermi sows posit ion．

| ＂O＂CONTROLS IN ORDER OF RESISTANCE |  |  |  |  |  |  |  | ＂O＇＂CONTROLS IN ORDER OF STOCK NUMBER |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Tap | Stock No． | T | Ohms | Tap | Stock No． | T | Stock No． | Ohms | Tap | T | Stock No． | Ohms | Tap | T |
| 250 |  | Q11－201 | A | 350 K |  | Q13－132 | C | Q11－103 | 500 |  | A | Q13－133X | 500 K | 125 K | H |
| 500 |  | Q11－103 | － | 3．うい | 35 K | Q17．132 X | S | Q11－105 | 750 |  | A | Q14．133 | 50015 |  | D |
| 750 |  | Q11－105 | A | 3.505 | 75 K | Q18－132X | H | ＊Q17．105 | 750 |  | $P$ | Q17－133 | 500 K |  | Q |
| 750 |  | ＊Q17－105 | Y | 50いに |  | Q11．133 | A | Q17－105X | 750 | 250 | S | Q17－133X | 500 K | 2515 | S |
| 750 | 250 | Q 17－105X | S | 500 K |  | Q13－133 | C | Q11－108 | 1000 |  | A | Q18－133 | 500 K | 50 K | S |
| 101010 |  | Q11－108 | A | 500 K |  | Q14．133 | I） | Q17－108 | 1000 |  | ${ }^{\prime}$ | Q18．133 $\times$ K | 500 K | 100K－ |  |
| 1000 |  | Q17．108 | P | 500 K |  | Q17－133 | Q | ＊Q11－109 | 1500 |  | A |  |  | 200 K | S |
| 1500 |  | ＊Q11－109 | A | 500 K | 25 K | Q17－133x | S | Q17－109 | 1500 |  | Q | Q19－133 X | 50015 | 250 K | S |
| 1500 |  | Q17－109 | Q | 50010 | 5015 | Q18．133 $X$ | S | Q11－110 | 2000 |  | A | Q11－134 | 6010 |  | A |
| 20011 |  | Q11－110 | A | 500 K | 125 K | Q13－133 X | H | Q13．111 | 2500 |  | 1 | Q11－136 | 750 K |  | A |
| 2500 |  | Q13．111 | C | 500 K | 250 K | Q19－133X | S | Q1\％－111 | 2500 |  | Q | Q11－137 | $1.0) \mathrm{M}$ |  | A |
| 2500 |  | Q17－111 | Q | 500 K | 100K゙ | Q19－133X | S | Q11－112 | 30000 |  | A | Q13－137 | 1.0 II |  | C |
| 3000 |  | Q11－112 | A |  | 2000 K | Q18－133 $\times$ X | S | Q17．112 | 3000 |  | Q | Q13－137X | 1．0．11 |  | H |
| 3000 |  | Q17－112 | Q | 600K |  | Q11－134 | A | Q11－114 | 5000 |  | A | Q14－137 | $1.0 . \mathrm{M}$ |  | L |
| 5000 |  | Q11－114 | A | 750\％ |  | Q11－136 | A | Q13－114 | 5000 |  | C | Q17－137 $\overline{\text { X }}$ | 1.0 M | 35 K | S |
| 5000 |  | Q13－114 | C | 1.0 N |  | Q11－137 | A | Q17－114 | 5000 |  | Q | Q17－137 $\times$ X | 1.0 M | $50 \mathrm{~K}=$ |  |
| 5000 |  | Q17－114 | Q | 1.10 M |  | Q13－137 | C | Q11－115 | 7500 |  | A |  |  | 10015 | S |
| 7500 |  | Q11－115 | A | 1.0 M ． |  | Q14－137 | I） | Q11－116 | 10K |  | A | Q18－137X | 1.0 M | 100K | S |
| 10 K |  | Q11－116 | A | 1.0 M | 35 K | Q17－137X | S | Q13－116 | 10K |  | C | Q18－137 $\times$ X | 1.0 M | $250 \mathrm{~K}-$ |  |
| 10 K |  | Q13－116 | C | 1．0） M | 1010 K | Q18－137X | S | Q14．116 | 10K |  | D |  |  | 500 K | S |
| 10 K |  | Q14－116 | D | 1.0 M | 250 K | Q13－137X | H | Q17．116 | 10 K |  | Q | Q19 137X | 1.0 M | 500 K | S |
| 10K |  | Q17－116 | Q | 1.0 M | 500 K | Q19－137X | S | Q13－118× $\times$ | 15 K | $5 \mathrm{~K}-$ |  | Q11－138 | 1.5 M |  | A |
| 15K | 5K゙， |  |  | 1.0 M | 500 K | QVC－539X | S |  |  | 10 K | S | Q13－138X | 1.5 ML | 250 K | S |
|  | 10K゙ | Q13－118× $\times$ | S | 1.0 M | $50 \mathrm{~K}=$ |  |  | Q17－118X | 1.5 K | 5 K | S | Q11－139 | 2.0311 |  | A |
| 15 K | 5 K | Q17－118X | S |  | 100 K | Q17－137XX | S | ＊Q17－118XX | 15 K | $5 \mathrm{~K}-$ |  | Q13－139 | $2.0 \mathrm{\lambda I}$ |  | C |
| 15 K | ちに゙こ |  |  | 1.0 M | 250 K |  |  |  |  | 10 K | S | Q13．139 ${ }^{\text {Q13 }}$ | 2.0 MI | 500 K | H |
|  | 1015 | ＊Q17－118× $\times$ | S |  | 500K | Q18－137X | S | Q11－119 | 205 |  | d | Q13－139 X $\times$ | 2.0 N | ら）（15－ |  |
| 20 K |  | Q11－119 | A | 1．5 M |  | Q11－138 |  | Q16－119 | 20 K |  | S |  |  | 1 M | S |
| 20 K |  | Q16．119 | S | 1.5 M | 250 K | Q13－138 X | S | Q11－120 | 25 K |  | A | Q17．139 | 2.0311 |  | Q |
| 25 K |  | Q11－120 | A | 2.6 M |  | Q11－139 | A | ＊Q13－120 | 25 K |  | $\stackrel{1}{\square}$ | Q17．139X | $2.0)$ d | 150 K | S |
| 25 K |  | ＊Q13－120 | C | 2．0 M |  | Q13－139 | C | Q14．120 | 25 K |  | I） | Q18．139 X | 2.0 M | 1.0 M | S |
| 25 K |  | Q14－120 | D | 2.0 M |  | Q17－139 | Q | Q11－121 | 30 K |  | $\lambda$ | Q18－139 $\times$ X | 2.0 M | 250）゙ |  |
| 30K |  | Q11－121 | A | 2.0 M | 50 K | Q19－139 X | S | Q11－122 | 35 K |  | A |  |  | 500K | S |
| 35 K |  | Q11－122 | A | 2.0 M | 150 K | Q17．139 X | S | Q11－123 | 50 K |  | A | Q19．139 X | 2.0 M | 50 K | S |
| 50 K |  | Q11－123 | ． 4 | 2.0 M | 500 K | Q13－139 X | H | Q13－123 | 50 K |  | C | Q11－140 | 3.0 M |  | A |
| 50 K |  | Q13－123 | C | 2.0 M | 1.0 M | Q18－139X | S | Q14－123 | 50 K |  | I） | Q13－140 | 3.0 M |  | C |
| 50 K |  | Q14－123 | $D$ | 2.0 M | $250 \mathrm{~K}-$ |  |  | Q11－125 | 25 |  | A | ＊Q13－140X | 3.0 M | 900に | S |
| 75 K |  | Q11－125 | － |  | －0015 | Q18－139 $\times$ X | S | Q11－128 | 100 K |  | A | ＊Q17－140 | 3.031 |  | 0 |
| 100K |  | Q11－128 | － | 2.0 M | 500 K |  |  | Q13．128 | 1100 K |  | C | ＊Q18－140X | $3.0 \% 11$ | 1.5 M | S |
| 100F |  | Q13－128 | C |  | 1 M | Q13－139XX | S | Q11－129 | 2010 K |  | A | Q11－141 | 5.031 |  | A |
| 125K |  | Q11－228 | － 4 | 2．5．M |  | Q11－239 | A | Q11－130 | 250 K |  | A | Q12－141 | 5.0 M |  | S |
| 150K |  | ＊Q13－328 | C | 3.0 M |  | Q11－140 | A | Q13－130 | 250 K |  | C | Q13．141 | 5.0 M |  | C |
| 150k | 195゙－ |  |  | 3.0 M |  | Q13－140 | C | Q13－130X | 25015 | 125 K | S | Q17－141 | 5.0 M |  | 0 |
|  | 381 | Q17－328×X | S | －3．0 M |  | ＊Q17－140 | 0 | Q18－130 X | 250 K | 60 K | H | Q11－142 | 7.5 M |  | A |
| 200 K |  | Q11－129 | A | 3.0 M | 900K | ＊Q13－140X | S | Q18－130 $\times$ X | 250 K | 60K $=$ |  | Q11－143 | 10.0 M |  | A |
| 250 K |  | Q11－130 | － | 3.0 M | 1．5． M | ＊Q18．140X | S |  |  | 120K | S | Q11－201 | 250 |  | A |
| 250 K |  | Q13－130 | A | 5.0 M |  | Q11－141 | A | ＊Q11－131 | 300 K |  | A | Q11－228 | 125\％ |  | A |
| 35シリス | 60 K | Q18－130X | H | 5.0 M |  | Q12－141 | S | Q13．132 | 350 L |  | C | Q11．239 | 2．531 |  | A |
| 250k | 125k | Q13．130X | S | 5.0 M |  | Q13－141 | C | Q17．132X | 35．1） | 35 K | S | Q13－328 | 150K |  | C |
| 250に゙ | 60バ： |  |  | 5.0 M |  | Q17－141 | Q | Q18．132X | 350 K | 75 K | H | Q17．328XX | 150 K | 19K－ |  |
| 300 K | 120に゙ | $\begin{aligned} & \text { Q18-130 } X X \\ & * Q 11-131 \end{aligned}$ | $\begin{aligned} & \mathbf{S} \\ & \mathbf{A} \end{aligned}$ | 7.5 M 10.0 M |  | Q11．142 Q11．143 | A | Q11．133 Q13．133 | 50016 $500 \%$ |  | $\stackrel{\text { A }}{\text { C }}$ | QVC－539X | 1.0 M | $\begin{aligned} & 38 \mathrm{~K} \\ & 5,00 \mathrm{~K} \end{aligned}$ | S |

T－Taper M－Megohms Plain Controls－List $\$ 1.25$

New parts added since Catalog Data Bulletin DC1D．
Tapped Controls－List $\$ 1.85$
7 STANDARD TAPERS FOR $\boldsymbol{Q}$ CONTROLS


A－For potentiometer or rheostat where uniform re－ sistance change is required．
B－Semi－logarithmic curve for tone control or audio circuit control．
$\mathbf{P}$－Semi－logarithmic curve－reverse taper for use in contrast and picture control circuits in telebision． C－Logarithmic curve for audio circuit control or antenna shunt control．
Q－Semi－logarithmic curve－reverse taper for use in contrast and picture control circuits in television．
D－Tapered at both ends to provide control of grid
bias and antenna circuit．Used where contrel of grit bias is important in controlling volume．
H－Tapped logarithmic curve for audio level control for automatic bass compensation．

## ASSEMBLE YOUR OWN STANDARD OR SPECIAL IRC 9 CONTROLS

For those who would like to use their IRC Base-Fiement stock for assemhly of standard controls, the component parts are available. Plain Q Control assemblies With 1 -Base-blement, 1-Interehangeable Fixed Shaft, 1-QCl3 Bushint and 1-QCC Cover Switch type Q control assemblies with l-hase-lidement, 1-Interchangeable Fixed Shaft, 1-QCB lSushing and 1 of either 76-1 or 76-2 Switch.
QCB-BUSHING- $3 / 8-32$ thread. $1,{ }^{\prime \prime}$ long. Pk ${ }^{\circ}$. of 5.
List Price $\$ 0.30$
QCC-COVER-F'or plain or tamed controls. Pkg, of Fist Price $\$ 0.45$
IRC VOLUME CONTROL GROUND-
ING LUG-same as supplied with
IRC Twive () Controls. Fits $3 / 8{ }^{\prime \prime}$ bush-
ing. Laly liugth from hole center-
$1_{\mathrm{ic}}^{3}$. TVpe QCI, Grounting Lures.
lkg. of 5 . List Price $\$ 0.17$
STANDARD Q CONTROL LOCKNUT-
Hex mat for ${ }^{3,}-32$ thread. $2^{\circ "}$ "acrows
flats. 'lype QCN. Pkge of 10 .
List Price $\$ 0.25$
New QPK Kit assembles above standard $Q$ control parts with lirC base elements. Contents: iQ Knob Master Shaft, QCB Ground Plate/Bushing, QCC E-niyersal Cover, li-1 liesilient lietainer Ring, QCN Mount ing N゙ut

LIst Price - 75 C

\section*{(10C <br> <br> \section*{Q CONTROL <br> <br> \section*{Q CONTROL ACCESSORIES}}



## 16 INTERCHANGEABLE FIXED SHAFTS FOR Q CONTROLS



AQ
Knob Master Shaft. Same as surplied in Type Q Controls. Flatted, grooved and knurlet. $3^{\prime \prime}$ long. List Price $\$ 0.50$


Slotted or tongued, For remote control eables. Includes $7^{7} 6^{\prime \prime}$ and $15 / 8^{\prime \prime}$ guide funpola and tonruc. Approximately $31 / 2$ " long from mounting face. $1 / 4^{\prime \prime}$ diameter.

List Price $\$ 0.45$


Specially slotted with hole in bottom. For Philco sets. Slot $1 /{ }^{\prime \prime}{ }^{\prime \prime} \times 3_{6}^{\prime \prime \prime}$ deep. Approximately $1_{2}{ }^{1}$," long from mounting face when installed in control. $1 / 4$ " diameter.

List Price $\$ 0.30$
$x=0$

Flatted, with groove for dial plate. For Delco, RCA, Sears-Roebuck and Westinirhouse sets. s? " deep flat. 64 deep sroove. Approximately lif" long from notonting face. $1 /{ }^{\prime \prime}$ diameter. List Price $\$ 0.30$


I/s" diameter with $.105^{\prime \prime}$ flat. For Zenith models where shaft must operate inside another shaft. Approximately $41 /{ }^{\prime \prime}$ " loner from mounting face. List Price $\$ 0.45$

## 5

## Kด

Sperial $1 / s^{\prime \prime}$ round with two concentric holes in end. For Motorola sets. Approximately $13 / 8$ " long from mounting face.

List Price $\$ 0.30$


Short flat with groove and threaled hole in end, For Brlinont and Montgomery-Ward
 $1 / 4^{\prime \prime}$ diameter. List Price $\$ 0.35$

## 

MQ

Special doulde-flat, threaded for $3 / 8$ " on whd. For Helmont, Montsomery Ward and Wells-Gardner sets. Has two concentric holes in end, the smaller being threaded. Approximately $1!/ 2$ long from mounting face. List Price $\$ 0.45$
$+\mathrm{NQ}$
Lniversal ${ }^{3} 6^{\prime \prime}$ flatted and slotted shaft. Slot milled entire length of shaft except for thin web. Approximately $\mathrm{s}^{\prime \prime}$ long from mounting face. List Price $\$ 0.45$

 mately "3" long from mounting face. For

List Price $\$ 0.35$

## 5

R 9

Very short screw-driver slot shaft. Slot,
 mourtint face. ${ }^{3 / 2}$ "fiameter.

List Price $\$ 0.35$


Insulated shaft fo: use in television. Drive arm and shaft of :nsulating material. I'sed without retainer rome. 3 cone from monnting face. Easily cut to retuired len' th. 1/" diameter. CANNOT BE C:SED W.TH SWITCH. List Price $\$ 0.60$


Infontical with BG Shaft except for aldition of iriction clatch-drive arn. Used for remote control as in auto radios.

List Price $\$ \mathbf{0} .60$


Special tongued shaft-1" long from mounting face tongue $1^{3}$ " wide, " " lons. $050^{\prime \prime}$ thick. For Magnavox TV' Receimers.

List Price \$C. 35


Wo

Special tongued shaft-l' long from mounting facn, torghe $1 / 4$ " wide, $1 / 6$ " long, $0152^{\prime \prime}$ thick. For Lenith TV Receivers.

List Price $\$ \mathbf{C .} 35$

## FOR QUICK, EASY CONVERSION TO "SPECIALS" WITH FIXED SHAFT SECURITY

This feature adapts the $Q$ Control to a "special" in 6 easy steps. (1) Remove control cover by bending up tabs. (2) Remove Resilient Retainer Ring with knife or poirted tool. (3) Remove standard shaft from control base. (4) Insert special shaft in base. (5) Roll new Ring into shaft groove. (6) Replace cover (or add switch).

IRC INTERCHANGEABLE FIXED SHAFTS ARE INDIVIDUALLY PACKAGED with complete instructions and extra Resilient Retainer Ring.

## (10® <br> Q CONTROL ACCESSORIES

## TAB MOUNT CONTROLS

Many recent TV sets use Tab Mount Controls. These are single controls without switch. They differ from standard controls in that bushing is omitted and mounting to chassis is made with two heavy twist-tye mounting tabs.

## IRC TAB-MOUNT KITS

Since assembly of Tab-Mount Controls is so simple, IRC supplies three 3-Part 'lab-Mount Kits which will assemble with any standard plain or tapped IRC Base-Element to provide satistactory "labMonnt Controls. Each TM Kit includes a Tab-type Ground Plate, a control cover and a finger-knurled and screw-diver slotted shaft of appropriate length for universal replacement. Packaged with instruction sheet but without necessary Base-Element.
 lonr. List Price $\$ 0.60$
 lons. List Price $\$ 0.60$
 Joniz. List Price $\$ 0.60$


## EXTENSION SHAFTS



These atfach to rengular shafts, thus (extending lerneth th ans needed size. They frepuntly thatan it posible to ust standard controls for "spucial" johs.

## Type

Shaft 441
Shaft 442
Shaft 443
Shaft 44:

## Dimensions

$4^{\prime \prime} \times 1 / 4^{\prime \prime}$ dia. $\times 3^{3} 2^{\prime \prime}$ fl:at 4" $x$ ¹/4" dia. $x 3^{3} z^{\prime \prime}$ tlat $4^{\prime \prime} x 3^{3 \prime \prime}$ dia. $x$ 㐌," flat S" x for $4^{\prime \prime}$ lenkeths
List Price $\$ 0.40$

## PLAIN OR INSULATED SHAFT COUPLERS

For use with standard controls to mect slecial shatt iequitements Two set merews give rizial connectimn.
TYPE C2-Insulated coupher for use with sytare tyme shath used by Motorola

TYPE C3—Phain mupher to counle $1 /{ }^{\prime \prime}$ shafts; insert allows couphting of $1 /{ }^{\prime \prime}$ shatt to $3^{3 \prime \prime}$ Elaft.

List Price $\$ 0.30$

## SLEEVE BUSHINGS



51


S2


S 3

S 5


TYPE S1-Fin us with mandard controls.
List Price $\$ 0.45$
TYPE S2-to poride batimg tor switching mechanism.
List Price $\$ 0.30$
TYPE S3-Fior use with standand controls to sit control bach



List Price $\$ 0.60$
TYPE S4-Fiur use with concentric duals to provide fin diad


List Price $\$ 0.60$
TYPE S5-fior use with nitadaral matrols to moviale $1 / 2^{\prime \prime}$ dia.


List Price $\$ 0.60$

## SPECIAL PURPOSE CONTROLS



## Type QJ. 3 TV ATTENUATOR

- Reduces overloading effects on TV sets in strong signal areas.
- Diminishes interstation interference caused by nearby or powerful stations
- Minimizes buzz due to high signal level in intercarrier systems.
- Permits easy adjustment of signal RIGHT AT SET.
- Frequently prevents mismatch of antenna load to set.







A continuously commanated contiol that hoost: lows and highs




 hevel. Simplicit! itsell-as eaty to wire into an andio circuit ats any stambat then trminal whme control. ©omphote instrac-
 c.in the added to this commel.
ist Price $\$ 9.95$

## 4 WATT WIRE WOUNDS

TYPE 4WK-. husky. uniwersal f-wat wirewound control specially designed for TV replacem:nts. Equipied with 1 RC Knoh, Master Shaft-hmurled, flatted and s.erooved on fit most knob requirement. withont molitration except for entting on length. Diameter 1 \%



TYPE 4WS-Idrutical to Type tWK wcop rillipmed with khort, knurted and witheut suaft alteration of TV controls monnted at chassis rear or under front pathel romewalment. Dimensions fame as


HIGH VOLTAGE CONTROLS

TYPE HV-A (wowat cartion detmon) himh whage control for use in telcrision beroines using pichur, lubes refuirinur



| Control No. | Ohms | Taper | List Price |
| :---: | :---: | :---: | :---: |
| 4WK-10 | 10 | 1.inmar | \$2.00 |
| 4WK-20 | 21 |  | 2.00 |
| 4WK-30 | 30 | " | 2.00 |
| 4WK. 50 | 50 | " | 2.00 |
| 4WK. 100 | 1011 | . | 2.00 |
| 4WK-200 | 200 | " | 2.00 |
| 4WK. 300 | 300 | " | 2.00 |
| 4WK-400 | 1011 | " | 2.00 |
| 4WK-500 | 500 | " | 2.00 |
| 4WK. 600 | (in) | " | 2.00 |
| 4WK-650 | fi5! | . | 2.00 |
| 4WK-750 | 750 | ${ }^{\prime \prime}$ | 2.00 |
| 4WK-750R | 750 | R. II. Un\% | 2.20 |
| 4WK-1000 | 10010 | l.incar | 2.00 |
| 4WK-1350 | 135\% | . | 2.00 |
| 4WK-1500 | 1500 | - | 2.00 |
| 4WK-1500L | 1500 | If. If. Ifrim | 2.20 |
| 4WK-2000 | 2000 | fincar | 2.00 |
| 4WK-2500 | 3500 | " | 2.00 |
| 4WK-3000 | 30010 | " | 2.00 |
| 4WK-5000 | 5090 | " | 2.00 |
| 4WK-6000 | (6004) | " | 2.00 |
| 4WK-7500 | 750\% | , | 2.00 |
| 4WK-10000 | 10ヶ | " | 2.35 |
| 4WK. 15000 | $15 \%$ | , | 2.35 |
| 4WK-20000 | ? 0 | * | 2.35 |
| 4WK-25000 | 25に | . | 2.35 |
| TYPE 4WS |  |  |  |
| 4WS-25 | \% | Linpir | \$2.00 |
| 4WS-250 | 250 |  | 2.00 |
| 4WS-500 | 500 | * | 2.00 |
| 4WS-1000 | 1000 | - | 2.00 |
| 4WS-1500 | 15010 | \% | 2.00 |
| 4 WS-2000 | 2000 | * | 2.00 |
| 4WS-2250 | 2 Saj | ' | 2.00 |
| 4WS-2500 | 2500 | " | 2.00 |
| 4WS-3000 | 30000 | " | 2.00 |
| 4WS-4000 | 1904 | , | 2.00 |
| 4WS-5000 | 5040 |  | 2.00 |
| TYPE HV |  |  |  |
| $\begin{aligned} & H V-15 \\ & H V-25 \end{aligned}$ | $\begin{aligned} & 15 \mathrm{M} \text { M. } \\ & 25 \text { Mry. } \end{aligned}$ | I, inew | $\begin{array}{r} \$ 3.00 \\ 3.00 \end{array}$ |

## WIRE WOUND and HV CONTROLS



2 WATT

## WIRE WOUNDS



## (1)

## TELEVISIOS and AUTO SET COHIROLS

For those who prefer factory-assembled special controls, 1 RC provides an exceptionally broad line of over 800 Fxact Duplicate Controls. Fach control is specified closely to manufacturers' original control specifications -both mechanically and electricalls. No modifications required. Carbon and wirewound elements itre used for panel and rear sections as required.
The IRC Exact Duplicate Line now includes over $10 n$ concentric dual controls for atuto radios. Modern in


Exact Duplicate Controlls for TV and Auto Radios

## IRC CONCENTRIKIT ASSEMBLES EXACT DUPLICATE CONTROLS features quick assembly-no modification of parts.

## 9 Basic CONCENTRIKITS

IRC Concentrikits are the common parts to various types of Exact Duplicate Controls. When assembied with parts shown in IRC Parts Number Manua! (Form S-012) or Auto Radio Replacement (Form S-031), they will produce any IRC Exact Duplicate TV or Auto ladio Controls. No cutting or filing of shafts or bush-ings-one minute assembly.

| $\begin{aligned} & \dot{c} \\ & \dot{心} \\ & \dot{0}+\frac{1}{x} \\ & 0 . \frac{1}{0} \end{aligned}$ |  |  | $\begin{aligned} & c \\ & \text { co } \\ & \text { siou } \\ & \text { 区o } \\ & \text { © } \end{aligned}$ |  | $\stackrel{*}{3}$ | His |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| K. 2 | * | C | C | $38^{\prime \prime} \times 3{ }^{\prime \prime}$ | TV \& Auto | $\$ .80$ |
| K. 3 | * | W | C | $3 / 8{ }^{\prime \prime} \times{ }^{3}{ }^{\prime \prime}$ | TV | . 80 |
| K.4 | * | C | C |  | TV (Motorola) | 80 |
| K-5 | * | C | C |  | TV (Hallicrafters) | . 80 |
| K.6 | ** | C | C | $38^{\prime \prime} \times$ x $3_{8}^{\prime \prime}$ | TV \& Auto | . 80 |
| K. 7 | ** | C | C | $3 / / 3_{\prime \prime} \times 1 / 4$ | TV | . 80 |
| K.8 | ** | C | C | none | Auto | . 45 |
| K-9 | ** | TS | C | none | Auto | 25 |
| *-sitandard |  |  |  | Short | C-Carbon W- | Wire |

## IRC Printed-Silver Tone Switch Elements

Sensationa! new development in concentric tone switch permits assembly of special Exact Duplicate Auto Ratio Controls in field. Assembles like standard IRC Base flements-no loose parts. Packed with detenttspe banel cover. Consult Auto Radio Replacement (Form S-031) for other parts.


IRC Base－Elements are a revolutionary advance in concentric dual replacement．A relatively small stock at low investment provides wide coverage of electrical requirements of many concentric duals． Each unit is a complete molded control base with element，terminals and collector ring installed． There are no loose parts．

Two types of l3ase－Elements are available：Type I3 for pamel or rear carbon sections and Type W for wire－wound panel sections．

Two Base－Elements are required for each concen－ tric dual．

## （IMC） COHCENTRIKIT BASE ELEMENTS



BASE ELEMENT STOCK VALUES

| CAR | ON AND | WIR |  | RESISTAMCE VALUE |  |  |  | CARGON AND WIREWOUHD BASE ELEMENTS LISTED BY STO：K NUMBER <br> （Stock Numbers rotated by last three dig ts） |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Tap | T | Stock No． | Ohms | Tap | $T$ | Stock No． | Stock No． | Ohms | Tap | T | Stock No． | Ohms | Tap | T |
| 250 300 300 500 750 |  | $\begin{aligned} & \hline \mathbf{U} \\ & \mathbf{A} \\ & \mathbf{U} \\ & \mathbf{A} \\ & \mathbf{A} \end{aligned}$ | W11－201 | 25 K 25 k 30 k 35 k 30 K |  | $\begin{array}{\|c} \hline A \\ \mathrm{C} \\ \mathrm{~A} \\ \mathrm{~A} \\ \hline \end{array}$ | B11．120 B13－120 B11－21 E11－122 B 11.123 | ＊ B 11.102 W11－102 B11－103 B11－105 W 11.105 | $\begin{aligned} & 300 \\ & 300 \\ & 500 \\ & 550 \\ & 500 \\ & \hline 500 \end{aligned}$ | 二 | A U A A H | B 11.121 B 11.122 B11．123 B 13.123 B11．125 | 30 K 35 K 50 K 50 K 35 K | 二 | A A A C |
| 750 |  | U | W11．105 | 5 BK |  | C | ＊E13－123 | W13－105 | 750 |  | L | 811．128 | 100 K |  | A |
| 750 |  | L． | W13－105 | 751 |  | A | B11－125 | ＊B17－105 | 750 |  | $\stackrel{\rightharpoonup}{P}$ | B17．128 | 100 |  | Q |
| 750 |  | P | ＊B17－105 | 100 K |  | A | B11－128 | W17．105 | 750 |  | R | B11－129 | 200 |  | A |
| 750 |  | R | W17－105 | 100 K |  | Q | B17－128 | B17．105 X | 750 | 250 | S | B11－130 | 2.505 |  | A |
|  |  | S | B17－105 X | 12.5 K |  |  | E17．228 | W17－105X | 250 | 250 |  | B13．130 | 250 k |  |  |
| 750 | 250 | S | W17－105X | 200 K |  | A | E11．129 | B11－108 | 1000 |  | A | B13．130X | 250 K | 125 K |  |
| 1000 |  | A | B11－108 | 250 K |  | A | B11－130 | W11－108 | 1000 |  | U | B18．130X | 25 |  | H |
| 1000 1000 |  | $\underset{\text { U }}{ }$ | W11－108 B17．108 | 250 K 250 K | 60 K | C | B13．130 B18．130 | －B17－108 ${ }_{\text {－} 17.108 x}$ | 1000 1000 | 150 | $\stackrel{\mathrm{P}}{\mathbf{S}}$ | B11．131 B13．132 | 3001 3501 |  | ${ }^{\text {A }}$ |
| 1000 | 150 | S | －B17－108x | 2506 | $125 \mathrm{~K}^{\prime}$ | S | B13．130X | B11．109 | 1500 |  | A | B17－132X | 350 K | 35 |  |
| 1200 | $\begin{array}{\|c} 185 \& \\ 375 \\ \hline 500 \\ \hline \end{array}$ | Q | B17－208 | 3 mK |  | A | E11．131 | W11．109 | 1500 |  |  | B18－132X | 350 K |  | 1 |
| 1500 |  | A | B11－109 | 35.0 k |  | C | B13－132 | B17－109 | 1500 |  | Q | B11．133 | 500 |  | A |
| 1500 |  | U | W11－109 | 3.50 k | 35 K | S | E17－132X | B17－109 $\times$ X | 1500 | 185 \＆ |  | B13．133 | 500 K |  | C |
| 1500 |  | Q | B17－109 | 350 k | 75 K | H | B18－132X |  |  | 375 500 | S | B13．133 B15－133 | 500 K | ：25K |  |
| 1500 |  | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~S} \\ & \mathrm{~A} \\ & \mathrm{U} \\ & \mathbf{Q} \end{aligned}$ |  | 500 K <br> 500 K <br> 5000 K <br> 5 <br> 510 K <br> 5.00 K | $\begin{aligned} & 50 \mathrm{~K} \\ & 75 \mathrm{~K} \\ & 125 \mathrm{~K} \\ & 18 \mathrm{~F} \\ & \hline 150 \mathrm{~K} \end{aligned}$ | $\begin{gathered} \mathrm{C} \\ \mathrm{Q} \\ \mathrm{~S} \\ \mathrm{~S} \\ \hline \end{gathered}$ | $\begin{aligned} & \text { B13-133 } \\ & \text { B17.133 } \\ & \text { B18.133x } \\ & \text { B15.133x } \\ & \text { B13-133X } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { W17-109x } \\ & \text { B11.110 } \end{aligned}$ | 2000 | ． 00 | A | 817－133 | 500 K |  |  |
|  |  |  | B17．109 ${ }_{\text {W }}$ |  |  |  |  | $\begin{aligned} & \text { W11-110 } \\ & \text { B17-110 } \\ & \text { B17-110x } \\ & \text { B17.110X } \end{aligned}$ | 2000 |  |  |  | 500 k | －0k | S |
| 2000 |  |  | B11－110 |  |  |  |  |  | 2000 | －－ | Q | B19－133X | 500 K | －50k | S |
| 2000 |  |  | W11－110 |  |  |  |  |  | 2100 | 550 | S | B20．133X | 500 K | ：SOK |  |
| 2000 |  |  | B17－110 |  |  |  |  |  | 2000 | 250 \＆ |  | ＊B11－136 | 750 K |  | A |
| 2000 | $\begin{gathered} 550 \\ \hline 250 \& \\ 500 \end{gathered}$ |  | B17－110X | $\left\{\begin{array}{l} 500 \mathrm{k} \\ 500 \mathrm{k} \\ 5.0 \mathrm{Kk} \end{array}\right.$ |  | S | B20－133X | ＊B11．111 | 2500 | $500$ | S | B 11.137B 13.137B | 1.0 N | 二 | $\stackrel{\text { A }}{\text { C }}$ |
| 2000 |  | S |  |  |  |  | B19－133X |  |  |  |  |  |  |  |  |
|  |  |  | B17－110XX |  |  | A | ＊E11－136 | W11－111 | 2500 | 二 | U | B13－137x | 1．0 M | 200 |  |
| 25 |  | $\stackrel{\text { A }}{\text { U }}$ | ＊B11－111 W11-111 | 1.0 M 1.0 M |  | ${ }_{\text {A }}^{\text {C }}$ | B 11－137 R13－137 R | B17．111 W 17.111 | 2500 2500 |  | R | B17－137 $\mathrm{B} 17-137 \mathrm{X}$ | ${ }_{1}^{1.0} \mathrm{MI}^{1}$ | 351 |  |
| 2500 |  | A | B17－111 | ． 0 M | $\begin{aligned} & 35 \mathrm{~K} \\ & 100 \mathrm{~K} \\ & 250 \mathrm{~K} \end{aligned}$ | Q | B17．137 | W17－111x | $\begin{array}{r} 2500 \\ 2500 \\ \hline 200 \end{array}$ | $500$ | S | B18－137X | 1.0 M | 2.00 K \＆ | S |
| 2500 |  | － | W17－111 | $\begin{aligned} & 1.0 \mathrm{M} \\ & 1.0 \mathrm{M} \\ & 1.0 \mathrm{M} \end{aligned}$ |  | S | B17．137X |  |  |  |  | B18－137 $\times$ X | 1.0 M |  |  |
| 2500 | ${ }_{6}^{500}$ |  | B17．111X |  |  |  | B13－137X | B11－112W $11-112$ | 30003000 | － | U | B19 |  | 500 K | S |
| 2500 |  | S | B27－111X |  |  | $\xrightarrow[\mathrm{S}]{\mathrm{H}}$ |  |  |  |  |  |  | 1.0 M | 300 K |  |
| 3000 |  | U | B11－112 | $\begin{aligned} & 1.0 \mathrm{M} \\ & \hline 1.0 \mathrm{M} \\ & \hline 1.0 \mathrm{M} \end{aligned}$ |  |  |  | W 17.112 | 3000 |  |  | B11．139 |  | － |  |
| 3000 3000 |  |  | W 11.112 B17－112 |  | $\begin{aligned} & \frac{500 \mathrm{~K}}{250 \mathrm{~K} \&} \\ & 500 \mathrm{~K} \end{aligned}$ | S |  |  | 3000 |  | R |  |  |  | A |
| 3000 |  | R | W17．112 | 1.0 M 1.5 M |  | A | B11－138 | W11．114 | 5000 | － |  | B13．139X | 2.0 M | 500 |  |
| 5000 |  | A | B11－114 | 2.0 M |  | A | B11－139 | B17－114 | 5000 |  | Q | B13．139 $\times$ X | 2.0 M | 00K |  |
| 5000 |  | U | W11－114 | ${ }_{2}^{2.0} \mathbf{2} \mathrm{M}$ |  | C | B13．139 | W17－114 | 5000 | － | $\stackrel{R}{\text { R }}$ |  |  | 1.0 M | Q |
| 5000 5000 |  | Q | B 17.114 $W 17.114$ | $\frac{2.0 \mathrm{M}}{2.0 \mathrm{M}}$ | 500 K |  | B17．139 | B17－114X | 5 | 100 |  | B17．139 B18．1 |  |  |  |
| 5000 | 1000 | S | B17．114X | $\begin{aligned} & 2.0 \mathrm{M} \\ & 2.0 \mathrm{M} \\ & 2.0 \mathrm{M} \\ & 2.5 \mathrm{M} \end{aligned}$ | 1.0 M$250 \mathrm{~K} \&$500 K500 K1.0 M | $\left\lvert\, \begin{aligned} & \mathrm{S} \\ & \mathbf{S} \\ & \mathbf{S} \\ & \mathbf{S} \\ & \mathrm{~A} \end{aligned}\right.$ | $\begin{aligned} & \text { B18.139 } \mathrm{X} \\ & \text { B18.139 } \times \mathrm{X} \\ & \text { B13.139 } \mathrm{X} \\ & \text { B11-239 } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { B11.116 } \\ & \text { W } 11.116 \\ & \text { W } 111.116 \\ & \text { B13.116 } \\ & \text { B17-116 } \\ & \hline \end{aligned}$ | $\begin{aligned} & 10 \mathrm{~K} \\ & 10 \mathrm{~K} \\ & 10 \mathrm{~K} \\ & 10 \mathrm{~K} \\ & 10 \mathrm{~K} \end{aligned}$ | 二 | $\begin{aligned} & \mathrm{A} \\ & \mathrm{U} \\ & \mathrm{U} \\ & \mathrm{C} \\ & \mathrm{Q} \end{aligned}$ | B18－139X | 2.0 M | $200 \mathrm{~K} \&$ |  |
| 7500 |  | A | B11－115 |  |  |  |  |  |  |  |  |  |  | 300 |  |
| 10K |  | A | B11－116 |  |  |  |  |  |  |  |  | B11．140 | 3.0 M | － |  |
| 10 K |  | U | W11－116 |  |  |  |  |  |  |  |  | B13．140 | 3.0 M |  |  |
|  |  | U | WR11－116 |  |  |  |  |  |  |  |  | B13．140X | 3.011 |  |  |
| 10 K | 10 K | $\begin{array}{\|c} \hline \mathbf{C} \\ \mathbf{Q} \\ \mathbf{Q} \\ \mathbf{A} \\ \mathbf{S} \\ \hline \end{array}$ | B13．116B17－116B17．117＊B11－118＊B13－118x |  |  |  |  | $\begin{aligned} & \text { B17-117 } \\ & * \text { B11.118 } \\ & \text { B13.118× } \\ & \text { B13.118×X } \\ & \text { B17.118XX } \end{aligned}$ | $\begin{aligned} & 11.5 \mathrm{~K} \\ & 15 \mathrm{~K} \\ & 15 \mathrm{~K} \\ & 15 \mathrm{~K} \\ & 15 \mathrm{~K} \end{aligned}$ | $\begin{gathered} 10 \mathrm{~K} \\ 5000 \\ 100 \mathrm{~K} \\ 5000- \\ 10 \mathrm{~K} \end{gathered}$ | Q | B18－140X | 3． 0.11 | 1.5 M S |  |
| 10 K |  |  |  | 3.0 <br> 3.0 <br> 3.0 <br> 3.0 <br> 3. <br> 3.0 <br> 51 <br> 5.0 <br> 51 <br> 5.0 <br> 51 <br> 5.0 <br> 5.0 <br> 5 | $\begin{aligned} & 900 \mathrm{~K} \\ & 1.5 \mathrm{M} \end{aligned}$ | $\mathrm{A}$ | $\frac{\text { B11-239 }}{\text { B } 11.140}$ |  |  |  |  | ＊B11－141 | 5.0 \％ |  | A |
| ${ }_{15 \mathrm{~K}}^{11.5 \mathrm{~K}}$ |  |  |  |  |  | $\begin{aligned} & \mathrm{A} \\ & \mathrm{C} \\ & \mathrm{~S} \\ & \mathrm{~S} \\ & \mathrm{~A} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { B13.140 } \\ & \text { B13-140X } \\ & \text { B18.140X } \\ & \text { +B1.141 } \\ & \hline \end{aligned}$ |  |  |  |  | $\begin{array}{r} \text { B12.141 } \\ \text { E13.141 } \\ \text { B17.141 } \end{array}$ | $\begin{aligned} & 5.0 \mathrm{M} \\ & 5.0 \mathrm{M} \\ & 5.0 \mathrm{M} \\ & 250 \end{aligned}$ | 二 |  |
| 15 K |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 15K | $\begin{gathered} 10 \mathrm{~K} \\ 500 \mathrm{C} \\ 10 \mathrm{~K} \end{gathered}$ | $\begin{aligned} & \mathrm{S} \\ & \mathrm{~S} \\ & \mathrm{~A} \end{aligned}$ | $\begin{array}{\|c} B 13.118 \times X \\ \text { \#B17.118 } \times \times \times \\ \text { B11-119 } \end{array}$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 |  |  |  |  |  | $\left\lvert\, \begin{aligned} & \mathrm{A} \\ & \mathbf{S} \\ & \mathbf{Q} \end{aligned}\right.$ | $812-141$$+813-141$817.141 |  |  |  |  | E17．208 |  |  |  |
|  |  |  |  |  |  |  |  | B11－119 B11－120 | 25 K |  | A | B11－228 | 1251 |  | A |
| 20k |  |  |  |  |  |  |  | B13－120 | 25 K |  | C | B11 | － |  |  |
| T－Taper M－Megohms |  |  |  |  |  |  |  | ＊Added since Catalog Data Bultetin DCID． |  |  |  |  |  |  |  |
| TYPE |  |  | BASE ELEMENTS |  |  |  | List Price | TYPE |  | SWITCHES |  |  | List Price |  |  |
| Plain Base－Elements Tapped Base－Elements |  |  |  |  |  |  | $\begin{array}{r} \$ 0.50 \\ 1.10 \end{array}$ | $\frac{76-1 \text { S.P.S.T }}{76-2 ~ D . P . S . T ~}$ |  |  | $\begin{array}{r} \$ 0.60 \\ .60 \end{array}$ |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |




For use with CONCENTRIKITS in place of Exact Duplicate Shafts．Requires shaft modification to desired specification．KS－2 Shaft Kit is for controls in which both sections are carbon．Use with K－2， K－4 or K－5 CONCENTRIKIT．
Ks－3 Shaft Kit is for controls in which panel sec－ tion is wire－wound and rear section is carbon．Use with K－3 CONCENTRIKIT．

## （1R）

## COIC：NTRIKIT EXACT DUPLICATE SHAFTS

KS－2 or KS－3
LIST PRICE $\$ 1.20$

EXACT DUPLICATE SHAFTS

| Stock No． | Shaft <br> Length | Stock No． | Shaft <br> Length | Stock No． | Shaft Length | Stock No． | Shaft Length | Stock No． | Shaft Length |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ＊P12．014 ＊P14．014 |  | ＊R9－112 | $\underbrace{13 \times \prime \prime}$ | ＊P6．130 | $1{ }^{1} 1$ | R4－212 R7． 212 |  | $\begin{aligned} & \text { P1-304 } \\ & \text { R1 } \end{aligned}$ | $\begin{aligned} & 31 / 8 " \\ & 31 / 8{ }^{\prime \prime} \end{aligned}$ |
| ＊P14．014 | 年高＂， | R11．112 R16．112 | 138 ${ }^{13}{ }^{\prime \prime \prime}$ | ＊P14．130 ＊P15．130 | $1{ }^{1}$ ，＂， | R7－212 | $2 ; 8 \text { " }$ | R1-304 | $31 / 8^{\prime \prime}$ |
|  |  |  |  | R1．130 | － 1 策＂ | R8－213 | 23 ＂ | P1．306 | $3{ }^{3}{ }^{3}{ }^{\prime \prime}$ |
| P1．017 | 1］＂ | ＊R1－113 | 113 ＂ |  |  | P2．214 | $2{ }^{7}{ }^{7}{ }^{\text {\％}}$ | R2－306 R4－306 | 393＂， |
| ＊P11．018 | 堵 | P1．114 | 1 \％${ }^{\prime \prime}$ | P3．131 R2－131 | $1{ }^{131}$ | ＊P3－214 |  |  |  |
| P1－020 | ＂\％ |  |  | R12－131 | $1{ }^{1}{ }^{3}$ | ＊R1－214 |  | $\begin{gathered} \text { P1-308 } \\ * P 10-308 \end{gathered}$ | $31 / 4 \%$ $34 \%$ |
| P8．020 | \％／8 | ＊P14．115 | $1{ }^{1 / 2}$ | P1．200 | 2＂ | ＊R9．214 | 2\％，＂， | R1－308 | 31，＂， |
| ＊P9－021 | 2？${ }^{\text {？}}$ | R2．115 | 1 13＂ | P2．200 | $2^{\prime \prime}$ | －R14．214 | $2{ }^{16}$ | ＊R2．308 | 31／＂＇ |
| ＊P16．023 | \％3？ | ＊R9．115 | 1 12＂ | ＊P13．200 | 2＂ | R5．215 | 215 | ＊R14－308 | $3 / 4{ }^{\prime \prime}$ |
| P1．024 | 3／＂ | P1．116 | $11 / 2$ | ＊ P ＋2．200 | ${ }^{2 \prime \prime}$ | P1－216 | 21／2＂ | P1－310 | $3{ }^{6}{ }^{\text {²，＂}}$ |
| ＊P14．024 | ${ }_{3}$ | P2． 116 P3．116 | ${ }^{11} 12$, | ＊R11－200 | $2^{\prime \prime}$ | R1－216 | 21／＂ |  |  |
| R1．024 | 粥＂ | ＊P9．116 | 11\％ | P6－202 | 2 ，＂ | ＊R11－216 | $21 / 20$ | $\begin{array}{r} \mathrm{R} 1-312 \\ * \end{array}$ | $\begin{aligned} & 3_{3}^{3,3 \prime \prime}, \\ & 3^{\prime \prime} \end{aligned}$ |
| ＊P14．026 | $33^{\prime \prime}$ | ＊P13－116 | $1^{11}{ }^{\prime \prime}$ | ＊P14．202 | 2, | ＊P3－217 | $2^{173}$ |  |  |
| P1－028 | T－${ }^{\text {\％}}$ | R2．117 | $1{ }^{17}$ | R1． | 210 | P2－218 | $2{ }^{\text {P }}$ ，${ }^{\prime \prime}$ | ＊R16．313 | $3{ }^{3}$ |
| R1．028 |  | P1．118 | 1 ？${ }^{\text {？}}$ | P3． 203 | 23 | P6．218 | 2，＂， | P1－314 R2．314 |  |
| ＊R12．029 | 風 | P2－118 P3－118 | $1 \%$ | P1－204 | 21＇＂ | R2－218 | $2 \%$＂ | R9－314 | $33^{7}{ }^{\prime}$ |
| ＊P1．030 | $1{ }^{3}$ | ＊P13．118 | 1 \％＂， | ＊P12－204 | $21 \times \prime$ | R11－219 | $21{ }^{\prime \prime}$ | R1－316 | $31 / 2$ |
|  | a＂ | ＊P14．118 | $1{ }_{1}$ | ＊P15－204 | 2＂ | P1－220 | 2 \％＂ | ＊R13－316 | 312 |
| R211－031 | 年＂ | R2－119 | 1！＂＂ | R2－204 R3－204 | ${ }_{2}^{214 \prime \prime}$ | R1－220 |  | ＊P1．317 | $817{ }^{3}$ |
| P3． 100 | 1＂＇ | ＊P15－120 | $15 \%$ | ＊R14－204 | 2＇s＂ | R4．221 | $2 ?$ ？ | R2．318 | 3 39＂ |
| ＊R1－100 | 1 ＂ | P1－121 | 1 ！ | R1－205 | $2{ }^{\text {a }}$＂ | ＊P1－222 | 211＂ | P1－320 | 35／8＇ |
| ＊P9－101 | $1{ }^{3}{ }^{\prime \prime}$ | P3－121 | 1 ＇＂， | ＊R16．205 | 23 ＂ | P2－222 | $21 \%$ | R2－322 |  |
| ＊P1．102 | $1{ }^{1 / 0}$ | ＊P14－121 | 111 | P1．206 | $2{ }^{3}$ ？．＂ | ＊P7．222 | 2\％＂ | R4．322 | 20 |
| ＊P14－102 | $1^{1 / \prime \prime \prime}$ | P6．122 | 11 ＂， | P5． 206 | 2, | ＊R9－222 | $2{ }^{2}$ |  |  |
| ＊P15．102 | $1{ }^{\prime}{ }^{\prime}$ | ＊P13－122 | $11^{1}{ }^{\prime \prime \prime}$ | P7－206 $\times$ P14－206 | ${ }^{2}{ }^{3} 0^{3}$＂，${ }^{\prime \prime}$ |  | $2{ }^{10}$ | R1－323 | $33^{2}$ |
| R2－103 | 1 \％ | R1－122 | $11 "$ | ＊P15－206 | \％${ }^{\text {a }}$ | P3．223 | $2{ }^{2}$ | R9－324 | 23 ＂ |
| P3－104 | $1^{13}{ }^{\prime \prime}$ | R12．122 | $1!$＂ | R2－206 | 2， | R3－223 | $2{ }^{2}$ | ＊P1－325 | 3）${ }^{\text {\％}}$ |
| P9－104 $*$ P13－104 | $1^{11} 1^{1 / \prime \prime}$ | P1．123 P3－123 | $1{ }_{1}{ }^{\text {＇＂}}$ | R1－206 | ： | P1－224 P6－224 | ${ }_{2}^{23}{ }^{3}$, | R1－326 | $31{ }_{6}^{\prime \prime}$ |
|  |  | ＊P12－123 | 1 ＂ |  | － |  |  |  |  |
| R1－105 R2－105 | $\begin{aligned} & 1 \prime \prime \prime \\ & 1 \quad \prime \prime \end{aligned}$ | ＊P14－123 | 1．＂ | $\begin{aligned} & \text { P3.208 } \\ & * \text { P14-208 } \end{aligned}$ |  | ＊P10．225． | $2 \%$ \％ | R2－329 | $3{ }^{\text {枵＂}}$ |
|  |  | P4－124 | $13{ }^{\prime \prime}$ | R6－208 | $2{ }^{1 / 4}$ | ＊P1－226 | $21^{\prime \prime}$ | ＊R13．331 | $3{ }^{312}$ |
| P1．106 | 1 \％＇， | ＊P9．124 | ${ }^{13,}{ }^{3,}$ | ＊R7．208 | 211＂ | P3．226 | $2{ }_{2}$ |  |  |
| R4－106 | $1{ }^{\prime \prime}$ | ＊R2．124 | 1.10 | R9．208 | 24＂ | R1－226 | 2 \％＂ | P1－400 | $4^{\prime \prime}$ |
| ＊R1－108 | 11＂ | ＊P6． 125 |  | ＊P2．209 | $2{ }^{2}$ ？＂ | R2－226 R4． 226 | ${ }^{2}$ \％＂， |  |  |
| ＊R11．108 | 11，＂ | ＊P14．125 | 1 ：．＇ | ＊P9．209 | 2＂， |  | 210 | R2．401 | $43{ }^{17}$ |
| R12．108 | 11：＂ |  |  | R1－209 R2－209 | $2{ }^{2}$ | ＊P10．227 | 237 | P1－405 | $44^{5}$＂ |
| P1．109 | 1. | ＋P1－126 | $1 \%$ |  |  | R1－228 | $2^{78 \prime}$ | P3．405 | $43^{3}$ |
| ＊P7－109 | 1 ＂ | R1．126 | 1 ．．＂ | P3－210 | ${ }_{2}$ |  | 2\％＂ | ＊R14．409 | $4^{\text {n }}$ |
| R2．110 | 1\％，＂ |  |  | ＊P13－210 | $2{ }^{3}$ | P1．229 | $2{ }^{29}$ |  |  |
| ＊R9．110 | $1 . \%$ | R2．127 | 1 年＂ | R1－210 | 2，＇，＂， | ＊R14．229 | $2{ }^{\text {3 }}$ | ＊R14．414 | $41^{2}{ }^{2 \prime \prime}$ |
| P3－111 | 11＂ | P1．128 | 17 |  |  | R2． 230 | 215＂ | R1－417 | $4{ }^{172}$ |
| R1－111 | 11＂ | P2－128 | $17^{7}{ }^{\prime \prime}$ | ＊R14－211 | $2{ }_{2 \prime \prime}$ | P1．300 | 3＂ |  |  |
|  |  | ＊P9－128 | $1 \mathrm{~T}^{\prime \prime}$ |  |  | R1．300 | 3 ＂ | R2－420 | $4{ }^{5}$ |
| P1－112 | $1^{3}$ ，＂ | ＊P13－128 | $17 \times$ | P1．212 | $23^{3 \prime}$ | R2．300 | 3 ＂ |  |  |
| P6．112 | $1^{13} s^{\prime \prime}$ | ＊R14．128 | 173 | P3．212 | ${ }^{23 \times \prime \prime}$ |  |  | R2－426 |  |
| ＋P9．112 | ${ }_{1} 3^{3 \prime \prime}$ | P3．129 | $1{ }^{\text {²＂}}$ | ＊P9．212 | 2＂8，＂ | P1．302 $*$ P6．302 | 310 | ＊R14－426 | $41 \%$＂ |
| ＊P15－112 | $1{ }^{\prime \prime}$ | R12．129 | $13^{\prime \prime}$ | R2－212 | $2{ }^{\text {as }}$ | ＊R14－302 | 316 | R2－429 | $4{ }^{\text {g\％＇}}$ |
| ＊New parts added since Catalog Data Bulletin DCiD． |  |  |  |  |  |  |  | LIST PRICE | \＄J． 60 |

## （10）

## GERMANIUM \＆SELENIUM DIODES

GERMANIUM DIODES

 signeal an！assermbled in subl a manmer as to pibe a low cost mat of deverulathle servise and lone life．The units are protecterd asainst humblity h the molded housime and an electrically incert matarial which fils the phtire casits．staline oht moisture dat protowine astanst sebere merdanical blow
Hot tif lipued mountins pins and leads mahe it foteal for whor clip or soltar mombing．Joblarity is imbicated ly the tafuren shape which shows the direction ot current thow at a blonee．

STANDARD TYPES

| Stock No． | Minti－ micm Forward O． （MA） （MA） | Maximum Reverse Current（Micro－amps） |  |  |  | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1N34 | B． 1 | 30 （ -105 ）． 500 （－506 | 50 | 7. | 40 | \＄1．25 |
| 1N34A | $\therefore .0$ | 30 （－105）．． 000 （－30） | 50 | $\therefore$ | （i） | 1.50 |
| 1 N38 | 3.0 |  | 50 | 1ゼ1 | 100 | 2.90 |
| 1 N38A | 4.15 |  | 310 | 120 | 100 | 3.35 |
| $1 N 48$ | 4.0 | 83：3（－501） | \％1） | A\％ | －0 | 1.10 |
| 1N51 | 2.5 | 1．6i4\％（ 500 O ） | $\because$ | 50 | 10 | ． 85 |
| 1 N52 | 1.0 | 150 （－506） | il | 4 | －10 | 2.15 |
| 1N54 | 5.0 | 10 （－10V） | 51 | ： 5 | 35 | 1.75 |
| 1N54A | S． 11 | $\therefore$（－10以），100（－500） | 11 | $\therefore$ | 30 | 2.40 |
| 1 N 58 | 4.11 | － 00 （ 1005） | in | 120 | 100 | 2.40 |
| 1N58A | 4.0 | 600 （－1005） | ii） | 120 | 100 | 3.00 |
| 1 N60 | $\underset{\text { in }}{\text { Minim }}$ | num of 1 －1 peak to peat HoMC best citcuit | h | － | － | 1.00 |
| 1N63 | 1.0 | 50 （－50以） | 50 | 10. | 100 | 4.20 |
| 1N64 | $\underset{\substack{\text { Minim }}}{\substack{\text { Min }}}$ | mum of $100 \mathrm{k} . \mathrm{d}$ <br>  |  | 20 | － | ． 75 |
| 1N65 | 2.5 | $200(-545)$ | ． 31 | －${ }^{\text {a }}$ | －） | 1.10 |
| ＊1N69 | $\begin{array}{ll} 3.0 \\ \text { Rrect if } \\ \text { in } \end{array}$ | $30(-100), ~=30(-505)$ fication efticiencs： $350^{\circ}$ 100 MC twis circuit | $\begin{gathered} 101 \\ \text { minitn } \end{gathered}$ | Fis | 10 | 1.50 |
| ${ }^{+1} 1070$ | 3.0 | $\left.2.5(-10)^{\circ}\right), 300(-5015)$ | 301 | 123 | 101） | 3.35 |
| －1N81 | 3.11 | 10 （－105） | 311 | 3）${ }^{1}$ | 40 | ｜ 3.25 |

## ＊J．N：Typer

 ；For zero donamic resistame

## DIMENSIONS

Overall body dimensious approximately $300^{\prime \prime}$ diameter br．． $133^{\prime \prime}$ long．Axial leads 1 ！${ }^{\prime \prime}$ ．Hhastrations abose ara actual size．

## MICROSTAK SELENIUM DIODES

Type GA Microstak Diodes for use in low current circuits where very high back resistance and low forward resistance are required．Miniature sele－ nium cells with outstanding performance charac－ teristics，they are ideal for such applications as A．V．C．，switching，blocking and bias supplies． Design and small size give high frequency per－ formance not found in conventional cells－tests prove their successful performance in circuit appli－ cations up to 1 megacycle．Hermetically sealed to assure stable operation under high humidity，dust， fumes and clanging pressures．

Dimensions：（Type 6GA1）Length of leads－ $11 / 2^{\prime \prime}$ ． Body length－． $450^{\prime \prime}$ ．Diameter－ $145^{\prime \prime}$ ．（Type 9GA1）Length of leads－ $11 / 2^{\prime \prime}$ ．Body length－． $500^{\prime \prime}$ ． Diameter－． $210^{\prime \prime}$ ．

## TYPE GGAI



Stock No．6GA1－2B．Minimum forward current（at 2 V．D．C．）is 0.5 M．A．and corresponding resistance． 4000 ohms．Maximum inverse current（at 20 V．D．C．） is 20 microamperes and corresponding resistance， 1 megohm．Peak inverse volts－36．Continuous inverse volts－22．Maximum A．C．input（RMS volts with resistive load only）－ 26 ．Temperature range is -55 C to $+90^{\circ} \mathrm{C}$ ．Shunt capacitance－approxi－ mately 25 mmf（measured with two plates back． to－back on 1000 cycle bridge）．

List $\$ 1.67$

Stock No．6GA1－3C．Minimum forward current（at 2 V．D．C．）is 1 M．A．and corresponding resistance， 2000 ohms．Maximum inverse current（at 20 V．D．C．） is 10 microamperes and corresponding resistance， 2 megohms

List $\$ 2.25$

## TYPE 9GAI



Stock No．9GA1－2B．Characteristics are the same as the 6GAl－2B

List \＄1．50
Stock No．9GA1－3C．Characteristics are the same as the 6GA1－3C．

List $\$ 2.04$

## SINGLE CONTROLS



IRC Distributor Controls for Indusiry ofier com－ merrial users a wide selection uf resistance values and two industrial shaft types．Shafts are fixed． This combination of wide selection of values and speedy Distributor delivery holds many advantages for industrial purchasers．These lndustrial Controls are adaptations of the new．compart $\quad$＂＇Q Control Power rating is ${ }^{1} 2$ watt， 500 volts maximum．Elec－ trical rotation is the same with or without switch． $3 / 8^{\prime \prime}$ bushing is brass and held to rlose tolepance for snuer shaft fit

Terminals are heavily timned for easy soldering． and may be bent without becoming noisy．Two locating lugs are provided．either or both of which may he bent down if not needed．Molded hase．Both Types P（）and $I R(2$ are supplied in standard tapers．

TYPE PQ．Full round $3_{4}$ shaft．approximately $z^{\prime \prime}$ from mounting face．with $3 / 8{ }^{\prime \prime}$ long bushing．Avail－ able in 33 stock values as shown．Regular IRC stock numbers are used with prefix PQ

LIST \＄1．25
TYPE RQ．Very short screw－driver slot shaft， $1_{4}^{\prime \prime}$ diameter and approximately ${ }^{1} 2^{\prime \prime}$ long from mount－ ing face with $3 / s^{\prime \prime}$ long bushing．Available in $3{ }^{\circ}$ values as shown．Regular JRC stork numbers are used with prefix RQ．

L．IST \＄1．25
STANDARD VALUES


## 1RC <br> DISTRIBUTOR CONTROLS FOR IUDUSTRT

## DUALS AND TRIPLES






## MULTISECTIONS

 abind likr a witeh to ans（q．J＇g or lag Control．With thase mats．

 Arablable in ablection at ong values，as shown in followin：－tahle．


STOCK VALUES

| RESISTANCE IN OHMS | TAPER | $\begin{gathered} \text { IRC } \\ \text { stock No. } \end{gathered}$ |
| :---: | :---: | :---: |
| 509 | A | \111－103 |
| 1000 | A | \111－103 |
| 2010 | A | \111－110 |
| 3000 | $\lambda$ | M11－113 |
| 30001 | A | \11－111 |
| 10 K | A | M11－110 |
| 111 K | Q | \117－116 |
| 25 K | A | A111－124 |
| 30 K | A | \11－121 |
| 50 K | A | \11－12： |
| 100 K | A | ，111－12 |
| 1100に | C | 入11：－ 12. |
| 2505 | A | M11－130 |
| 250 K | C | 小1： 13.30 |
| 5006 | A | \111－132 |
| ら00K | C | \113－183 |
| 1.0 Meg | A | \111－13\％ |
| 1.0 जler | C | \11：－136 |
| 1.5 \ef゙ | C | 1113－138 |
| 2.0 Wexr | $A$ | \111－1：39 |
| 20 Ner | C | 111：3－139 |
| $\because 0$ Ne\％ | C | \113－140 |
| $\because .0$ 入ers | （1） | A17－140 |
| $\therefore .0$ Mer | A | \11－1＋1 |
| 10.0 गleg | A | M111－143 |

## MULTISECTION DIMENSIONS



## （10） PRECISION WIRE WOUND RESSTORS

Improved ceramic winding forms have high insu－ lating qualities，high mechanical strength and low coefficient of expansion．Special winding tech－ nique，developed by IRC，eliminates shorted turns or strains in the winding．
Improved insulation provides greater humidity protection and contributes to longer troublefree service．Improved lug and lead terminals assure perfect electrical connections without strain on the windings，and are easily solderen

| IRC TYPE No． |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | WW2J | WW3s | WW4J | WW5J | WW8J | WW10J | WW11J |
| MIL－R－93A Style | RB19B | RB16B | RB17B | RB18B | RB15B | $\cdots$ | R1316B |
| Oid Jan Style | R1314 | RB11 | RB12 | RE13 | 12310 | －－ | R1311 |
| Rating in Watts $65^{\circ} \mathrm{C}$ ．Ambient $85^{\circ} \mathrm{C}$ ．Ambient | $\begin{aligned} & 2.00 \\ & 1.00 \end{aligned}$ | ．50 | 1.00 .50 | 1.00 .50 | ． 50 | $\begin{array}{r} .25 \\ .15 \end{array}$ | $\begin{aligned} & .51 \\ & .87 \\ & \hline \end{aligned}$ |
| Maximum Volts | 2000 | 400 | 700 | 1000 | 250 | 150 | 500 |
| No．of Sections | $s$ | 2 | 4 | 4 | 1 | 1 | 2 |
| Minimum Resistance | 0.10 mm | ${ }^{1} .1$ Ohm | 0.1 Ohm | 0.1 Ohm | 0．1 Ohm | 10 Ohms | 0.1 Ohm |
| Max．Resistance（NILL E Characteristic | 4．f．Meg． | $\begin{aligned} & 18: \mathrm{K} \\ & \text { Ohms } \end{aligned}$ | ：ロ10は <br> Ohms | $\begin{aligned} & 7.0 \mathrm{~K} \\ & \text { Ohms } \end{aligned}$ | 185 K Ohms |  | 300 K Ohms |
| Maximum Resistance （Commercial） | 12.0 Mer． | 850に <br> Ohms | 2.0 Meg. | 4．5 Meg． | 850 K Ohms | 120 K Ohms | 1.0 Meg ． |
| Dimensions （See Figs． 1 \＆2） <br> A Dimension <br> I）Dimension <br> C Jimension <br> I）Dimension <br> E Dimension |  |  |  |  |  |  |  |
|  | Fig． 1 | \＃6． 32 | for <br> w <br> a．Hole | Hole To Clear 1／16＂Dia．Rod |  |  |  |

IRC offers a complete line of redesigned Precision Wire Wound Resistors. These improved units are fully interchangeable with earlier types, while providing higher standards of performance plus new sizes and terminals.
All IRC Precisions, except Type WW10J, are fur nished with rugged lug terminals for soldered connections. Type WW10J has wire lead terminals 2" long.
All Types except WW8J and WW10J are wound with adjacent sections in opposite directions. This provides windings of low residual inductance. and windings that have little coupling effect from other parts of the circuit. Type WW8J. with single section, is wound non-inductively. Type WW10J has a single section winding, but inductance is minimized by the comparatively small size of this unit.

wwes

## (IRC PRECISION WIRE WOUND RESISTORS

wwes


TYPE WW2J

| Stock <br> Resistance Values | List Price | Stock <br> Resistance Values | List Price | Stock <br> Resistance Values | List Price | $\begin{aligned} & \text { S:ock } \\ & \text { Resistance Values } \end{aligned}$ | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 600 \mathrm{~K} 0 \mathrm{hms} \\ & 750 \mathrm{~K} 0 \mathrm{lmms} \end{aligned}$ | $\$ 6.00$ 6.00 | 900 K 0 hms 1.0 Mexohm | $\$ 13.80$ $\mathbf{1 3 . 8 0}$ | $1.5)$ Mecohms 2.0 Merohims | \$21.04 $\mathbf{2 5 . 4 1}$ | 2.5 Megohms | 30.92 |

## TYPE WW3J

| Stock Resistance Values | List Price | Stock Resistance $V$ alues | List Price | Stock Resistance Values | List Price | Stock <br> Resistance Values | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.10 hm | \$ 2.97 | 300 Ohms | \$ 1.75 | 7.500 Ohms | \$ 2.05 | 60 K Ohms | \$ 2.05 |
| 0.2 Ohm | 2.97 | 5000 hms | 1.75 | 10 k chms | 2.05 | 75 K olms | 2.58 |
| 0.5 Ohm | 2.45 | 1,000 Ohms | 1.75 | 12.5 K Ohms | 2.05 | 100K Ohms | 2.58 |
| 1.0 Ohm | 2.45 | 1,500 Ohms | 1.75 | 15 k Ohms | 2.05 | 125 K Ohms | 3.05 |
| 5 Ohms | 2.28 | $\because, 000$ Ohms | 1.75 | 20 K Ohms | 2.05 | 150 K Olims | 3.55 |
| 10 Ohms | 2.28 | $\underline{2,500}$ Ohms | 1.75 | 22.5 K Ohms | 2.05 | 175 K Ohms | 3.55 |
| 25 Ohms | 2.28 | 3.000 Ohms | 1.75 | 25 K Ohms | 2.05 | 200 K Ohms | 2.97 |
| 50 Ohms | 2.28 | 3.5000 Ohms | 1.75 | 30 K Ohms | 2.05 | 225 K Ohms | 2.97 |
| 100 Ohms | 1.75 | 4.000 Ohms | 1.75 | 40 K 0 hms | 2.05 |  |  |
| $\stackrel{2000}{250}$ Ohms | 1.75 | 6.0000 hms | 1.75 | f0 K Ohms | 2.05 |  |  |

TYPE WW4J

| $\begin{aligned} & \text { Stock } \\ & \text { Resistance } V \text { alues } \end{aligned}$ | List Price | Stock <br> Resistance Values | List Price | Stock <br> Resistance Values | List Price | Stock <br> Resistance Values | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10.10 mm | \$ 3.16 | 500 Ohms | \$ 1.95 | 12.5 K Ohms | \$ 2.22 | 100 K Ohms | \$ 2.87 |
| 0.2 Ohm | 3.16 | 1.000 Ohms | 1.95 | 15 K Ohms | 2.22 | 12.5 K Ohms | 3.30 |
| 0.50 hm | 2.74 | 1.500 Ohms | 1.95 | 20 K Ohms | 2.22 | 150 K 0 hms | 3.60 |
| 1.00 hm | 2.38 | 2.000 Ohms | 1.95 | 2.5 K 0 hms | 2.22 | 175 K 0 hms | 3.67 |
| 5 Ohms | 2.38 | $\because .500$ (lims | 1.95 | $2 ¢ \mathrm{k}$ Ohms | 2.22 | 200 K Ohms | 3.67 |
| 10 Ohms | 2.38 | 3.000 Ohms | 2.22 | 30 K Ohms | 2.87 | 225 K 0 hms | 4.45 |
| 25 Ohms | 2.38 | 3.500 Ohms | 2.22 | 40 K Ohms | 2.87 | 250 K 0 hms | 4.45 |
| 50 Ohms | 2.38 | 4.000 Ohms | 2.22 | 50 K Olims | 2.87 | 300 K Ohms | 4.45 |
| 100 Ohms | 1.95 | 5.0000 hms | 2.22 | ${ }^{6} \mathrm{O} \mathrm{K}$ Ohms | 2.87 | 400 K 0 hms | 4.53 |
| 200 Ohms | 1.95 | ${ }^{7} .500 \mathrm{Ohms}$ | 2.22 | -5 K Ohms | 2.87 | 500 K Ohms | 5.25 |
| $\begin{array}{ll}250 \\ \mathbf{3 0 0} & \text { Ohms } \\ \text { Ohms }\end{array}$ | 1.95 1.95 | 10K Ohms | 2.22 |  |  |  |  |

TYPE WW5J

| $\begin{gathered} \text { Stock } \\ \text { Resistance } V \text { alues } \end{gathered}$ | List Price | Stock Resistance Values | List Price | Stock <br> Resistance Values | List Price | Stock <br> Resistance Values | Rist Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 600 K Ohms | \$ 8.50 | 750 K 0 hma | \$10.00 | 900 K Ohms | \$ 8.92 | 1.0 Mershmm | \$10.84 |

TYPE WWIOJ

| $\qquad$ | List Price | Stock <br> Resistance Values | List Price | Stock Resistance $V$ alues | List Price | Stock <br> Resistance Values | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100 hms | 52.03 | 1.01100 hms | \$ 1.63 | 7.500 Ohms | \$ 1.78 | 40 z Ohms | \$ 2.17 |
| 25 Ohms | 1.63 | 1,500 Ohms | 1.63 | 10 K Ohms | 1.78 | 50 K Olms | 2.17 |
| 50 Ohms | 1.63 | 2,000 Ohms | 1.78 | 12.5 K Ohms | 1.97 | 60K Ohms | 2.37 |
| 1000 hms | 1.63 | 2,500 Ohms | 1.78 | 15 K Ohms | 1.95 | 75 K Ohms | 2.53 |
| 200 Ohms | 1.63 | 3,000 Ohms | 1.78 | 20 K Ohms | 1.95 | 100 K Ohme | 2.53 |
| 2500 hms | 1.63 | 3.500 Ohms | 1.78 | 25 K Ohms | 1.95 |  |  |
| 300 Ohms | 1.63 | 4.000 Ohms | 1.78 | 30 K Ohmis | 1.95 |  |  |
| 500 Ohms | 1.63 | 5,000 Olms | 1.78 |  |  |  |  |

SPECLAL VALUES: For nonstock values, use price of next higher listed value. Request prices on WW8J and WWild from bistributor.
MINIMUM RESISTANCE VALUES FOR SPECIAL RESISTANCE TOLERANCES

|  | SPECIAL TOLERANCE | WW2J-WW3J-WW4J WW5J-WW8J_WW11J | WWIOJ | PRICING |
| :---: | :---: | :---: | :---: | :---: |
| TOLERANCE | $\begin{aligned} & \pm 0.5 \% \\ & \pm 0.25 \% \end{aligned}$ | 1 Ohm \& Over 5 Ohms \& Over | 50 Ohms \& Over 100 Ohms \& Over 100 Ohms \& Over | Add $5 \%$ to above prices Ald $10 \%$ to above pricer |



# MOLDED <br> BORON－CARBON PRECISTORS <br> $1 \%$ ACCURACY <br> $1 / 2$ WATT 

## 1 Mc CLOSE TOLERANCE PRECISTORS



## TYPE MBC

IRC＇s Molded Boron－Carbon Precistor is a precision film type resistor that incorporates the added ad－ vantages of a fully insulated unit．The molded plastic housing provides complete mechanical pro－ tection．and minimizes the effect of moisture． llecause of its greater heat dissipating capacity， load life characteristics for the Type MBC are improved over those of either boron or deposited carbon unmolded units．

## APPLICATIONS

Type MBC Molded Boron－Carbons are particularly suited for applications where unmolded boron or deposited carbon units cannot be used due to the risk of mechanical damage to their coating．insula－ tion breakdown，or high moisture change．

## SPECIFICATIONS

WATTAGE RATING： $1 / 2$ watt at $40^{\circ} \mathrm{C}$ ．ambient （per MLLR－10509A），derated to 0 at $120^{\circ} \mathrm{C}$ ．

RESISTANCE VALUES： 10 ohms to 510 K ohms． TOLERANCE：Standard tolerance is $1 \%$

IDENTIFICATION：Housing is distinctive green plastic．Type designation，resistance value and tolerance are stamped on each unit．

DIMENSIONS：


STANDARD STOCK VALUES

| Ohms | 0 hms | Ohms | Ohms | Ohms |
| :---: | :---: | :---: | :---: | :---: |
| 10 | 100 | 1.000 | 10K | 10012 |
| 11 | 110 | 1.100 | 11K | 110K |
| 12 | 120 | 1.200 | 12K | 120K |
| 1： | 130 | 1.300 | 13K | 130K |
| 15 | 120 | 1.500 | 15K | 1501\％ |
| 16 | 160 | 1.600 | 16K | 150K |
| 18 | 180 | 1.800 | 18k | 180F： |
| 20 | 200 | 2.000 | 20に | 2 OOF |
| 22 | 220 | 2.200 | 22K゙ | 220 K |
| 24 | 240 | 2.400 | 24 K | 210 F |
| 27 | 270 | 2.700 | 27K | $2 \% 0 \mathrm{~h}$ |
| 30 | $\therefore 00$ | $\therefore .010$ | 30 O | ：30k |
| $\therefore$ ， | 330 | 2.300 | $3: 3 \mathrm{~K}$ | 8 ®0に |
| 36 | $\therefore 60$ | $\therefore .600$ | 36 K | ヵロ0バ |
| 20 | 390 | 3.300 | 39 K | 390K |
| 43 | 430 | 4.200 | 43 K | 4こ0K |
| 47 | 470 | 4.700 | 47K | 4．0K |
| 51 | 510 | 5.100 | 51 K | 51015 |
| 56 | 560 | 5.600 | 56 K | － |
| 62 | 620 | 6.200 | 62K | － |
| （is | 6S0 | 6.800 | 68 K | － |
| 75 | 750 | 7.500 | 75 K | － |
| 82 | 820 | 8.200 | 82K | － |
| 41 | 910 | 9.100 | 91 K | － |
|  |  |  |  | ist Price |
| Standard Values and Tolerance |  |  |  | \＄1．00 |
| Special Values and Tolerances |  |  |  | 2.00 |

TYPE BOC．3／2 watt unmolded Boron－Carbon Pre－ cistors．designated Trpe BOC are available on special order．

## （10） INSULATED CHOKES

Type
Inductance CL！ （Microherriys）
List Price
ジも！ 1
．2． 107.

TYPE CLA CHOKES
［RC Insulatral（＇hokiss all：avialiable in lour sizes
 foum dre fully insulated in molded bhemolic hous inss for tull protection against high hunnidity．＂Mes insulated housing also Ruirds the windirg trom abl＇asion and physical diantagr，and preverls ally possibility of shorling to chassis．Colur rouled for easy identification．

The wide rathgr ot si\％a athd rharatcturistic colnhintat－
 respect to spate and electrical requirements．

## TYPE CL1／2 CHOKES

RETMA PREFEHHED VALUES ANU－20\％TULEHANCES

|  | Appruxi． mate $Q^{\prime \prime}$ at Fre． Quencies （Mc） | D．c． Ressice ance （Ohms） | Approxi－ Sult Self． Fre． quency （ Mc ） | Curpent Rating（Millianiperes）（1）（2）＂ |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| コン | 20 （11 15 | $24 \pm 30 \%$ | 505 | 1000 | 1500 |
| ． 27 | $1!9$（18） 11 | ．3\％ | 45.5 | 850 | 1200 |
| ．3： | 19 （11 14 | ． $47 \pm 30 \%$ | 415 | T00 | 1000 |
| ．3！ | 15 在1：3 | ． $51 \pm 30 \%$ | 380 | 700 | 950 |
| ． 46 | 17 亿12 | ．70 $\pm 30 \%$ | 345 | 600 | 800 |
| ． 56 | 17 \％11 | ． $98 \pm 30 \%$ | 315 | 500 | 700 |
| ． 68 | 16 长 10 | $1.0 \pm 30 \%$ | 290 | 500 | 700 |
| 82 | 16 （11） 9 | $1.5 \pm 30 \%$ | 210 | 400 | 550 |
| 1.0 | 16 rl y | $2.0 \pm 30 \%$ | 2：3： | 350 | 500 |

 micero－micoliatads．






| HETAA PHEFERHED VALUES AND IU\％TULEHANCES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Indact ance （Micro－ henrys） | Approxi－ <br> mate <br> ＂Q＂at Fre． quencies （Mc） |  | Auproxi－ mate Self－ Hesonant Fre－ Quency （Mc） | Curpent （Milda （1）＊ | Hating mperes） （2）${ }^{\circ}$ |
| ．－3 | 34 （1115 | ． $08.5 \pm 80 \%$ | 441 | 2600 | ：39（1） |
| $\because 4$ | 33 f1t 15 | ．15S $\pm 30 \%$ | 430 | ：300 | $\therefore 400$ |
| ．27 | 33 （11） 14 | $.0: 00 \pm 30 \%$ | 410 | $\cdots 30$ | $\because 300$ |
| ：20） | 23（11 14 | 1\％$\pm 30 \%$ | 3N0 | 1900 | $28(0)$ |
| ．3： | 32 （11 1－1 | 11：$\pm 30 \%$ | 360 | 1800 | $\because 700$ |
| $\therefore 36$ | 32 f113 | $.16 \pm 30 \%$ | 345 | 1600 | 2500 |
| $\therefore 39$ | 31 f1 1：3 | ．17 $\pm 30 \%$ | 3：30 | 160） | $\therefore-100$ |
| ． 43 | $\because 1$（11 12 | $.15 \pm 30 \%$ | 315 | 1500 | こ300 |
| .47 | 30）（191） | －＋－30「í | 305 | 1400 | 2100 |
| ．51 | $: 300111$ | $25 \pm 30 \% \%$ | $\geq 90$ | $1: 300$ | ？1000 |
| ． 56 | 30 （11 11 | $26 \pm 30 \%$ | 25 | 1300 | 1900 |
| ．62 | 24 （11 11 | $.31 \pm 30 \%$ | 265 | 1100 | 1700 |
| ．65 | 99 （ad 10 | $.37 \pm 30 \times$ | 250 | 1100 | 1600 |
| ． 75 | 38 fit 10 | ．3S $\pm 30 \%$ | 240 | 1000 | 1600 |
| ． 5 | 37 （1t | $44 \pm 30 \%$ | 230 | 950 | 1100 |
| ． 91 | 96 （1）9） | $.51 \pm 30 \%$ | 215 | 910 | 1400 |
| 1.0 | 26 （11） 9 | $.665 \pm 30 \%$ | 305 | 800 | 1200 |
| 1.1 | $\because 5 \mathrm{fr}$ S | $.67 \pm 30 \%$ | ？U0 | S00 | 1900） |
| 1.2 | \％4（IV 8 | $.65 \pm 20 \%$ | 190 | S00 | 1200 |
| 1.3 | 34 fit | ． $8 \mathrm{~S}+207 \%$ | 180 | 700 | $10 \% 0$ |
| 1.5 | 33（11 | ．94 $+20 \%$ | 170 | 6.50 | 1000 |
| 1.6 | ？\％（II 7 | $1.2 \pm 20 \%$ | 165 | 1500 | 900 |
| 1.8 | 22（11 | $1 .: \pm$－ 0 ¢ | 155， | 5.50 | S50 |
| ¢． 0 | －1（18 6 | $1.4 \pm 20 \%$ | 145 | 550 | S5， 510 |
| 2.2 | 214 fit 6 | $1.8 \pm 20 \%$ | 140 | 475 | 7110 |
| $\because 1$ | 19 （18 5 | $1.9 \pm 20 \%$ | 135 | 4.5 | 701 |
| $\because$ | 19 （11）5 | $2.0 \pm 20 \%$ | 1ン5 | 475 | 700 |
| 3.0 | $15 \pi$ | $2.0 \pm 20 \%$ | 120 | 400 | 600 |
| 3.3 | 14（11） | $\because 8 \pm 20 \%$ | 115） | 4101 | 5.0 |
| 3.6 | 17 （11） 5 | $: 7.7 \pm 20 \%$ | 110 | 350 | 500 |
| 3.9 | 17 （11 4．5 | $3.5 \pm 20 \%$ | 105 | 3.55 | 500 |
| 4.3 | 16 （11） 4.5 | $4.5 \pm 30 \%$ | 100 | 300 | 450 |
| 4.7 | 15 （ii） 4.0 | $4.7 \pm 80$ | 96 | 300 | 450 |
| 5.1 | 14 （1） 4.0 | $4.3 \pm 304$ | 9： | $\because 00$ | 450 |
| 5.6 | 13 （1） 4.0 | $5.1 \pm 30 \%$ | 88 | 275 | 1：5） |
| 6.2 | ［3）（11 3．5 | $5.4 \pm 30 \%$ | 51 | 275 | 425 |
| 6.8 | 1：（1t 3．5 | $5.6 \pm \pm 30 \%$ | 30 | 275 | 400 |
| 7.5 | 11 （11）3．5） | 5． 9 ）$\pm 30 \%$ | 76 | 275 | 400 |






 ol conder wire


| Type CL1 <br> CL1 <br> CL2 |  | INDUCT <br> （Microhe <br> ．．．． 47 to <br> ．．．． 11 to <br> ．．． 1.0 to | ANCE <br> enrys） <br> 10.0 <br> 24.0 <br> 39 | List $\$ 0$ | $\begin{aligned} & \text { Price } \\ & 0.35 \\ & .50 \\ & .67 \end{aligned}$ |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE CLI CHOKES <br> RRED Values and $10 \%$ tolerances |  |  |  |  |  | TYPE CL2 CHOKES <br> RETMA PREFERRED VALUES AND $10^{\circ}$ |  |  |  |  |  |
| Induct （Micro henrys） <br> － |  | $\underset{\substack{\text { Desist．} \\ \text { ance } \\ \text { ance } \\ \text {（ } \mathrm{hms} \text { ）}}}{ }$ | $\begin{array}{\|c\|} \text { A poroxi } \\ \text { mate } \\ \text { Self. } \\ \text { Resonant } \\ \text { Fre- } \\ \text { queney } \\ \text { (Mc) } \end{array}$ | Current imillian （I） | $\begin{aligned} & \text { ating } \\ & \text { neres) } \\ & \text { (2) } \end{aligned}$ | Induct （Micro． henrys） | Approxi－ mate ＂Qre－ quencies （Mc） | D．C． Resist－ （ O hms ） | Anproxi－ matio Sesolf． Resant Frant ouncy （Me） | Current <br> （Millia <br> （1） | eres． $\qquad$ |
| ． 47 | $3 \overline{5}$（11） 18 | $14 \pm 30^{\prime \prime}$ | 330 | 1850 | 2900 | 1.0 | 31 （II） 9 | ． $26 \pm 30 \%$ | 230 | 1500 | 2700 |
| ． 51 | 34 交 11 | $15 \pm 30 \%$ | 315 | 1800 | 2800 | 1.1 | 30 （1） 8 | $.35 \pm 30 \%$ | 215 | 1300 | 240 |
| ． 56 | 34 保 11 | $.16 \pm 30^{\circ} \mathrm{c}$ | 300 | 1750 | 2700 | 1.2 | 30 （10） 8 | ． $37 \pm 30 \%$ | 210 | 1250 | $\underline{200}$ |
| ． 62 | 33 fil 10 | $.16 \pm 30 \%$ | 285 | 1750 | 2700 | 1.3 | 30 （1t） 8 | $.38 \pm 30 \%$ | 200 | 1259 | 2300 |
| ． 68 | $3: 3$ 有 10 | $22 \pm 30 r_{r}^{\prime}$ | 275 | 1500 | 2300 | 1.5 | 29 （II） 7 | ． $52 \pm 30 \%$ | 185 | 1050 | 19（1） |
| ． 75 | 33 fr 10 | $23 \pm 30^{\prime}$ | 260 | 1450 | 2300 | 1.6 | 28 （iv） 7 | ． $53 \pm 30 \%$ | 180 | 1050 | 1900 |
| ． 82 | 32 （1）！ | $29 \pm 30^{\circ}$ | 250 | 1300 | 2000 | 1.8 | 28 （11） 7 | ． $65 \pm 20 \%$ | 170 | 950 | 1700 |
| ． 91 | 32（10） | ． $31 \pm 30 \%$ | 235 | 1250 | 1950 | 2.0 | 27 （v） 6 | $.158 \pm 20 \%$ | 160 | 900 | 170） |
| 1.0 | 32 41 | $.33 \pm 30 \%$ | 225 | 1200 | 1900 | 2.2 | 27 （id） 6 | ． $71 \pm 20 \%$ | 155 | 900 | 1600 |
| 1.1 | 31 T 8 | $40 \pm 30 \%$ | 215 | 1100 | 1700 | 2.4 | 26 （It） 6 | ． $93 \pm 20 \%$ | 145 | 800 | 1450 |
| 1.2 | 31 （1988 | $40 \pm 20{ }^{\circ}$ | 205 | 1100 | 1700 | 2.7 | 25 （1） 5 | ． $97 \pm 20 \%$ | 140 | 750 | 1400 |
| 1.3 | 30 （1） 8 | ． $42 \pm 20 \%$ | 195 | 1050 950 | 1700 | 3.0 | 25 （10） 5 | $1.3 \pm 20 \%$ | 130 | 650 | 1200 |
| 1.5 | $\begin{array}{ll}24 \\ 29 & \text {（a）} \\ 7\end{array}$ | $.56 \pm 20 \%$ $59 \pm 20 \%$ | 185 180 | 950 900 | 1450 1400 | 3.3 | 25 （1） 5 | $1.3 \pm 20 \%$ | 125 | 650 | 1200 |
| 1.6 1.8 | 29 29 （10） 7 | $.59 \pm 20 \%$ $.77 \pm 20 \%$ | 180 170 | 800 800 | 1400 1250 | 3.6 | 24 （10） 5 | $1.4 \pm 20 \%$ | 120 | 650 | 1200 |
| 2.0 | 27 （1） 6 | $82 \pm 20^{\prime} \mathrm{c}$ | 160 | 750 | 1200 | 3.9 | 24 （il） 4.5 | $1.8 \pm 20 \%$ | 115 | 550 | 1050 |
| 2.2 | 26 （1） 6 | $87 \pm 20^{\circ} \%$ | 150 | 750 | 1150 | 4.3 | 23 （11） 4.5 | $1.9 \pm 20 \%$ | 11 | 55 | 1000 |
| 2.4 | 25 （18） 6 | $1.1 \pm 20 \%$ | 145 | 650 | 1050 | 4.7 | 22 （t） 4.0 | $2.0 \pm 20 \%$ | 105 | 550 | 1009 |
| 2.7 | 25 （10） 5 | $1.2 \pm 20^{\prime}$ | 135 | 600 | 1000 | 5.1 | 22 （11） 4.0 | $2.6 \pm 20 \%$ | 100 | 475 | 851 |
| 3.0 | 24 （1） 5 | $1.6 \pm 20 \%$ | 130 | 5.50 | 850 | 5.6 | 21 （1） 4.0 | $2.7 \pm 20{ }^{\prime}$ | 95 | 450 | 851） |
| 3.3 | 24 （1t 5 | $1.7 \pm 20 \%$ | 125 | 500 | 850 | 6.9 | 21 （1i） 3.5 | $3.7 \pm 20 \%$ | 90 | 400 | 700 |
| 3.6 | 23 石 | $1.7 \pm 20 \%$ | 120 | 500 | 850 | 6.8 | 20 ¢f 3.5 | $3.8 \pm 20 \%$ | 87 | 375 | 700 |
| 3.9 | 23 （17） 4.5 | $2.3 \pm 20 \%$ | 115 | 450 | 750 | 7.5 | 20 （t） 3.5 | $4.0 \pm 20 \%$ | 83 | 375 | 70 st |
| 4.3 | 22 （1） 4.5 | $2.4 \pm 20 \%$ | 110 | 450 | 700 | 8.2 |  | $5.2 \pm 20{ }^{\circ} \mathrm{r}$ | 80 | 325 | 600 |
| 4.7 | 29 年 4.0 | $25 \pm 20 \%$ | 105 | 450 | 700 | 0.1 | 19 （11） 3.0 | $5.5=20^{\circ} \cdot$ | 75 | 325 | 600 |
| 5.1 | 21 fll 1.0 | $3.3 \pm 20 \%$ | 100 | 375 | 600 | 10 | 15（17） 3.0 | $5.7 \pm 20 \%$ | 72 | 300 | 55 |
| 5.6 | 21 （1） 4.0 | $3.4 \pm 20{ }^{\prime}$ | 95 | ： 175 | 6100 | 11 | 18 （il）？ 0 | $7.6 \pm 20 \%$ | 63 | 275 | 500 |
| 6.5 | 20168 | $3.6 \pm 20{ }^{\circ}$ | 80 | 375 | 6100 | 12 | 17 （112 2.5 | $7.9=20 \%$ | 66 | 275 | 500 |
| 6.8 | 20 （10 3.5 | $4.7 \pm 20 \%$ $5.0 \pm 20 \%$ | 86 80 | 325 300 | 550 $5 \times 5$ | 13 | 1.768 | 3．2 $\pm 20 \%$ ． | 63 | 250 | 475 |
| 7.5 |  | $5.0+20 \%$ | 8 |  | 5 | 15 | 16 亿12 2.5 | 11 二20\％ | 59 | 225 | 4：5 |
| $\times 2$ |  | $5.2 \pm 20 \%$ $7.2 \pm 20$ | 79 | 300 050 | 5170 $4 \geqslant 5$ | 16 | 15 万1 2.5 | $11 \pm 20 \cdot$ | 57 | $2: 5$ | 425 |
| ${ }_{10}^{9.1}$ | 18 18 <br> 17 30 <br> 10  | $7.2 \pm 20$ $75 \pm 20 \%$ | 75 | －2．0 | 425 $4 \because 5$ | 18 | 15 fl 2.0 | $15 \pm 20 \%$ | 54 | 175 | 350 |
| 11 | 17  <br> 17 （1） <br> 16  | $9.5 \pm 20{ }^{3} \mathrm{~F}$ | 68 | 225 | 375 | 20 | 15 （11） 2.19 | $16 \pm 20 \%$ | 51 | 175 | 350 |
| 12 | 16 T 2.5 | $9.9 \pm 20 \%$ | 65 | 225 | 375 | 22 | 14 在 2.0 | $19 \pm 30 \%$ | 49 | 175 | 325 |
| 13 | 15 （7） 2.5 | $11 \pm 30^{\prime}$ | 62 | 200 | 850 | 24 | 14 石 2.0 | $20 \pm 30^{\prime}:$ | 46 | 150 |  |
| 15 | 14 有 2.5 | $12 \pm 30 \%$ | 58 | 200 | 325 | 97 | 13 石 20 | $21 \pm 30 \%$ | 44 | 150 | 300 |
| 16 | 13 m 2.5 | $13 \pm 30 \%$ \％ | 56 | 175 | $3: 5$ | 30 | 12 石 1.5 | $2 \%$ 土 $30 \%$ | 42 | 150 | 300 |
| 18 | 13 ＇fil 2.0 | $14 \pm 30 \times$ | 53 | 175 | 300 | 33 | 12 的 1.5 | $23 \pm 30 \%$ | 40 | 150 | 275 |
| 20 | 12 （tio 2.0 | $14 \pm 30 \%$ | 511 | 175 | 300 | 36 | 11 T 1.5 | $24 \pm 30 \%$ | 38 | 150 | 295 |
| 22 | 11 （i） 2.0 | $15 \pm 30 \%$ | 48 | 175 | 300 | 39 | 11 ＠ 1.5 | $25 \pm 30 \%$ | 36 | 150 | 22.5 |
| 24 | 10 （1） 2.0 | $15 \pm 30 \%$ | － 46 | 175 | 300 |  |  |  |  |  |  |
| NotL：Distributed capacitance approximately 0.54 miero－microfarads． <br> ＊（1）Current which will cause resistance to increase all－ proximately $10 \%$ due to temperatum coetheient of crpper wire． <br> ＊（2）（＂brent which will canse rpsistance to in rease at）－ proximately 2 ？ copper wire． |  |  |  |  |  | NoTE：Jistributed abacitance approximately 0． F micromionerofarads． <br> ＊（1）Curremt which will canse resistance to increase alt－ proximately 10 ＇i ate to temperature coeflicient af copper wire． <br> （2）（＂urrent which will cause resistance to increase alp－ <br>  －onper wire． |  |  |  |  |  |

## PRODUCTS OF <br> ＂The House of Resistors＂ CLAROSTAT MFG．Co．，Inc． DOVER NEW HAMPSHIRE TWX 275U Tel．DOVER 975

## COMPOSITION－ELEMENT CONTROLS

Phose＂pirk－l－shat1＂inn＂．hl－A－switehn＂ （anitrols will take any of the shafls listond on
 of the 1 ：shafts list fall（this thes of any ind one insulatiod shaft）witla each comion wimelute． onsmatind shatt）with earll（Dontmon．If，
 trobs ary in aceord with RETM．I stambarils －overall resistamer loheramo of phas／mimes oon\％for all values up to and including
 （＇mitrols ame available with factory－assem－ led shafts at mo extra chatree．ly omitting

 Fxample ：47－100K゙－s with FK心 $1 / 4$ shaft．


Graph Explanation：
Taper S－straik！t or uniform resistance chanme with rotation．
Taper $T$－Wiuhthand $30 \%$ resistance at E00／r of（．© W．rotation． Taper U—Iofthand $1 \%$ resistance at $331 / 3 / \%$ uf（＇．W＂，rutation．
Taper V—Xiwht－hand $20 \%$ resistance at Blin of 1 ＇A．W．rotalion．
Taper W－laft－hand 20 㡽 resistance at Taper Z——．aft－lamal（lag．nudio） $10 \%$ re．

Taper $Y$－Idefthame $5 / \%$ rexistance at $50 \% / \%$
Taper Y—laft－han
of $(. W$ ，rolation．

SERIES＂A47F＂ $1 / 2$ WATT TAPPED CONTROLS

Tluese are the propular fo＂diat emmpasiliom －Wman comirols whicil are replacinct the


SERIES A47F （INDUSTRIAL） SERIES 47F lamer 1－1／8＂llan．units，without sacritice in latinte or performance．Scrits＂ （rnintouls atre fie？ ＂Pick－A－shaft＂＊and＂Al－A－Switch＂＊an station alowe．Toleraners as above－stated．
 $30 \%$ ． $50 \%$ and $70 \%$ of iontation，respere－ tively．These controls ate also available with factory－assumblad shatis at mo extra chatrer． hy omitting profix＂A＂from cataloer numhror

 Fs．s shaft．

| Cat．No． | Res．Ohms． | Tap <br> No． 1 $30 \%$ | Tap No． 2 $50 \%$ | Tap <br> No． 3 <br> $70 \%$ |
| :---: | :---: | :---: | :---: | :---: |
| A47F－50K | ちいた |  | 2．）K |  |
| A47F－200K | 20ヶに |  |  | 100 K |
| A47F－250K | 2ちゃド |  |  | 50に |
| A47F1－250K | 2ちいに |  | 12．） |  |
| A47F－350K | 850 K | $75 \%$ |  |  |
| A47Fl－350K | 3 万いK |  | 7．5 |  |
| A47F－500K | 5001 |  |  | 100に |
| A47F1－500K | 300に | 25K |  |  |
| A47F2－500K | 500 K |  |  | こ00に |
| A47F3－500K | $\therefore$ 二ロバ |  | 100 K |  |
| A47F4－500K | 5nak |  | 50K |  |
| A47F5－500K | ちロいに |  | っちゃに |  |
| A47F－1 Meg． | 1 N1． | 250 K |  |  |
| A47Fl－1 Meg． | 1 M6．．． |  |  | 200 K |
| A47F2－1 Meg． | 1 M＂世． |  | 5いに | － |
| A47F3．1 Meg． | 1 Mram ． |  | $10 い \mathrm{~K}$ |  |
| A47F4－1 Meg． | 1 Mex． |  | 2ロ：に |  |
| A47F5－1 Meg． | 1 Mowr． |  | 500 K |  |
| A47F－2 Meg． | －Mrar． |  |  |  |
| A47Fl－2 Meg． | 2 Max | $5000$ |  |  |
| A47F2－2 Meg． | 2 Mrır． | 15\％ |  |  |
| A47F3－2 Meg． | $\because$ М10． |  | 1 Mos． |  |
| A47F4－2 Meg． | $\because \mathrm{M}$ |  | 20いに |  |
| A47F5－2 Meg． | 2 M |  | 400 K |  |
| A47F6－2 Meg． | 2 Mor． |  | 500 K |  |
| A47F－3 Meg． | 3 Mrur． |  | 2．ういだ |  |

[^44]

## SERIES＂A47＂ $1 / 2$ WATT CONTROLS

Compusition－element controls in the popitar bi＂tiat．sizu．Surtios＂$A+7$＂ comtrols atre tichl－asemblad with the
 ＊witch＂＊，as stated alowe．Poblerances as abowestaterl．These controls are alse atalahbe with factors－assombleol shafts at no rxtrat charge，by omitting profix $\because$ from catalag 1 amber amal dosig． natine the trone slaft desired when smbrius．Lixamula：45－100に－s with FKK 3／4 klaft．
CAT No．OHMS TAPER CAT NO．OHMS TAPER

| CAT No． | H |
| :---: | :---: |
| A47－500．S | 50\％ |
| A47－750－S | －\％o |
| A47－1000－S | 11100 |
| A47－1500－S | 1．ju！ |
| A47－2000－S | 20100 |
| A47－2500－S | 2.506 |
| A47－3000－S | 31110 |
| A47－4000－S | ＋00301 |
| A47－5000－S | こ川11， |
| A47－7500－S | 7500 |
| A47－10K－S | 10 K |
| A47－10K－V | 11ヶK |
| A47－10K－W | 1いK |
| A47－10K－Z | 1いK |
| A47－15K－S | 1\％K |
| A47－15K．V | 1．\％ |
| A47－15K－W | 1．\％K |
| A47－20K－S | このK |
| A47－25K－S | 2\％に |
| A47－25K－W | 3．うに |
| A47－25K－V | 25に |
| A47－30K－S | 30 K |
| A47－40K－S | 46 K |
| A47－50K－S | 「いに |
| A47－50K－W | 50 K |
| A47．50K－Z | 50 K |
| A47－75K－S | －$\because \mathrm{K}$ |



SERIES A47 （INDUSTRIAL）

SERIES 47


J．INT PRICE \＄1．25
Standard lacking 10 per（arton．

## SERIES＂DC＂1／2－WATT DUAL CONTROLS

These eompasition ulement controls are cranged tomether so that looth are opmated be a single shaft in corresponding rotation．They bave a



 comblimations of nlmaters availahle．Driens and information ujon
request． request．
Cat．No．Panel Tap．Rear Tap．Cat．No．Panel Tap．Rear Tap．



 LIST PRICE $\$ 3.10$

## PRODUCTS OF <br> ＂Jhe House of Resistors＂

## WIRE－WOUND CONTROLS




olemance of plasiminus 10 fif for all values．All contros arf amat Wailable with tactory－assemblod shafts at mo extra charge，hy omil tins＂the pratix＂A＂＂from tho＂catalor number and desienatinge the
 haft，or $43 \mathrm{~S}-10 \mathrm{~K}$ with ド内－ 3 shatt and spsil switely．

## SERIES＂A43＂and＂A43S＂2－WATT CONTROLS



| Without | With SPST |
| :---: | :---: |
| Switch | Switch |
| Cat．No． | Cat．No． |
| A43－5 | A43S－5 |
| A43－10 | A43S－10 |
| A43－20 | A43S．20 |
| A43－25 | A43S－25 |
| A43－30 | A43S－30 |
| A43－40 | A43S－40 |
| A43－50 | A43S－50 |
| A43－75 | A43S－75 |
| A43－100 | A43S－100 |
| A43－150 | A43S－150 |
| A43－200 | A43S－200 |
| A43－300 | A43S－300 |


| Res． Ohms | Without Switch Cat．No |
| :---: | :---: |
| ${ }_{5}$ | A43－400 |
| 10 | A43－500 |
| 211 | A43－750 |
| 25 | A43－1，000 |
| ：11 | A43－1，500 |
| 40 | A43－2，000 |
| －11 | A43－2，500 |
| 7.7 | A43－3，000 |
| 1010 | A43－4，000 |
| 1.210 | A43－5，000 |
| 2010 | A43－7，500 |
| 31110 | A43－10K |


| With SPST |  |
| ---: | ---: |
| Switch | Res． |
| Cat．No． | Ohms |
| A43S－400 | 400 |
| A43S－500 | 500 |
| A43S－750 | 750 |
| A43S－1，000 | 1.000 |
| A43S－1，500 | $1, .300$ |
| A43S－2，000 | 2.000 |
| A43S－2，500 | 2.500 |
| A43S－3，000 | 3.000 |
| A43S－4，000 | 4.000 |
| A43S－5，000 | 5.000 |
| A43S－7，500 | 7.500 |
| A43S－10K | 101 |

LIST PRICE $\$ 1.25$（Without Switch）－$\$ 2.00$（With SPST Switch）
SERIES＇A58＇and＇A58S＇＇3－WATT CONTROLS

 of shatt hesibed when orderiner．Fanmble：Jx－50k with kSt－3 shaft，


| Without |  |  | Without |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Switch | Res． | List | Switeh | Res． | List |
| Cat．No． | Ohms | Price | Cat．No． | Ohms | Price |
| A58－1 | 1 | \＄1．25 | A5s－4000 | 1．4）（1） | 1．23 |
| A58－2 | $\because$ | 1.25 | A58－5．000 | 5.1011 | 1.25 |
| A58．4 | 1 | 1.25 | A58－7．500 | 7.5031 | 1.25 |
| A58－6 | （i） | 1.25 | A5s－10K | 10 N | 1.25 |
| A58－10 | 10 | 1.25 | A58－15K | 1．\％ | 1.60 |
| A 58 －15 | 15 | 1.25 | A58－20K | －いた | 1.60 |
| A58－20 | 20 | 1.25 | A58－25K | \＃らに | 1.60 |
| A58－25 | 25 | 1.25 | A58－30K | 3いに | 2.25 |
| A58－30 | 301 | 1.25 | A58－40K | 411 K | 2.25 |
| A58－40 | ＋1） | 1.25 | A 58.50 K | こいK | 2.25 |
| A58－50 | 50 | 1.25 |  |  |  |
| A58－60 | til | 1.25 | With SPST |  |  |
| A58－75 | 75 | 1.25 | Switch | Pes． | List |
| A58－100 | 100 | 1.25 | Cat．No． | Ohms | Price |
| A58－200 | 200 | 1.25 | A58S－1 | 1 | \＄2．00 |
| A58－300 | 3010 | 1.25 | A58S－2 | 2 | 2.00 |
| A58－400 | 41010 | 1.25 | A58S－4 | 1 | 2.00 |
| A58－500 | 500 | 1.25 | A58S－6 | 6 | 2.00 |
| A58－750 | 7.80 | 1.25 | A58S－10 | 10 | 2.00 |
| A58－1，000 | 1.01010 | 1.25 | A58S－15 | 1.1 | 2.00 |
| A58－1．500 | 1．500 | 1.25 | A58S－20 | $? 9$ | 2.00 |
| A58－2，000 | $\because .0000$ | 1.25 | A58S－25 | 25 | 2.00 |
| A58－2，500 | 2.510 | 1.25 | A58S－30 | 311 | 2.00 |
| A58－3，000 | 3.0100 | 1.25 | A58S－40 | 10 | 2.00 |

 INDUSTRIAL）

With SPST
Switch Res．Li

ERIES 58 Cat．No
A58S－50 A $58 \mathrm{~S}-50$
A58S－60 A58S－60
A 58 S－ 75 A58S－75
A58S－100 A58S－100 A $58 S-200$
A $58 \mathrm{~S}-300$ A58S－300
A58S－400 A $58 \mathrm{~S}-400$
A $58 \mathrm{~S}-500$ A58S－500 A58S－1，000 A $58 S-1,500$


SERIES A58S INDUSTRIAL SERIES 58 S


| A58S－2，000 | 2.000 | 2.00 |
| :--- | :--- | :--- |
| A58S－2，500 | 2.500 | 2.00 |
| A58S－3．000 | 3.000 | 2.00 |
| A58S－4．000 | 4.000 | 2.00 |
| A58S－5．000 | .1100 | 2.00 |
| A58S－7，500 | 100 | 2.00 |
| A58S－10K | $10 K$ | 2.00 |
| A58S－15K | $1.1 K$ | 2.35 |
| A58S－20K | $20 K$ | 2.35 |
| A58S－25K | $3.5 K$ | 2.35 |
| A58S－30K | $30 K$ | 3.00 |
| A58S－40K | $40 K$ | 3.00 |
| A58S－50K | $.10 K$ | 3.00 |

## SERIES＇A10＇and＇A10S＇4－WATT CONTROLS



SERIES AlO SERIES 10

|  | With |  | Without | With SPST |  | With |  | Without | With SPST |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Without | SPS ${ }^{\top}$ |  | Switch | Switch | Without | SPST |  | Switch | Switch |
| Switch | Switch | Res． | List | List | Switch | Switch | Res． | List | List |
| Cat．No． | Cat．No． | Ohms | Price | Price | Cat．No． | Cat．No． | Ohms | Price | Price |
| Al0－1 | AlOS－1 | 1 | \＄1．85 | \＄2．60 | Al0－750 | Al0S－750 | 7． 50 | 1.85 | 2.60 |
| Al0－2 | Al0S－2 | $\because$ | 1.85 | 2.60 | A10－1，000 | AlOS－1，000 | 1，000 | 1.85 | 2.60 |
| A10－4 | Al0S－4 | 4 | 1.85 | 2.60 | A10－1，500 | AlOS－1，500 | 1.500 | 1.85 | 2.60 |
| A10－6 | Al0S－6 | ， | 1.85 | 2.60 | A10－2，000 | A $10 S-2,000$ | 3.0100 | 1.85 | 2.60 |
| A10－10 | Al0S－10 | 10 | 1.85 | 2.60 | A10－2，500 | AlOS－2，500 | $\because .5100$ | 1.85 | 2.60 |
| Al0－15 | Al0S－15 | 1.5 | 1.85 | 2.60 | A10－3．000 | AlOS－3，000 | 3.1000 | 1.85 | 2.60 |
| Al0－20 | Al0S－20 | 20 | 1.85 | 2.60 | A10－4，000 | Al0S－4，000 | 4.000 | 1.85 | 2.60 |
| Al0－25 | Al0S－25 | 2.5 | 1.85 | 2.60 | A10－5，000 | Al0S－5，000 | \％．000 | 1.85 | 2.60 |
| Al0－30 | Al0S－30 | 30 | 1.85 | 2.60 | Al0－7，500 | AlOS－7，500 | 7.000 | 1.85 | 2.60 |
| Al0－40 | Al0S－40 | 10 | 1.85 | 2.60 | A10－10K | AlOS－10K | $10 ゙ 5$ | 1.85 | 2.60 |
| Al0．50 | Al0S－50 | $51)$ | 1.85 | 2.60 | A10－15K | Al0S－15K | 1．\％ | 2.20 | 2.95 |
| Al0．60 | Al0S－60 | （i） | 1.85 | 2.60 | A10－20K | A 10S－20K | 20に | 2.20 | 2.95 |
| Al0－75 | A10S． 75 | 7．5 | 1.85 | 2.60 | Al0－25K | Al0S－25K | 25K | 2.20 | 2.95 |
| Al0－100 | Al0S－100 | 100 | 1.85 | 2.60 | Al0－30K | Al0S－30K | 30 K | 2.85 | 3.60 |
| Al0－200 | Al0S－200 | 200 | 1.85 | 2.60 | A10－40K | Al0S－40K | $40 \%$ | 2.85 | 3.60 |
| Al0－300 | A10S－300 | 300 | 1.85 | 2.60 | A10－50K | AlOS－50K | 50 ¢ | 2.85 | 3.60 |
| A10－400 | Al0S－400 | 400 | 1.85 | 2.60 | A10．75K | Al0S－75K | 75N゙ | 3.50 | 4.25 |
| Al0－500 | Al0S－500 | 500 | 1.85 | 2.60 | A10－100K | Al0S－100K | 100 K | 3.50 | 4.25 |



## PRODUCTS OF <br> "The House of Resistors" DOVER NEW HAMPSHIRE TWX 275U Tel. DOVER 975

## SHAFTS and SWITCHES • BALLASTS • REGULATORS



## HIGH VOLTAGE COUPLER







Cat. No.


RN-3 Am-Mulallic Nhatt lkumal *" lots 1.00

## SERIES "SWE" SWITCHES FOR

 "AD-A-SWITCH"* CONTROLS

[^45]UNIVERAL BALLAST


Cat. No

| Cat. | Cat. No. | Cat. No. | Cat. No. | Cat. No. | Cat. No. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| BK-29-B | BM-49-B | K.49.H | K-80-B | L-49-0 | M-80-B |
| BK-29-D | BM-55-B | K-55-A | K-82-B | L.49-H | M-86892-9 |
| BK-32-0 | K-26J218 | K-55-B | K-86-B | L-55-B | 10-610 |
| BK-36-8 | K-36-0 | K-55-C | K.90.A |  | $100 \cdots 37$ |
| BK-36-0 | K-42-A |  | K-90-B |  | 100-70 |
| BK-36-H | K-42-A1 | K-55-0 | K-92-A | L.55-C | 100-76 |
| BK-42-B |  | K-55-H | L-42-B | L-55-0 | 100-77 |
| BK-42-C | K-42-C | K-67-A | L.42-C |  | 100.79 |
| ВK-49-B | K-42-0 | K-67-B | L-42.0 | M-42-B | $115 . .78$ |
| BK-49-C | K-49-A | K-67-8J | L.49.A | M-49-8 | 5459 |
| 8K-55-8 | K-49-B | K-72-B | L-49-B | M-55-B | 28602 |
| BK-67-BJ | K-49-C | K-74-B | L-49-C | M-55-H | $43 \times 106$ |
| BL-42-0 | K-49-D |  |  |  | - 106 |

## TELEVISION BALLAST

| Mutobula 17.17030. | lemmont ram | 16050 | Pilot |  |
| :---: | :---: | :---: | :---: | :---: |
| Moturola la A $18.4{ }^{\text {a }}$ | Helmment 3ast | 16:.:1 | Emerson | 3970:1 |
| Teletune TIR10-2 | Belmant 1s:y | 150.3 | Emerson |  |
| Teletone Thrio: ${ }^{\text {a }}$ | L:elmont 13:9 | 17571 | Fimerson | : 9700 |
| Teletone Tilillill | lielumint 18931 | 18941 | Fimerson | 400 |
|  | 'wart Warner | -T-..n7 |  |  |
| LIST PRICE \$ 4.00 except 397036 LIST \$2.00 | \$ $\$ .00$ ex | excent 397036 LIST \$2. |  |  |

## LINE VOLTAGE REGULATORS

FOR TELEVISION RECEIVERS
Type Rat. For Use with No. Watis Sets Consuming Dia. Loth. List TVA

Price


## 'FUZOHM"'т FUSE-TYPE RESISTOR

## 



7.5 olm Fuzohm nermatly carries 1 am wron and withatambarge curromla of 1.75 amperes. Wesignen to fluse at 2-.3 ampervis in lese than abl biromd. These units act - protertive fus.o and are therefore ex. Cat. No. FZl-7. ultms


Pat. Pending
LIST PRICE $\$ 0.75$

## PRODUCTS OF <br> ＂The House of Resistors＂

## POWER RHEOSTATS

Clarostat fower Rlieostats maintain their full nower rating at settings as low as one－ third rotation without excessive temperature rise．Standard overall resistance toler－ ance phas／minus $10 \%$ ．Closer tolerances are available upon special order．
The metal cored winding is embedded in a cold－setting，inorganic cement and is thereby bonded to the ceramic body．Init mounts through a single hole．A locking pin is provided for rear panel mounting．
U．S．Pat．2．346．598

SERIES 25 －25－WATT

|  | Total Res． Ohms | Max．Cur． at Total Res．Amds． | Max．Cur． Up to $1 / 3$ Res．Amps． | List Price | Cat．No． | Total Res． Ohms （1．） | Max．Cur． at Total <br> Res．Amps． <br> 10.000 | Max．Cur． Up to $1 / 3$ Res．Amps． 15．000 | List Price $\$ 6.50$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat．No． | －1 | 二，1001 | 7.500 | \＄5．85 | $\begin{aligned} & 50-0.5 \\ & 50-1 \end{aligned}$ | 0．＂ | 10.000 7.071 | 10．60\％ | $\$ 6.50$ 6.50 |
| 25－1 | 2 | 3．5：31 | ．6． 304 | 5.20 | 50－1 $50-2$ | 2 | 5.000 | 7.500 | 6.50 |
| 25－3 | 3 | 2， $2 \times 7$ | 4.330 | 5.20 | $50-4$ | 4 | 3.586 | 5.304 | 5.85 5.85 |
| 25.6 | 1 | 2.111 | 3.062 | 5.20 | 50－6 | 6 | 2.88 | 1.3880 | 5.85 |
| 25.8 | $\stackrel{8}{ }$ | 1． I is | 2． 6.5 | 5.20 5.20 | 50.8 | $\stackrel{N}{ }$ | 2.5100 | 3.750 | 5.85 |
| 25－10 | 10 | 1．a心1 | $2.37 \%$ | 5.20 | 50.12 | 12 | 2.041 | 8.062 | 5.85 |
| 25－15 | 15 | 1．2！1 | 1.936 | 5.20 5.20 | 50－16 | 1 i | 1.768 | 2.650 | 5.85 5.85 |
| 25－25 | $2 \%$ | 1.000 | 1．500 | 5.20 | 50－22 | 22 | $1 . .50 \%$ | 9.261 | 5.85 5.85 |
| 25－35 | （3） | A＋5 | 1．268 | 5.20 5.20 | 50－35 | 8.5 | $1.19 \%$ | 1.798 | 5.85 5.85 |
| 25－50 | 510 | －117 | 1.061 | 5.20 5.20 | 50.50 | in | 1.0010 | 1．，00 | 5.85 |
| 25－75 | 75 | － 7 | Elif | 5.20 | 50.80 | Sil | － 711 | 1.186 | 5.85 |
| 25－100 | 100 | S10） | －in | 5.20 | 50－125 | 125 | ．1332 | 1149 | 5.85 |
| 25－125 | 12：\％ | 47i | －11 | 5.20 | 50－150 | 150 | ．57 | 26f | 5.85 |
| 25－175 | 17 | ，3「N | 吅年 | 5.20 | 50．225 | 295 | 41 | 707 | 5.85 |
| 25－250 | 2.50 | ． 31 li | 174 | 5.20 | 50.300 | 300 | 408 | －1．19 | 5.85 |
| 25－350 | 350 | 2 6 | ．401 | 5.20 | 50．500 | － 010 | 311 | 414 | 5.85 |
| 25－500 | 5100 | 221 | ．33． | 5.20 | 50－800 | 800 | 250 | 335 | 6.20 6.20 |
| 25－750 | 750 | 心い3 | 274 | 5.20 | 50－1，000 | $1,1 \mathrm{lon}$ | 177 | 215 | 6.20 |
| 25－1，000 | 1，000 | ．1．4 | 237 | 5.85 | 50－2．500 | 2．511） | 141 | ． 212 | 6.20 |
| 25－1．500 | 1，500 | 12！ | 1114 | 5.85 | 50－3．500 | 3，5011 | ．120 | ．179 | 6.50 |
| 25－2，500 | 2.5010 | ． 110 | 150 | 5.85 | 50．5．000 | 5,000 | ．1010 | 1，0 | 6.50 |
| 25－3．500 | 3.500 | （0， 5 | 127 | 6.20 | 50－8．000 | $\times .100$ | \％\％9 | 114 | 7.80 |
| 25－5，000 | \％，000 | （1） 1 | $10 \%$ | 6.50 | 50－10K | 10k | ．071 | 1 mf | 7.80 |
| stamdard | \％：Indivalua | （\％H\％）． |  |  | Stimmaral | ：lmisisdual | （＇artoll． |  |  |

## AIRCRAFT－TYPE POWER RHEOSTATS




 resistant．

## SERIES AN－3155－25（25－WATT）

Cat．No． AN－3155－25－10 AN－3155－25－11 AN－3155－25－15 AN－3155－25－25 AN－3155－25－50 AN－3155－25－75 AN－3155－25－100 AN－3155－25－200


11 oloms
11 ohms
1 is ohms
$\begin{array}{ll}1 \text { is ohms } \\ 25 & \text { ohms }\end{array}$
： 0 ohms
7.5 ohms：

100 olms
200 vhms

List Price
$\$ 7.25$
7.25
7.25
7.25
7.25
7.25
7.25
7.25
7.25
8.50

[^46]stamdard l＇ackintr：Individual（＇arton．

## RTV－IZE！

 ermitrols．（＇larostat provides the must complete data－the（＂1．Ako）．

（＇larostat prosides stamdamd replarembents where teasible＇，and exate huplicate replacements where ossemtial．Yionr（＇larostat distributor rath） huplate replacements where＂ssential．Yowr
supply the Janual－and the rephacemonts．

## SERIES AN－3155－50（50－WATT）



 Srowdriver adjusted by slot in drive Hate．Mounthme ears．For hum bal－ anco，centering，hold and lockintr， limmaty，AGC sensitivity，etc． LIST PRICE $\$ 0.60$
stanularil Jacking： 10 per Carton．

SERIES 39 ＂HUMDINGER＂＊
Cat．No．
$39-5$
$39-8$
$39-50$
$39-75$
$39-100$
$39-125$
$39-150$
$39-200$
$39-300$

| Total Res． Ohms | Min． Res． Ohms |
| :---: | :---: |
| F | － |
| $k$ | － |
| ¢） | $\square$ |
| 75 |  |
| 100 |  |
| 125 | － |
| 150 | － |
| 200 | － |
| 300 |  |

Heg．U．S．Pat．Off

WIRE－WOUND CONTROLS

| Total Res． Ohms | Min． Res． Ohms | Cat．No． | Total Res． Ohms | Min． Res． Ohms |
| :---: | :---: | :---: | :---: | :---: |
| b00 |  | 39－1000－100 | 1.000 | 100 |
| 500 | 100 | 39－1500 | 1，500 |  |
| 1800 |  | 39－2000 | 2,000 |  |
| （5．5） | － | 39－2000－100 | 2,000 | 100 |
| 700 |  | 39－3000 | 3，000 |  |
| 700 | 200 | 39－3000－700 | 3，000 | ：00 |
| 800 |  | $39-4000$ | 4，000 |  |
| 800 | 5） | 39－4000－350 | 4.000 | 350 |
| 1，000 |  | $39-4000-1000$ | ＋，000 | ．1，900 |
|  |  | 39－5000 | 5，000 |  |

PRODUCTS OF

＂The Atouse of Resistors＂\｛CLAROSTAT | CLAROSTAT MFG．Co．，Inc． |
| :--- |
| DOVER NEW HAMPSHIRE |

SWX 275U Tel．DOVER 975







 when bitw



| Cat．No． | Res． Ohms | Cat．No． | Res． Ohms |
| :---: | :---: | :---: | :---: |
| CIB－6 | 1 | CIB－200 | 200 |
| CIB－8 | ＊ | CIB－250 | －．） |
| CIB－15 | 15 | CIB－500 | 500 |
| CIB－50 | 50 | C1B－600 | 600 |
| NET PRICE \＄6．50 |  | m］litch |  |



MINIATURIZED CONTROLS COMPOSITION ELEMENT CONTROLS－Series 48M

 （नombilatintor



 able as limet！leflow


U．S．Pat．2，706，760
Standard $10 \%$ C．W．taper Ohmage $\quad$ Plus／minus 2.5 mu＂

| ？ 51 m | $30 \%$ |
| :---: | :---: |
| 1 M以边． | $311 \%$ |
| 50015 | 30\％ |
| ご吹 | 30\％ |
| 1010 | － $11 \%$ |
| 5いに | － $11 \%$ |
| きらは | $20 \%$ |
| 10 C | $20 \%$ |






## WIRE－WOUND－SERIES 49M




 Hexason monting nut bin thick $x$ across flat．
Also arailable as series $49 \mathrm{M}-9$ incorporating serewdrwer slothed shaft with

lual rombinations avablabld as teries blem．Any combination of ohmares whinn tante sprefitied bolow may lre ohtained on order．


U．S．Pat．2，706，760

$\qquad$
The MASTER－20th EEdition

## PRODUCTS OF <br> ＂The House of Resistors＂

## C LINE ${ }^{\text {TM }}$ CONTROLS AND PRECISION POTENTIOMETERS

The Clarostat＂（＂lame＂＂re delaxe versions，meelanically and fore tricalls，of the popular series 37 composition－element，Series 43 wire－woumi．Sorios is and serios 10 wirn－wombl．

All exposed metal parts of $C$ Line controls have corrosion－resistant tinishes．Terminals have suitable finish for soldering ease，Close－
 moistureresistant connonents．Units sealed in dustproof plastie hags and then packagon！in standard（＇larostat（artoms，to retain factor！

 ither 1 ＂e＂lomer romml nickel－plated shaft．of $1 / 8 "$ long sorewelriver


Avalahle on sperial moler：（1）Switeles for all C lime controls． （2）（Hther ohmages mot listrel as stambard ratalor mumbers．（3） other tapers mot lister．（4）wther hmshincs amt shat hengeth


## SERIES＇37C1＇＂and＇37C2＇＇1－WATT CONTROLS

 mid fus minus $20 \%$ for values ahme 160,000 ohms uit to 10 merohms．All controls ratel 1 watt．

| $\begin{gathered} 37 \mathrm{CI} \\ \text { cat. No. } \end{gathered}$ | cat. No. | Res． Ohms | Taper | $\begin{gathered} 37 C_{1} \\ \text { Cat. No. } \end{gathered}$ | $\begin{gathered} 37 \mathrm{C}_{2} \\ \text { Cat. No. } \end{gathered}$ | Res． 0 hms | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 37C1－500．S | 37C2－500－S | Snt | ： | 37 Cl －100K．2 | $37 \mathrm{C2} \cdot 100 \mathrm{~K} \cdot \mathrm{Z}$ | 10リに | Z |
| 37 Cl －1000－S | 37C2－1000－S | 1090 | s | 37Cl－200K－S | 37C2－200K－S | 200に | S |
| 37 Cl －2000－S | $37 \mathrm{C2} \cdot 2000$ S | 2000 | N | 37 Cl －250K－S | $37 \mathrm{C2} \cdot 250 \mathrm{~K}-\mathrm{S}$ | ッ．0に | ， |
| 37 Cl －3000．S | $37 \mathrm{C2}-3000$－S | 3000 | S | $37 \mathrm{C} 1-250 \mathrm{~K}-2$ | 37C2－250K－Z | 2．50K | $\%$ |
| 37C1－4000－S | 37C2－4000－S | 10100 | S | 37 Cl 300 K －S | 37C2－300K－S | 301015 | － |
| 37 Cl －5000－S | 37C2－5000－S | 50190 | S | 37CI－500K－S | 37C2－500K－S | 50115 | － |
| $37 \mathrm{Cl} 10 \mathrm{~K}-\mathrm{S}$ | 37C2－10K－S | $10 \%$ | S | 37 Cl －500K．2 | 37C2－500K．Z | 50nk | \％ |
| 37 Cl －15K－S | 37 C 2.15 K －S | 1．5k | S | 37 Cl －1 Meg－S | 37C2－1 Meq－S | 1 Meg | S |
| 37 Cl －20K－S | 37C2－20K－S | こりK | S | 37 Cl －1 Meg－Z | 37C2－1 Meg－Z | 1 Mer． | \％ |
| 37 Cl －25K－S | 37C2－25K．S | ？\％ | S | 37 Cl －2 Meg－S | 37C2－2 Meg－S | $\because$ Ме\％ | 5 |
| 37 Cl －30K－S | $37 \mathrm{C2}-30 \mathrm{~K}-\mathrm{S}$ | $30 \%$ | － | $37 \mathrm{Cl}-2 \mathrm{Meg-2}$ | $37 \mathrm{C2} 2 \mathrm{M} \mathrm{Meg-Z}$ | －${ }^{\text {a }}$ | ＊ |
| $37 \mathrm{CI}-40 \mathrm{~K}$－S | $37 \mathrm{C} 2-40 \mathrm{~K} \cdot \mathrm{~S}$ | 206 | S | $37 \mathrm{Cl} 1-2.5 \mathrm{Meg}$－S | 37C2－2．5 Meg－S | 5．Meg | S |
| 37 Cl <br> $37 \mathrm{CI}-75 \mathrm{~K}-\mathrm{S}$ | $37 \mathrm{C} 2-50 \mathrm{~K} \cdot \mathrm{~S}$ 37 C 2.75 K |  | S | $37 \mathrm{Cl} 1.5 \mathrm{Meg-S}$ 37 Cl 10 Meg L | $37 \mathrm{C} 2-5 \mathrm{Meg-S}$ $37 \mathrm{C} 2.10 \mathrm{Meg}-2$ | \％Meg 10 Meg | \％ |
| $37 \mathrm{Cl}-100 \mathrm{~K}$－S | 37C2－100K－S | 10いK | K |  |  |  |  |
|  | LIST | CES ： | Cl－S | 37 C 2 | －\＄3．10 |  |  |

SERIES＂43C1＂and＂43C2＂2－WATT CONTROLS


| Cat. No. | Cat. No. | Res． <br> Ohms | $\begin{gathered} 43 C_{1} \\ \text { Cat. No. } \end{gathered}$ | $\begin{gathered} 43 \mathrm{C} 2 \\ \text { Cat. No. } \end{gathered}$ | Res． <br> Ohms | $\begin{gathered} 43 \mathrm{Ci} \\ \mathrm{Cat} \text {. No. } \end{gathered}$ | $\begin{gathered} 43 \mathrm{C} 2 \\ \text { Cat. No. } \end{gathered}$ | Res． Ohms |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $43 \mathrm{Cl}-5$ | 43C2－5 | 5 | $43 \mathrm{CI} \cdot 100$ | 43C2－100 | $11 \%$ | 43C1－1500 | 43C2．1500 | 1：13：11 | 43C1－15K | 43C2－15K | 15\％ |
| 43 Cl 10 | $43 \mathrm{C2}-10$ | 10 | 43 C 1 － 150 | 43C2－150 | 1：11 | 43CI－2000 | 43C2．2000 | 20＂10 | 43 Cl －20K | 43C2－20K | 20 ¢ |
| 43 Cl －20 | 43C2－20 | 20 | 43 Cl －200 | 43 C 2 －200 | 200 | 43 Cl －2500 | 43C2－2500 | 9－111 | 43CI－25K | 43C2－25K | ごに |
| 43 Cl －25 | 43 C 2.25 | 25 | 43C1－300 | 43 C 2.300 | ：311 | 43C1－3000 | 43C2－3000 | 3110 | 43Cf．30K | $43 \mathrm{C2}$－30K | 3 ¢に |
| 43 Cl －30 | 43 C 2.30 | 30 | $43 \mathrm{Cl}-400$ | 43C2－400 | 4101 | $43 \mathrm{Cl}-4000$ | 43 C 2.4000 | 41110 | $43 \mathrm{CI}-40 \mathrm{~K}$ | $43 \mathrm{C} 2-40 \mathrm{~K}$ | 9116 |
| 43C1．40 | 43C2－40 | 10 | 43C1－500 | 43 C 2.500 | －11\％ | 43C1－5000 | 43C2－5000 | 5000 | 43C1－50K | 43C2－50 K | 514 K |
| 43C1．50 | 43 C 2.50 | 511 | 43C1－750 | 43C2－750 | 78 | 43C1－7500 | $43 \mathrm{C2}$－7500 | T： 5110 |  |  |  |
| 43C1－75 | 43C2－75 | 75 | 43C1－1000 | 43C2－1000 | 1000 | 43CI－10K | 43C2－10 K | 10 K |  |  |  |


| 4．3C1－5 to 43C1－10K | \＄1．85 | $43 \mathrm{CI}-30 \mathrm{~K}$ to 43C1－50K | \＄2．85 | 43C2．15K to 43C2．25K |
| :---: | :---: | :---: | :---: | :---: |
| 43CI－15K to 43CI－25K | 2.50 | $43 \mathrm{C} 2-5$ to $43 \mathrm{C} 2-10 \mathrm{~K}$ | 3.10 | 43 C 2.30 K to 43 C 2.50 K |

Fabrieated in aceordance with Mllaf－1：sperejications


## WIRE－WOUND PRECISION POTENTIOMETERS

## SERIES＂10C1＂and＂10C2＂ 4－WATT CONTROLS

Electrical toleramee is plus／minus $5 \%$ for 11 ohmasus．Indope ndont limearity to plus／ mimas 1 \％$/$ ．All eontrols rated 4 watts 1 to juk ohms atailable on surecial orber． l＇rices antl information om request． Faluicatel in accorsanco with MII－－IR－1：1 berifications．

| 10 Cl | loC2 | Res． |
| :---: | :---: | ---: |
| Cat．No． | Cat．No． | 0 hms |
| $10 \mathrm{Cl}-75 \mathrm{~K}$ | 10 C 2.75 K | 75 K |
| $10 \mathrm{Cl}-100 \mathrm{~K}$ | 10C2－100K | 100 K |
|  | List | Prices |
| 10 Cl | $\$ 4.10$ | 10 C 2 |

SERIES 42.900 3－WATT

Surios $42-0$ on is a superhatiserrate precision either linited or continuous rotation ly simple
 serews：front and rear plates of tretell allunizal ahominum：rear shaft extension for eoupling to other butentiometers，switels．servoes．ate．Wirins diarram on rear plate indiontes torminal com neetions．Especially intended to meet the needs （our prototypes，aboratory testing，instrumem grate assemblies，ete．
Exceeds MIL－R－19 specifeations where applicahle．


## "GREENOHM"* FIXED WIRE-WOUND RESISTORS











SERIES P-25-K—Rated 25 watts. "in" dia, loy $21 / 20$ longs. sumplimi


 SERIES K-50-N—Ratud 5n watts. 3/4" dia, liy \& $1 / 2{ }^{3}$ loner supplim with mounting brackets. Stamard l'ackingr-lndin idnall! lkoxed.
 with mounting lorackets. Slamdard l’ackimr-ludivjually loned.

[^47]
## "GREENOHM" AND "GREENOHM JR."* FIXED WIRE-WOUND RESISTORS

Res Res. Ohms List Price List Price List Price List Price ListPrice List Price Lis $\begin{array}{crrr}\text { PR-5-F } & \text { C4GJ } & \text { C7GJ } & \text { PR } \\ \$ 0.50 & \$ 0.55 & \$ 0.55 & \$ 0 \\ .50 & .55 & 55 & \end{array}$

List Price ListPrice ListPrice List Price ListPrice List Pricn $\begin{array}{rr}\text { PR-20-K } & \begin{array}{rr}P-25-K \\ \$ 0.75 \\ & .75 \\ & .75 \\ \$ 0.65 & .75 \\ .65 & .75 \\ & .75 \\ & .75 \\ .65 & .75 \\ & .75\end{array}{ }^{2}\end{array}$
$\$ 0.90$
.90
.90
.90
.90
$\$ 1.1$
$\$ 1$.
$\$ 1$.
$\$ 1$.
\$2
$\$ 2.50$

| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | .90 | 1.10 | 1.25 | 1.75 | 2.25 | 2.50 |
| .65 | .75 | $\ldots$ |  |  | $\ldots$ | $\ldots$ | $\ldots$ |

# ＂The HRODucts of Resistors＂$\{$ clanosstat $\}$ <br> CLAROSTAT MFG．Co．，Inc． DOVER NEW HAMPSHIRE TWX 275U Tel．DOVER 975 

＂GREENOHM＂＊FIXED WIRE－WOUND RESISTORS

| （CONT＇D FROM PREVIOUS PAGE） |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Res． Ohms | List Price PR．5－F | List Price C4GJ | List Price C7GJ | $\begin{aligned} & \text { List Price } \\ & \text { PR-10-F } \end{aligned}$ | $\begin{aligned} & \text { List Price } \\ & \text { PR-20-K } \end{aligned}$ | $\begin{gathered} \text { List Price } \\ \text { P-25-K } \end{gathered}$ | $\begin{aligned} & \text { List Price } \\ & \text { K-40-N } \end{aligned}$ | K-50-N | $\begin{aligned} & \text { K.80-N } \end{aligned}$ | K．100－W | K．160．W | K－200－W |
| 18 K | ．．．． |  | ．．． | ． 55 | 85 |  | \＄1．00 | \＄1．35 | \＄1．50 | \＄1．95 | \＄2．65 | \＄3．00 |
| 20 K | ．．． |  | $\ldots$ |  | ． 85 | 1.00 | \＄1．00 | \＄1．35 | \＄1．50 |  |  |  |
| ${ }_{25}^{22.5 K}$ | $\ldots$ | $\cdots$ | $\ldots$ | ． 55 | ． 85 | 1.00 | 1.00 | 1.35 | 1.50 | 1.95 | 2.65 | 3.00 |
| 25 K | ．．．． | $\ldots$ | $\ldots$ | ． 55 | ． 85 | 1.00 | 1.20 | 1.70 | 1.75 | 2.50 | 2.65 | 3.00 |
| 30 K | $\cdots$ | $\ldots$ | ．．．．． | ． 55 | ． 85 | 1.00 | 1.20 | 1.70 | 1.75 | 2.50 | 2.65 | 3.00 3.00 |
| ${ }_{40 \mathrm{~K}}$ | ．．．． | ．．． | ．．．． | ． 55 | ． 85 | 1.00 | 1.20 | 1.70 | 1.75 |  |  |  |
| 45 K | $\ldots$ | ．．．． | ．．．． |  | ． 85 | 1.00 1.00 | 1.20 | 1.70 | 1.75 | 2.50 | 2.65 | 3.00 |
| 50 K | ．．．． |  | ．．．． | ． 55 | .85 1.10 | 1.00 | 1.20 |  |  |  |  |  |
| 55 K | ．．． | $\cdots$ | $\cdots$ | ．．．．． | 1.10 | 1.15 | 1.20 | 1.70 | 2.00 | 2.75 | 3.00 | 3.00 |
| 60 K | $\ldots$ | $\ldots$ | … | ．．．． | 1.10 |  |  |  |  |  |  |  |
| ${ }_{70 \mathrm{~K}}^{65}$ | ．．．． | $\ldots$ | $\ldots$ | ．．．．． | 1.10 | 1.25 | 1.20 | 1.70 | 2.00 | 2.75 | 3.00 | 3.00 3.00 |
| 75 K | ．．．． | ．．．． | ．．．． | ．．．． | 1.10 | 1.35 |  | 1.70 | 2.00 2.10 | 2.85 | 3.00 | 3.00 3.00 |
| 80 K | ．．．． | ．．．． |  | ．．．． | 1.10 | 1.35 | 1.20 | 1.70 | 2.10 | 2.5 |  |  |
| 85K | ．．．． | $\ldots$ | ．．．． | ．．．． | 1.10 | 1.50 | 1.20 |  |  |  |  |  |
| 90K | ．．．． | ．．．． | ．．．． | $\cdots$ | 1.10 | 1.60 | 1.20 |  |  |  |  |  |
| 95 K | ．．．． | $\cdots$ | $\ldots$ | ．．．． | 1.10 | 1.75 | 1.20 | 1.70 | 2.25 | 3.00 | 3.00 | 3.00 |
| 100 K | …． | $\ldots$ | $\ldots$ | $\cdots$ | 1.10 |  | 1.40 | 2.00 | ． | 3.10 | 3.20 | 3.75 |
| 125 K | $\cdots$ | $\ldots$ | ．．．．． | $\cdots$ | ．．． | $\ldots$ | 1.40 | 2.25 | ．．．． | 3.25 | 3.50 | 3.75 |
| 175 K | $\ldots$ | $\ldots$ | ．．．． | ．．．． | ．．．． | ．．．． | 1.50 | 2.25 3.00 | $\cdots$ | 3.35 3.75 | ．．．．． |  |
| 200 K | ．．．． |  | ．．． | ．．．． | ．．．． | ．．．． | 1.60 | 3.0 |  |  | ．．．． |  |


|  | Res． Ohms | $\begin{aligned} & \text { Series } \\ & \text { PR-10-FA } \\ & \text { List Price } \end{aligned}$ | $\begin{aligned} & \text { Series } \\ & \text { P-25-KA } \\ & \text { List Price } \end{aligned}$ | $\begin{aligned} & \text { Series } \\ & \text { K-50-NA } \\ & \text { List Price } \end{aligned}$ | $\begin{aligned} & \text { Series } \\ & \text { K-gO-NA } \\ & \text { List Price } \end{aligned}$ | $\begin{aligned} & \text { Series } \\ & \text { K-100-WA } \\ & \text { List Price } \end{aligned}$ | $\begin{aligned} & \text { Series } \\ & \text { K-160-WA } \\ & \text { List Price } \end{aligned}$ | $\begin{aligned} & \text { Series } \\ & \text { K-200-WA } \\ & \text { List Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | \＄0．85 | \＄0．95 | ．． | ．．．．．． | ．．．．． | ．．．．．． |  |
| （2） | 2 | ． 85 | ． 95 |  | ．．．．．． |  |  |  |
|  | 3 5 | ． 85 | ． 95 | \＄1．50 | \＄1．75 | \＄2．00 | \＄2．50 | \＄3．00 |
| Same electrical and merhanical emistruc． | 7.5 | ． 85 | ． 95 |  |  |  |  |  |
| tion as＂Greemuhm＂tixed resistors．［neorymo | 10 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 3.00 |
| rates sliding band for tapping any desirud | 15 | ． 85 | ． 95 | 1.50 | 1.75 1.75 | 2.00 2.00 | 2.50 2.50 |  |
| resistance．Slider hand tixhtornd hy means | 20 | ． 85 | ． 95 | 1.50 1.50 | 1.75 | 2.00 2.00 | 2.50 2.50 | 3.00 |
| of sorew at dowired rettiner．In arcordance | 25 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
| with RE：TM．Mandarls．whatl toleramers | 59 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
|  | 100 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
|  | 150 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
| SERIES PR－10－FA－Ratwl 10 vatte． $\mathrm{p}_{6} \mathrm{~m}^{\prime \prime}$ | 200 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 300 |
|  | 250 | ． 85 | ． 95 | 1.50 | 1.75 1.75 | 2.00 2.00 | 2.50 2.50 | 3.00 3.00 |
| laws．Stathdard ramine－10 1．1 ranton． | 300 | ．85 | ． 95 | 1.50 | 1.75 |  | 2.50 |  |
| Fextra Mider Hharl：\＄0．181 ：1sh． | 350 400 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
|  | 500 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
|  | 600 | .85 85 |  |  | 1.75 | 2.00 | 2.50 | 3.00 |
|  | 750 800 | ． 85 | .95 .95 | 1.50 | 1.75 | 2.00 |  |  |
| ing－Intividually Haxal．Eveta－lider | 1000 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
|  | 1250 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 2.00 | 2.50 2.50 | 3.00 3.00 |
|  | 1500 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
| SERIES K－50－NA－Haterl in watre $3^{\prime \prime}{ }^{\prime \prime}$ | 2250 | ． 85 | ． 95 |  |  |  |  |  |
| tia．hy $41 / 2$＂lour．Suppliod with monnting | 2500 | ． 85 | ． 95 | 1.50 | 1.75 | 2.00 | 2.50 | 3.00 |
| brackets．standard Packint－hndividualy | 30100 | ． 85 | ． 95 |  |  |  |  |  |
|  | 35.50 | ． 85 | ． 95 | 1.50 | 1.75 | 2.25 2.25 | 2.50 | 3.00 3.00 |
| SERIES K－80－NA－Rated m0 watte．34＂ | 4000 <br> 45009 <br> 800 | ． 85 | ． 95 | 1.50 1.50 | 1.75 1.75 | 2.25 2.25 | 2.50 2.50 | 3.00 <br> 3.00 |
|  | 5000 | ． 85 | ． 95 | 1.50 | 1.75 | 2.25 | 2.65 | 3.25 |
| trackets．Standard Jacking－Indivithally | 6006 | ． 85 | 1.10 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
|  | 5000 | ． 85 | 1.10 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
|  | 750 | ． 85 | 1.10 | 1.75 | 2.00 | 2．25 | 2.65 | 3.25 3.25 |
| SERIES K－100－WA－Rated 100 watt． | 8100 | ．85 | 1.10 | 1.75 | 2.00 |  |  |  |
|  | cisn | ． 85 | 1.10 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
| nountinur brackets．Stantard trachinr－In－ | 10に | ． 85 | 1.10 | 1.75 | 2.00 | 2.25 | 2.65 | 3.25 |
|  | 12 K |  | 1.10 | 1.75 | 2.00 | 2.25 | 2.90 | 3.50 |
| －： c lt． | $1 \% \mathrm{~K}$ |  | 1.10 | 1.75 | 2.00 | 2.25 | 3.25 | 3.75 |
|  | $\underline{0} \mathrm{~K}$ |  | 1.25 | 1.75 | 2.00 | 2.25 2.25 | 3.25 3.25 | 3.75 3.75 |
| SERIES K－160－WA－Mated ］till wart． | 25k | ．．．． | 1.25 | 1.75 |  |  |  |  |
|  | 30 K | － |  | 2.00 2.00 | 2.25 2.25 | 2.75 2.75 | 3.25 3.25 | 3.75 3.75 |
| －mant inm luackets．Standard lackine－in－ | 3．5 | ．．．．．． |  | 2.00 2.00 | 2.25 2.25 | 2.75 2.75 | 3.25 3.25 | 3.75 3.75 |
|  | 40 K | ．．．． | ． | 2.00 | 2.25 | 2.75 | 3.25 | 3.75 |
| ach． | ${ }_{5}^{4} 0 \mathrm{~K}$ | ． | 1.50 | 2.00 | 2.25 | 2.75 | 3.25 | 3.75 |
|  |  |  |  | 2.50 | 2.75 | 3.00 | 3.25 | 3.75 |
| SERIES K－200－WA－Rated 200 watts． | 75 K | 兂 |  | 2.50 | 2.75 | 3.00 | 3.75 | 3.75 |
|  | 80 K |  |  | 2.50 | 2.75 | 3.50 | 3.75 3 | 4.25 |
| rumutine brackets．Standard Prackiner－In－ | 〕00K |  |  | 2.50 | 2.75 | 3.50 | 3.75 | 4.25 |
|  | 125 K |  |  |  |  | 3.50 | 4.25 |  |
| －ach． | 150 K |  |  | ．．．． |  | 3.75 | 4.25 | ， |
|  |  | ${ }^{4} \mathrm{R} \mathbf{t} \times \mathrm{r} . \mathrm{I}$ | －P＇at，1）ff |  |  |  |  |  |

## PRODUCTS OF <br> ＂The House of Resistors＂ <br> ＂GLASOHM＂＊FLEXIBLE RESISTORS

CLAROSTAT MFG．Co．，Inc． DOVER NEW HAMPSHIRE TWX 275U Tel．DOVER 975


Fixerl wire wound resistons on inglass fibre core with flexible wotern ulask
 on ortare．A sulistitite for at urind cange of（arbom resistors．Stamdirn ty＂，＂lond with e＂pirtail hard． RBTMA owrrall tolerances are Flus／minus $10 \%$ 分

LIST PRICE $\$ 0.30$
standarll l＇awing： 10 prer cartont．

Cat．No．Ohms FYG5 FYGIO FYG15 FYG25 FYG35 FYG40 FYG50 FYG60

Cat．No． FYG75 FYG100 FYG125 FYG150 FYG200 FYG225 FYG250

Ohms

| Ohms | Cat．No． |
| ---: | ---: |
| $7!$ | FYG350 |
| 100 | FYG375 |
| 125 | FYG400 |
| 150 | FYG500 |
| 200 | FYG600 |
| 2.25 | FYG700 |
| 2.51 | FYG750 |
| 301 | FYG800 |

350
355
400
500
1900
700
750
800

| Cat．No． | Ohms |
| :--- | ---: |
| FYG850 | 850 |
| FYG900 | 000 |
| FYGl000 | 1000 |
| FYG1250 | 1250 |
| FYG1500 | 1500 |
| FYG1600 | 1600 |
| FYG1750 | 1750 |
| FYG2000 | 2000 |

## RESISTOR WALL－CARD KITS

Hinds wall－cand kits lodidine differ ent selertions of proular ohmazes in＂Gremohen，＂＂Greenohm Jr．＂ and＂（alassohm＂types．linits ruad． it？slipe off card and olumace values slow if for reorderine．Gard size： $101 / 2 \times 120$ ．Also serve ats attern tion－gett inim silent salesmen．
sis ravefully selectenl assmetments， mopting willest range of stambard service and other reguirements （onsiblerable sutimes realized．

## ＂GREENOHM＇＂＊RESISTOR KIT

GK－1－10－WATT＂GREENOHM＂RESISTORS．：0 propular olin． asers－to e5K ohms．List Price：$\$ 11.00$ ．
GK－2－2－WATT＂GLASOHM＂RESISTORS． 8 ＂of the most poru－ latr whmawns．© to 2000 whms，List Price：$\$ 9.60$.
GK－3－5－WATT＂GREENOHM Jr．＂RESISTORS．：： 6 popalar ohm akes． 1 shm to t（114）whtms．List Price：$\$ 19.80$ ．
GK－4－5－WATT＂GREENOHM＂RESISTORS． ayes． 1 ulm to 1 作 whur．List Price：$\$ 27.00$ ． GK－5—lo－WATT＂GREENOHM Jr．＂RESISTORS．50 mulat whmatus． 1 wim to ：h1\％wims．List Price：$\$ 27.50$ ．
GK－6－10－WATT＂GREENOHM＂RESISTORS．1．0 p＂puliar whu－ aros．万，whms to 50 O whms．List Price：$\$ 24.75$.
＂FUZOHM＂FUSE－TYPE RESISTORS illo（ wailatle


## POWER RESISTOR DECADE BOX








 that havernts a resistation herakdown batwert stops．thus protorting delicato meters and mosasurine instrumbste in the rircuit．l＇rintor
 boiner uscd．


Resistance Tolerance


Unecall
$\$ 90.00$
 wire－womel pow－r reaistors．Theresistots ari
 suituly acermbly proterts tho latter aratast That． The heons－ranar melal rane is finisherel in






> Maximum Current

Resistance Ratings：

Tolerance
$.1 \%$ athy

2 $\%$
NET PRICE．


## 

 static，as listerl helow

| 12QP4 | 16 GP 4 | 17JP4 | 19EP4 | 21FP4 | 24AP4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12RP4 | 16KP4 | $17 \mathrm{KP4}$ | 20CP4 | 21GP4 | 24BP4 |
| 12WP4 | $16 T P 4$ | 17LP4 | 200P4 | $21 \mathrm{KP4}$ | 24 CP 4 |
| $14 \mathrm{CP4}$ | 16UP4 | $17 \mathrm{RP4}$ | 20 HP 4 | 21 WP4 | 24DP4 |
| $14 \mathrm{EP4}$ | $17 \mathrm{AP4}$ | $17 \mathrm{QP4}$ | 20．JP4 | 21 YP4 | 27 AP4 |
| $14 \mathrm{FP4}$ | 178 P 4 | 17 UP4 | 21 AP 4 | 217 P 4 | 27 EP 4 |
| 15DP4 | $17 \mathrm{CP4}$ | $19 \mathrm{AP4}$ | $210 P 4$ | 21 ACP4 | 27GP4 |
| 16FP4 | $17 \mathrm{HP4}$ | 19 PP 4 | 21 EP4 | 21 AOP4 | $27 \mathrm{RP4}$ |
|  |  |  |  |  | $30 \mathrm{PP4}$ |

LIST PRICE $\$ 2.00$

## TV TUBE BEAM BENDERS


＊Ro゙n．li．N．l＇all．（Off

DOUBLE MAGNET TYPE TV－3


| 10BP4 | 12 UP4 | 140P4 | 16DP4 | 16JP4 | 16RP4 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10 EP 4 | $12 \mathrm{VP4}$ | 16AP4 | 16EP4 | 16LP4 | 19FP4 |
| 12LP4 | 14BP4 | 16 CP 4 | 16HP4 | 16QP4 |  |

LIST PRICE $\$ 3.00$
Siandard lackiner：Imdividanl Callon．

<br> <br>A pambat，alkaline parth．ceramic insulator developed to moperly receive and bobl <br>  ratrombly slathle．and has a ray low fomperature coeflicient of resistance．<br> ferminal assomblies are pres－fittad．This assures the pexplant terminal conductivity <br>  carbon film fown into the insulator the crate a helical curcent path around the resistor The resistor is carefully adjusted to timal resistance value by slight and uniform aboasion  <br>To proteret this very accurath，rastalline－earbon film，malliple layers of insulatime． moisture resisting vamishes are separately haked on the resistor．

## SERIES CVF， $1 / 2$－WATT RATING $1 \%$ TOLERANCE

These resistors are equivalent to Miliary tupes RN1．5 and HXOO， ancl are approved for beth types．Howewn．struck values are marked

 are taken front pufered values as specitienl hy Military Stamlards for fixed．film（hish stability）resistors and al the stamdand salu＇s

| Military | Ohmis | $\begin{gathered} \text { Military } \\ \text { Ty\\|e } \end{gathered}$ | Ohms | $\begin{gathered} \text { Military } \\ \text { Tyue } \end{gathered}$ | ahills |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 51．1 |  | $1.7 \times 15$ | IRS 20xtil： | ． $\mathrm{K}^{\text {¢ }}$ |
| H29023tref | 56.2 | RS20 1961 F | 1．96\％ | ルフ24入ix12F | $19 \mathrm{R} 1 \mathrm{1K}$ |
| 12N20×ち1H9F | 31． 1 | ルNอいx21．51F | $2.15 \%$ | HN20 -5.502 F | 75 |
| HN20XtishtF | 18.1 | RNEMX2371F | 2.35 K |  | $\times 2.3 \mathrm{~K}$ |
|  | －3．0 | RS20X2611F | 2415 | ルイセヶ入4092F | 90．4K |
| HSe0X×2R5F | 82．5 | HN20x28T1F | 2．87K | HS20X1003F | 11165 |
|  | 90.9 | Rポ0入．161F | 3.165 | 12NさせX1103F | 110 K |
|  | 100 | 1690x $1811^{\circ}$ | 3．15\％ | バきの入1213F | 1216 |
| RN：031100F | 110 | Hx20x $38: 1 \mathrm{~F}$ | 3， $3: 36$ |  | 13：36 |
| Hxeoxielor | 121 | RN20X1221m | 1．2．20 | IRS20117\％ | 1175 |
| RX20x1：33\％ | 133 |  | 4.916 |  | K |
|  | 147 |  | －11\％ | HVe0x178：3F | 178K |
| RNこ0X16：uF | 162 | Rホ20xらッ21F | 3.42 K |  | 19月位 |
| HNQ0X1\％8if | 1：8 | 1－200ッ191F | 6．14\％ | HS20X21．3F | 21.5 |
| RX20x1960F | $1!19$ |  | 5．81ヶ |  | $\underline{235}$ |
| H200x215nF | 215 | RS20xi．alf | 8．－ F K |  | 261 K |
| ルN：0X2370\％ | 237 |  | ※，！\％ |  | 28 |
|  | ：61 | 12S 0 （10：11F | 311ヶ\％ |  | 316K |
| Hxenxestor | －8\％ | RS20×1002F | 10 K |  | 31816 |
| H520x316\％ | 316 |  | 115 |  | ：38：\％ |
|  | 18 | ルス20x1212F | 12．15 |  | 122K |
| HN：0×3＊30\％ | ：38：3 | RS20x1：32\％ | 13．3k |  | 4tick |
|  | 122 |  | $11.7<$ |  | －11に |
| 16S00x1610F | 16.1 |  | 1 н．2゙ |  | 262に |
|  | 511 |  | 17．8に |  | ¢11\％ |
|  | 562 |  | 19．65 |  | fixlk |
|  | 619 |  | 21.56 |  |  |
|  | 1ix｜ | RN20x23\％${ }^{\text {R }}$ | 2：3．7k |  | 82．65 |
|  | 8in |  | 26．1\％ |  | $410 \cdot 15$ |
|  | 82．5 |  | ご．\％た | にざ2い入1001ド | 13 |
| RN20X！090ド | 909 |  | 31，ik | ルさセ0×11016 | 1.19 |
| Rご20X1001F | 1K | RN20X31×2F | ： $1 . \times \mathrm{K}$ |  | 1．21．3 |
| Rポロイ101F゙ | 1.1 K |  | ：\％：\％ |  | 1．33．3 |
| 12N00×12115 | 1.21 K | 1ゼセロヘ122ッド | 12.215 |  | 1．47．11 |
| 1パ20X13315 | 1．331 |  | 46．15 | ルN20X1623F | 1．62．${ }^{\text {a }}$ |
| 12N20×1471F | 1.17 K |  | ． 71.1 K | 1600x1ixir | 1.78 .1 |
| 20×1621F | 1．ti2k |  | \％is．2K | 18200×1963F | 96i．31 |
|  |  | 6 megohms． |  | Price 50. |  |

51.1 ohms to
51.1 ohms
votis：

## SERIES CVC，I－WATT RATING．

 $\pm 1 \%$ TOLERANCEThesp wishus are equivalent to Wilitary tupe RN25 and are approved under this tyle
The following lintings of pesistaner values are popular valus which tare taken from premed values as sueceitied by Militars Standards for tixed，film（himh stability）resistors and are the stambard ralues Whioh wa starli．


## SERIES CVD，2－WATT RATING，

## $\pm 1 \%$ TOLERANCE

These resistore are manuractured to Military Specifications for type RN30，amd pall le supplied with a certitigate of compliance．They ale not，howew，approved for lype liN30．
The followine liatines of pesistance values are pophat values whish are taken from weferced values as specitied loy Military Standards are taken from preferred vahes as sperdied ly Mitiary standaras for fixind，tilm
whic！we stock．

| $\begin{gathered} \text { Military } \\ \text { Type } \end{gathered}$ | Ohms | $\underset{\substack{\text { Military } \\ \text { Type }}}{ }$ | Ohms | $\underset{\substack{\text { Military } \\ \text { Tyue }}}{ }$ | Ohms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Rヘ30xア113： | 矿18 |  | 2．15：3 | 16830 100ヶF |  |
| 4N：0X730．ar | \％．う16 | RE：0X 614 F | \％．613 | MN30x11750 | 1．7． 14 |
| IN30X10015 | ！$\because 1$ |  | 5.11 | 18． $30 \times 1$ atisf | 19．6． |
| $8 \mathrm{NaO} \times 1961{ }^{\text {a }}$ | 1.163 | $1 \mathrm{~N} 30 \times 7.01 \mathrm{~F}$ | 7.511 |  |  |

500 K ohms to 10 megohms
14.7 megohms
19.6 megohms

List Price

Standard Packing－ 8 per Carton

 Prices and delivery information on non－stock items furnished upon request．

|  |  |  |  | ices | delivery |  |  |  |  |  | － |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.00 | 1．15 | 1．3：3 | 1.54 | 1．78 | 2.05 | 2.37 | 2．7： | 3.16 | 3．6．） | ＋．22 | 4.87 | 5.62 | 4.49 | $\begin{array}{r}7.50 \\ \hdashline 680\end{array}$ |  |
| 1.102 | 1．1R | 1.37 | 1．5x | 1．お2 | 2.10 | 2.43 | 2．n0 | 3.24 | 3.14 | 1.32 | 1.99 | 5.16 | 4.81 | －87 | \％．0 $\%$ |
| 1.05 | 1.21 | 1.40 | 1.62 | 1．n 7 | 2.15 | $2.4!$ |  | 3.32 | 3.83 | 4.42 | 5.11 | 6.90 | （1．908 | 8．0fi | 9.31 |
| 1.07 | 1．24 | 1.43 | 1.65 | 1.91 | －． 21 | 2.55 | 2.91 | 3.40 | 3.92 | ＋．5．3 | 5.2 .3 | 6． 19 | $\bigcirc .15$ | 8.25 | ．i |
| 1.10 | 1.27 | 1.47 | 1．159 | 1.96 | 2.26 | 2.161 | 3.01 | 3.48 | 4.02 | 4.64 | 5.36 | 6.134 | －3． | 8.45 | 9.76 |
| 1.13 | 1.30 | 1.50 | 1.74 | 2.00 | 2.32 | 2.68 | 3．0！） | 3.57 | 4.12 | 4.75 | 5.49 | 6.34 | 4．32 |  |  |
|  | arle M |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

# Centralab. 

## CONTROLS

BLUE SHAFT RADIOHMS
The most widely accepled line of 15/16" diameter carbon-type con trols, constructed to meet exacting radio, television, and industrial standards. Switch types are tested to assure instant, smooth, positive operation. Blue, anodized aluminum shafts, $3^{\prime \prime}$ long with universal mill. Rating $1 / 2$ watt. Type BSK units have $21 / \mathrm{s}^{\prime \prime}$ brass split-knurl shafts. Switches are universal DPST, easily wired for SPST or 3 -wire use.

| Ohm. Max. | x. Taper | Cat. No. | Cat. No. | List Price | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Resistance | or Tap | Plain | w/Switch | Plain | w/Switch |
| 500 | Cl | B-4 | 8-4-5 | \$1.25 | \$1.75 |
| 1.000 | Cl | B-5 | 8-5-5 | 1.25 | 1.75 |
| 2,000 | CI | B-6 | 8-6-5 | 1.25 | 1.75 |
| 2,500 | Cl | 8-7 | 8 8-7.5 | 1.25 | 1.75 |
| 3,000 | C1 | B-8 | 8 -8-5 | 1.25 | 1.75 |
| 5,000 | Cl | 8-10 | 8 -10-5 | 1.25 | 1.75 |
| 5,000 | $\mathrm{C}^{2}$ | $8-11$ | B.11-5 | 1.25 | 1.75 |
| 5,000 | C5 | 8-12 | B-12-5 | 1.25 | 1.75 |
| 6,500 | Cl | B-13 | 8-13-5 | 1.25 | 1.75 |
| 10,000 | Cl | $8-14$ | 8-14-5 | 1.25 | 1.75 |
| 10.000 | ${ }^{\text {c } 2}$ | 8 -15 | B.15-5 | 1.25 | 1.75 |
| 10,000 | $\mathrm{C}_{4}$ | B-18 | 8-18-5 | 1.25 | 1.75 |
| 10.000 | C5 | B-17 | 8-17-5 | 1.25 | 1.75 |
| 10,000 | $\mathrm{C}_{6}$ | B-16 | B-16-5 | 1.25 | 1.75 |
| 15,000 | C6 | $8-20$ | 8-20-5 | 1.25 | 1.75 |
| 20,000 | Cl | B-22 | 8-22-5 | 1.25 | 1.75 |
| 20,000 | C5 | B-23 | B. 23 -5 | 1.25 | 1.75 |
| 20.000 | ${ }^{\text {C } 6}$ | $8-24$ | 8-24-5 | 1.25 | 1.75 |
| 25.000 | $\mathrm{Cl}_{5}$ | 8-26 | 8 8-26-5 | 1.25 | 1.75 |
| 25.000 | C5 | 8 8-27 | 8 -27-5 | 1.25 | 1.75 |
| 25,000 | $\mathrm{C}_{6}$ | 8-28 | 8-28-5 | 1.25 | 1.75 |
| 50,000 | $\mathrm{Cl}_{1}$ | 8-31 | 8-31-5 | 1.25 | 1.75 |
| 50,000 | $\mathrm{C}_{2}$ | 8 8-32 | 8-32-5 | 1.25 | 1.75 |
| 50,000 | 25 K | B7-33 | BT-33.S | 1.85 | 2.35 |
| 75,000 | Cl | 8-35 | 8-35-5 | 1.25 | 1.75 |
| 100.000 | $\mathrm{Cl}^{1}$ | B-40 | $8-40.5$ | 1.25 | 1.75 |
| 100,000 150,000 | $\mathrm{Cl}_{\mathrm{C} 2}$ | 8-41 | B-41.5 | 1.25 <br> 1.25 | 1.75 1.75 |
| 200.000 | $\mathrm{Cl}^{1}$ | ${ }_{8-46}$ | B-44-5 | 1.25 | 1.75 |
| 250,000 | $\mathrm{Cl}^{\text {c }}$ | B-50 | 8-50-S | 1.25 | 1.75 |
| 250,000 | $\mathrm{C}_{2}$ | 8 -51 | B-51.5 | 1.25 | 1.75 |
| 250,000 | C5 | B-52 | B-52-S | 1.25 | 1.75 |
| 250,000 | 125 K | BT. 53 | BT-53.S | 1.85 | 2.35 |
| 250,000 | 75 K | 8T-55 | BT-55-S | 1.85 | 2.35 |
| 350,000 | ${ }^{70 \mathrm{Cl}}$ | ${ }^{\text {BT-57 }}$ | BT-57-S | 1.85 | 2.35 |
| 1/2 meg. | $\stackrel{\mathrm{Cl}}{\mathrm{Cl}}$ | B-59 | 8-59-5 | 1.25 | 1.75 |
| 1/2 meg. | $\mathrm{C}_{4}$ | $8-60$ $8-58$ | 8-60-5 | 1.00 | 1.50 |
| $1 / 2$ meg. | $\mathrm{C}_{5}$ | 8-58 | 8-58-5 | 1.25 1.25 | 1.75 |
| $1 / 2 \mathrm{meg}$. | C7 | 8-617 | B-617-5 | 1.25 | 1.75 |
| $1 / 2 \mathrm{meg}$. | 50 K | 8T-63 | BT-63-5 | 1.85 | 2.35 |
| 1/2 meg. | 100 K | BT-66 | BT.66-5 | 1.85 | 2.35 |
| $1 / 2 \mathrm{meg}$. | 150 K | BT-67 | BT-67-S | 1.85 | 2.35 |
| $1 / 2 \mathrm{meg}$. | 250 K | BT-65 | BT-65-S | 1.85 | 2.35 |
| 1 meg. | $\mathrm{C}_{2}$ | 8-69 | 8-69-5 | 1.25 1.00 | 1.75 1.50 |
| 1 meg. | $\mathrm{C}_{4}$ | 8-744 | 8-744-5 | 1.00 1.25 | 1.75 |
| 1 meg. | C5 | B-68 | B-68-5 | 1.25 | 1.75 |
| 1 meg. | C7 | $8-697$ | B-697-S | 1.25 | 1.75 |
| 1 meg. | 100 K | BT-74 | BT-74-S | 1.85 | 2.35 |
| 1 meg. | 200 K | BT-72 | BT-72-S | 1.85 | 2.35 |
| 1 meg. | 300 K | 8T-73 | BT-73-S | 1.85 | 2.35 |
| 1 meg. $1 / 2$ | 1/2 meg. $50 \%$ ) | 81-71 | BT.71-S | 1.85 | 2.35 |
| 2 meg megs. | 1/2 meg. ${ }^{\text {c }}$ ( $62 \%$ ) | BT-7417 | BT-7417-S | 1.85 | 2.35 |
| 2 megs. | $\mathrm{C}_{2}$ | 8-75 | 8-75-5 | 1.25 1.25 | 1.75 175 1.75 |
| 2 megs . | C5 | B-77 | 8-77-5 | 1.25 | 1.75 |
| 2 megs. | 200 K | BT-81 | BT-81-S | 1.85 | 2.35 |
| 2 megs. | 400 K | 81.79 | BT-79-5 | 1.85 | 2.35 |
| 2 megs. | 600K | ${ }^{\mathrm{Br}}$-80 | BT-80-S | 1.85 | 2.35 |
| ${ }_{2}$ megs. | I meg. $(50 \%)$ | BT-78 BT- 82 | 8T-78-S | 1.85 | 2.35 |
| $2.1 / 2$ megs. | (meg. ${ }_{\text {ci }}$ (62\%) | BT-82 $8-83$ | ${ }_{\text {B }}^{\text {B }}$-83-5-S | 1.85 1.25 | 2.35 1.75 |
| 3 megs. | Cl | 8-84 | 8-83-5 | 1.25 | 1.75 1.75 |
| 3 megs . | ${ }^{C} 1$ | 8-85 | B-85-5 | 1.25 | 1.75 |
| 4 megs . | Cl | 8-86 | B-86-5 | 1.25 | 1.75 |
| 5 megs . | $\mathrm{Cl}_{7}$ | 8-87 | 8-87-5 | 1.25 | 1.75 |
| 7 megs. | Cl $C$ $C l$ | B-89 | 8 8-89-5 | 1.25 | 1.75 |
| 10 megs. | Cl | B-98 | B-98-5 | 1.25 | 1.75 |
|  |  |  | BSK-51-S | 1.10 | 1.60 |
| $1 / 2 \mathrm{meg}$. | $\begin{aligned} & \mathrm{C2} \\ & 100 \mathrm{~K} \end{aligned}$ | $\begin{aligned} & \text { BSK-60 } \end{aligned}$ | BSK-60-S | 1.10 | 1.60 |
| $1 / 2 \mathrm{meg}$. | 150 K | BTSK-67 | BTSK-66-S | 1.85 | 2.35 |
| 1 meg . | C2 | BSK-70 | BSK-70-5 | 1.85 1.10 | 2.35 1.60 |
| 1 meg. | 200K | BTSK-72 | BTSK-72.S | 1.85 | 2.35 |
|  | FAS | ATCH | WITCHES |  |  |

TYPE KB-For field attachment to plain Type B and AB controls bearing blue and white label. Easiest switch on the market to instal Underwriters approved. Packaged i per carton.

 |  | SPST-5 amp. A.C. | KB-1 | $\$ 0.50$ | SPOT- 5 amp . A.C. | $\mathrm{KB}-3$ | $\$ 0.75$ |
| :--- | :--- | ---: | ---: | ---: | ---: | ---: |
| SPST-w/dummy lug | $\mathrm{KB}-6$ | .50 | DPST-5 amp. A.C. | $\mathrm{KB}-2$ | .60 |  |

## TYPE "AB" ADASHAFT RADIOHMS <br> SELECT THE CONTRO ADD-A-SHAFT TO MEET YOUR NEEDS

Adashaft Controls are now built in the popular Model "B"$15 / 16^{\prime \prime}$ construction. The basic control unit is constructed with a patented stub shaft . . . usable just this way in many cases as a short, screwdriver slotted unis. A selection of nine basis shaft types are available, ranging from $3 / 8^{\prime \prime}$ to $10^{\prime \prime}$ in length, including auto types, insulating nylon and many others. This original, patented Centralab construction permits instant locking . . . resulting in a solid, integral, well aligned unit. There is no price premium on Adashaft . . . you pay for exactly what you need. After odding the required shaft, the units moy be converted to switch type with the new
 porch Aype KB line swiches. All AB chorocteristics same as Model B. Pockogedsingly including all dato.

| Ohms Max Resistance | Taper or Tap | $\begin{gathered} \text { CRL. No. } \\ \text { Cat. } \end{gathered}$ | Ohms Mar. Resistance | Taper or Tap | $\begin{gathered} \text { CRL } \\ \mathrm{Cat} . \mathrm{No} . \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 200 | Cl | AB-2 | 250,000 | 125K(62\%) | ) ABT-56 |
| 500 | Cl | AB. 4 | 350,000 | 70K | $A B Y-57$ |
| 750 | C5 | $A B-415$ | $1 / 2 \mathrm{meg}$. | Cl | AB-59 |
| 1,000 | Cl | AB- 5 | $1 / 2 \mathrm{meg}$. | C2 | AB-60 |
| 1,000 | C5 | AB. 505 | $1 / 2$ meg. | Cs | AB-58 |
| 1,500 | C5 | AB. 515 | $1 / 2$ meg. | C5 | AB-61 |
| 2,000 | Cl | AB-6 | $1 / 2 \mathrm{meg}$. | C6 | AB-616 |
| 2,500 | $C 1$ | AB. 7 | $1 / 2 \mathrm{meg}$. | C7 | AB-617 |
| 2,500 | C5 | AB-705 | $1 / 2$ meg. | 50K(37\%) | ) $A B T-62$ |
| 3,000 | Cl | AB-8 | $1 / 2 \mathrm{meg}$. | 50K(50\%) | ) $A B T-63$ |
| 4,000 | Cl | $A B-9$ | $1 / 2 \mathrm{meg}$. | 100K | ABT-66 |
| 5,000 | Cl | AB-10 | $1 / 2 \mathrm{meg}$. | 150K | ABT-67 |
| 5,000 | C2 | $A B-11$ | $1 / 2 \mathrm{meg}$. | 250K( $50 \%$ ) | ) ABT-65 |
| 5,000 | C5 | AB-12 | $1 / 2 \mathrm{meg}$. | 250K(62\%) | ) ABT-64 |
| 6,500 | Cl | AB-13 | $3 / 4 \mathrm{meg}$. | Cl | AB-66 |
| 10,000 | Cl | $A B-14$ | 1 meg . | C1 | AB-69 |
| 10.000 | C2 | AB-15 | 1 meg. | C2 | AB-70 |
| 10,000 | C4 | AB-18 | 1 meg. | C4 | AB-744 |
| 10,000 | C5 | AB-17 | meg. | C5 | AB-68 |
| 10,000 | C6 | AB-16 | 1 meg . | C7 | AB-697 |
| 15.000 | C5 | AB-19 | 1 meg . | 500K | ABT-71 |
| 15,000 | C6 | AB- 20 | 1 meg. | 200K | ABT-72 |
| 20,000 | Cl | AB-22 | 1 meg . | 300K | ABT-73 |
| 20,000 | C5 | AB-23 | 1 meg. | 500K | ABT-74 |
| 20,000 | C6 | AB-24 | 1 meg . | 100K | ABT-7417 |
| 25,000 | Cl | AB-26 | $11 / 2 \mathrm{meg}$. | CI | AB-742 |
| 25,000 | C4 | AB-29 | 2 megs. | Cl | AB-75 |
| 25,000 | C5 | AB-27 | 2 megs. | C2 | AB. 76 |
| 25,000 | C6 | AB-28 | 2 megs. | C5 | AB-77 |
| 50,000 | C1 | AB-31 | 2 megs. | 20ck | ABT-8 |
| 50,000 | C2 | AB-32 | 2 megs. | 400k | ABT-79 |
| 50,000 | C5 | AB-34 | 2 megs. | s00k | ABT-80 |
| 50.000 | 25 K | ABT-33 | 2 megs. 1 | 1 meg. $(50 \%$ | \% ABT-78 |
| 75,000 | Cl | AB-35 | 2 megs. 1 | 1 meg. $162 \%$ | \%) ABT-82 |
| 75,000 | Cs | AB-36 | $21 / 2$ megs | 5. Cl | AB-83 |
| 100,000 | Cl | AB-40 | 3 megs. | Cl | AB. 84 |
| 100,000 | C2 | AB-41 | 3 megs. | C2 | AB-85 |
| 100,000 | 50 K | ABT-39 | 3 meg ; | C5 | AB-855 |
| 150.000 | Cl | AB-43 | 3 megs. | 300K A | ABT-8515 |
| 150,000 | C2 | AB-4 4 |  | 50\% Rot.l |  |
| 200,000 | Cl | AB-46 | 3 megs. | 300K A | ABT-8517 |
| 200,000 | 100K | ABT-47 |  | (37\% Rot.) |  |
| 250,000 | Cl | AB-50 | 4 megs. | Cl | AB-86 |
| 250,000 | C2 | AB-51 | 4 megs. | C2 | AB-862 |
| 250,000 | C5 | AB-52 | 5 megs. | Cl | AB-87 |
| 250,000 | 50K | ABT-54 | 5 megs. | C2 | AB-88 |
| 250,000 | 75K | ABT-55 | 7 megs. | C7 | AB-89 |
| 250,000 1 | 125K(50\%) | ABT-53 | 10 megs. | Cl | AB-98 |

$A B-60$ and $A B-70$
Lisp Price $\$ 0.95$
All other $A B$ units
All $A B T$ unirs
List Price \$1.10 List Price $\$ 1.70$

# CONTROLS (Cont'd) 

## DUAL TAPPED AB ADASHAFTS

| Ohms. | Cat. No. | Taps - Ohms | Ohms. Ma | Cat. No. | Taps - Ohms |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 15K | ABT-154 | 5 K and 10K | 1 meg . | ABT. 165 | 200K and 500K |
| 250.000 | ABT-155 | 50K and 125K | 1.5 mells. | ABT-167 | 250K and 500K |
| 250,000 | ABT-156 | 41 K and 82K | 2 megs. | ABT-174 | 250K and 500K |
| 500.000 | ABT-159 | 82 K and 165K | 2 megs. | ABT-175 | 400 K and 1 meg . |
| 500.000 | ABT-160 | 100K and 250K | 2.5 megs. | ABT-176 | 300 K and 625K |
| 1 meg. | ABT-164 <br> LIST PRIC | 165 K and 330 K | ITEMS | \$1 | 0 EA. |

## HANDY-ADASHAFT KIT

$14 A B$ Adashaft contrals, 17 shafts and couplers, and 6-"KB"' switches CAT. Na. AB-100.

List Price $\$ 22.30$


## MODEL 'BB' TWIN RADIOHMS®

Two tandem-mounted Model B 15/16"diameter Radiohms operated by a Mingle shaft. Specifications same as from $3 / 8^{\prime \prime}$-long bushing, universal fluted mill full length. I per carton.

FRONT SECTION
Ohms Max.
Resistance
10,000
10,000
10.000

10,000
50,000
50
50,000
100
100,000
100,000
250,000
250,000
500,000
500,000
1 meg.
1 meg.
2 megs.
5 megs.
REAR SECTION

## MODEL 'SYP" FOUR WATT WIREWOUND

Linear Taper $1-25 / 32^{\prime \prime}$ diam., 31/32" deep. Not available in switch types. SVP-982 to SVP-990-3/ ${ }^{1 \prime}$, fingertip knurl and slot shaft List Price
 SVP-997 to SVP-999-3.8 full length mill shaft


## HANDY PLASTI.PAKS

12 UNITS - MODELS B AND BSK IN PLASTIC BOXES
Papular $1 / 2$ and 1 Meg. Audio taper Madel B Blue shaft contrals furnished in plastic kits of 12 cantrals each. The hinged lid kil is $81 / 4^{\prime \prime} \times 41 / 4^{\prime \prime} \times 1 \frac{1}{4}{ }^{\prime \prime}$ deep. The fallawing six assartments are available.

Cat. No.
Description
List Price
BP-I PAK-12 Cal. Na. B- 60 plain cantrals, $1 / 2$ Megahm, C2 Audio taper $\qquad$ \$12.00
BP-2 PAK-12 Cat. Na. B-70 plain contrals, 1 Megohm,
BP-3 PAK-12 Col. No. B-60-S switch type controls, $1 / 2$
Megahm, C2 Audio toper.................................................................. 18.00
BP-4 PAK-12 Cat. Na. B-70-S switch type contrals, 1
Megahm, C2 Audia taper........................................................ 18.00
BP-9 PAK-2 Cat. No. B-60 plain, $1 / 2$ Megahm-C2; 5 Cat. No. B-60-S switch, $1 / 2$ Megahm-C2............................... 16.00

2 Cat. No. B-70 plain, 1 Megahm-C2;
3 Cat. Na. B-70-S switch, 1 Megahm-C2
BP-12 PAK SNAP-TITE RADIOHMS. List............................................... $\$ 90$
$1 \mathrm{BX}-10(5 \mathrm{~K}$-C1) $\quad 1 \mathrm{BX}-83$ ( $21 / 2 \mathrm{Meg}-\mathrm{C} 1)$
1 BX-40 (100K—C1) I BX-84 (3 Meg-C1)
2 BX- 59 ( $500 \mathrm{~K}-\mathrm{C} 1$ ) $2 \mathrm{BX}-31$ ( $50 \mathrm{~K}-\mathrm{C} 1$ )
1 BX-742 (11/2 Meg-C1) I BX-46 (200K-C1)
1 BX-75 (2 Meg-C1) 1 BX-69 (1 Meg-C 1 )

## B-A AND B-B METAL CABINET KITS OF 22 CONTROLS



Two assartments of popular Model B Blue Shaft Controls are furnished in handy, useful cobinets at no price premium. The B-A Kit contains values you use every day. Half and one Megohm, audio taper units anly. The B-B Kit contains fifteen different types . . . the fifteen cantrols most often used in radio and television service. The kits contain no slow movers.
$\dagger$ Trade Mark

KIT DEAL B-A
22 Controls-Values You Use Every Day

| Quan. | PLAIN TYP |  | Taper | SWITCH TYPE |  |  | Taper |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Ohms |  | Quan. | Cat. No. | Ohms |  |
| 3 | 8 -69 | $1 / 2 \mathrm{meg}$. | C2 | 5 | 8-60-5 | $1 / 2 \mathrm{meg}$. | $\mathrm{C}_{2}$ |
| 2 | 8-70 | 1 meg. | $\mathrm{C}^{2}$ |  | $8-70-5$ | 1 meg . | $\mathrm{C}_{2}$ |
| 2 | 8SK-60 | $1 / 2 \mathrm{meg}$. | C2 | 3 | 8SK-60-S | $1 / 2 \mathrm{meg}$. | C2 |
| 2 | BSK-70 | 1 meg . | C2 | 2 | BSK-70.S | 1 meg. | $\mathrm{C}_{2}$ |
|  | Plus ane | metal | binet |  | List Price | \$29.40 |  |

KIT DEAL B-B
22 Controls-15 Types Most Used in Radio and TV

| n. | PLAIN | TYPE |  | SWITCH TYPE |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cat. No. | $\begin{aligned} & \text { Ohms } \\ & \text { Resist } \end{aligned}$ | Taper |  |  | Ohms Resist. | Taper |
| \| | 8-5 | 1,000 | Cl | 3 |  |  | C2 |
| 1 | 8-10 | 5,000 | $\stackrel{C}{C l}$ | 3 | 8-60-5 | 1/2 meg. | $\mathrm{C}_{2}$ |
| 2 | $8-26$ <br> $8-31$ | 25,000 50,000 | Cl $C 1$ | 2 | $8.70-5$ | $1{ }^{1} \mathrm{meg}$. | C2 |
| 2 | 8-40 | 100,000 | Cl |  | BT-80-S | $2 \mathrm{megs.-}$ |  |
| 1 | B-59 | 500,000 | Cl |  |  |  | C |
| 2 | B-69 | 1 meg. | Cl |  | STATCH | (BWIT | HES |
| 1 | 8-75 | ${ }_{2}^{2}$ megs. |  |  |  |  |  |
| ${ }_{1}$ | $8-83$ $8-84$ $8-87$ | 2.5 megs. 3 megs. | $\mathrm{Cl}_{\mathrm{Cl}}$ | 1 | KB-1 K8-2 |  | SPSST |
| 1 | B-87 | 5 megs. | Cl | 1 | K8-3 |  | SPDT |

Plus one metal cabinet... $\qquad$ List Price $\$ 32.55$

## CONTROLS (Cont'd)

MODEL "A" 1 WATT PATENTED NON-RUEBING CONTACT CONTROLS

Wall type resistor element provides onethird longer effective resistor length assuring low noise level, closer taper tolerance, double load carrying ability. Patented non-rubbing contact eliminates all friction between resistance element and contacting member assuring accuracy . . . the resistance strip CAN'T wear out.
Ohms Max. Resistance


MODEL 'V" AND "VK' WIREWOUND RADIOHMS 3 WATT LINEAR TAPER
Model " $V$ " smooth action wirewound controls are regularly furnished without switches. Attachable switches are available, as listed above 1-7/16" diameter, $9 / 16^{\prime \prime}$ " depth behind mounting surface. Shafts: "V"${ }^{3}$ " fluted mill: "VK' $-3 / \mathbf{D}^{"}$ fingertip knurl and slot. "VK" series not adaptable to switch type.

| Ohms Resistance | Cat.No. | Cat. No. 'VK' | Ohms Resistance | Cat. No. "v" | Cat. No 'vK" |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }_{2}$ | v. 100 | - | 200 | V-123 | VK-123 |
| 4 | V. 102 | - | 300 | V-125 | VK-125 |
| 6 | V -104 | - | 400 | V. 126 | VK-126 |
| 8 | V. 106 | - | 750 | V. 127 | VK-127 |
| 10 | V-108 | - | 1000 | V-128 | - |
| 15 | V. 109 | - | 1000 | V-129 | VK-129 |
| 20 | V.110 | VK-110 | 1500 | V-130 | VK-130 |
| 25 | V-111 | VK-1H | 2000 | V-131 | VK-131 |
| 30 | V-112 | VK-112 | 2500 | V-132 | VK-132 |
| 40 | V-114 | K | 3000 | V-133 | VK-133 |
| 50 | V-116 | VK-116 | 4000 | V-134 | VK-134 |
| 60 | V-117 | VK-117 | 5000 | V.135 | VK-135 |
| 75 | V-118 |  | 7500 | V-136 | VK-35 |
| 100 | V.121 | VK-121 | 10000 | V-137 | VK-137 |

## MODEL "SVT" CENTER TAPPED

## WIREWOUND RADIOHMS

Tapped at $50 \%$ rotation-otherwise similar electrically to Model "V" Wirewound Linear Taper. Furnished with $3 / 8^{\prime \prime}$ " fingertip knur! and screwdriver slot shaft. Units are not adaptable to switches,

| Ohms | Tap |  | Ohms | Tap |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Resistance | Resistance | Cat. No. | Resistance | Resistance | Cat. No. |
| 20 | 10 | SVT-901 | 40 | 20 | SVT-903 |
| 30 | 15 | SVT-902 | 50 | 25 | SVI. 904 |

## SERIES MX CONTROLS - DELTA T TYPE

For use in equipment where it may be necessary to maintain an impedance match. Not adapted for switches, Rating, I watt. Shaft, $17 / 9^{\circ "}$ long from end of $3 / \mathrm{s}^{\prime \prime}$ bushing. Diameter, $1-7 / 16^{\prime \prime} \times 1-1 / 16^{\prime \prime}$ depth. Packaged singly.
Resistance Ohms
50
200

| Cat. No. | Resistance Ohms | Cat. No |
| :---: | :---: | :---: |
| MX-146 | 500 | $M X-14 \varepsilon$ |
| $M X-147$ | 600 | $M X-149$ |

List Price $\$ 5.00$ ed.
STANDARD RESISTANCE TAPERS



SNAF-TITF* REPLACEMENT CONTROL
For speed-servicing of "hidden" volume controls
The revolutionary new Centralab control with are: ing time-saving features:

- SNAP-TITE is installed by just pushing it into the chassis mouritiing hole. It holds itself in place.
- No tools needed for mounting; no nuts, lockwashers, or any other hardware. A clean, fast replacement.
- Six spring clips grip the panel for positive, non-twist mounting. Replaces any standard control type. (One or two locating lugs.)
- Shaft is molded, high-strength polystyrene, fingertip knurled and slotted for screwdriver adjustment. Extends $1 / 2^{\prime \prime}$ from face of mounting surface.
The ten values below will replace $75 \%$ of current rear-end or "hidden" television controls:

| Max. <br> Resistance | Taper | Cat. No. | Max. Resistance | Taper | Cat. No. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5000 | $\mathrm{Cl}^{\text {a }}$ | 8X-10 | 1 meg. | Cl | BX-69 |
| 50 K | CI | BX-31 | $11 / 2$ megs. | CI | BX-742 |
| 100 K | Cl | 8X-40 | 2 megs. | $\mathrm{Cl}^{\text {l }}$ | BX-75 |
| 200 K | Cl | BX. 46 | $21 / 2 \mathrm{megs}$. | Cl | BX-83 |
| 500K | Cl | BX-59 | 3 megs. | Cl | BX. 84 |
|  |  | ice | \$.75 |  |  |

*Trademark

## THE CDMDENTRDL $\dagger$



The COMPENTROL is o volume control and speciol Printed Electronic Circuit network designed to better reproduce the apparent bass and treble response of omplifiers, rodio, and television sets when volume is at low level. For use in rodio sets (5 or more tube $A C$ or $D C$ ), audio omplifiers, or phono combinotions.

| Resistance | Type | Cat. No. |
| :---: | :--- | :--- |
| $1 / 2 \mathrm{meg}$. | Ploin Type | C1.60 |
| $1 / 2 \mathrm{meg}$. | Switch Type | C1.60.S |
| 1 meg. | Ploin Type | C1.70 |
| 1 meg. | Switch Type | C1.70.S |

Suggested Lir. Net—Plain........... \$2.50 ea. Switch........... \$3.00 ea.

## SENIOR COMPENTROL WITH LEVEL-SET

There's nothing else like it. Lets you control bass and treble compensotion to your own tostes - not possible with any other compensoted volume control. A universal unit thot reploces ony volue without additional amplificotion. Speciol knobs furnished.
Cat. No. C2-100
Suggested Dealer Net $\$ 4.50$ tTrademark

FASTATCH SENIOR COMPENTROL KIT
With High-Boost P. E. C. Plates


The ultimate in compensated control for the advenced hi-fi owner. The Senior Compentrol is furnished as two separate units that can be snapped together after shafts are cut to any length up to $334^{\prime \prime}$ from mounting surface. Compensating P. E. C. plate is pre-wired to rear unit, iws high.-frequency boost plates are furnished for medium or substantial boosting of highs. Con. tains knobs and complete instructions.
C2-200 KIT
Suggested dealer net. 54.75

## SEPARATE HIGH-BOOST P. E. C. PLATES

Same as furnished in $\mathrm{C} 2-200 \mathrm{Kit}$, for overall emphasis of high frequencies. Can be installed in existing Compentrol unit or other location in high-fidelity amplifiers.

| Cat. No. | Boost <br> at 10 KC. | Recommended for | Suggested <br> Dealer Net |
| :---: | :---: | :---: | :---: |
| PC-60 | 4 db. | Multiple speaker installations <br> Single or coaxial speaker <br> installations | $\$ 0.30$ |
| PC-61 | 8 db. |  | .30 |

## CONTROLS (Cont'd)

## MODEL B16 RADIOHM



This tiny control is smaller than a dime, virtually a watch maker's production job. The noise level is exceptionally low. In the switch types, the switches are built entirely within the unit. $5 / 8$ " diameter without knob, 23/32" with knob. $1 / 4^{\prime \prime}$ total thickness, including knob. Rating, 1/10 watt.

| Ohms Max. <br> Resistance | Taper | Cat. No. <br> Plain | Cat. No. <br> with Switch |
| :---: | :---: | :---: | :---: |
| 500,000 | C2 | B16-118 | B16-218 |
| 1 meg. | C2 | B16-120 | B16-220 |
| 2 megs. | C2 | B16-122 | B16-222 |
| 3 megs. | C2 | B16-124 | B16-224 |
| 5 megs. | C2 | B16-128 | B16-228 |
| List Price-Plain............... $\$ 2.50$ ea. | With Switch.............. $\$ 4.00$ ea. |  |  |

FASTATCH® DUAL-CONCENTRIC CONTROL SYSTEM No tools needed - just snap the units together
Contain: the total number of parts you need to make all carbon dual-concentric replacements, current or future-including color TV dual-concentric replacements, current or future-including color iV.
Front and rear units snap together to give you more than 4,000 different Front and rear units snap together to give you more than 4,000 ditferent combinations of resistance and taper. You don't have to do the manu-
facturer's job-there are no loose parts, no lugs to bend, no tricky assembling. Fastatch units are completely assembled, tested, and assembling. Fastatch units
guaranteed by Centralab.

## FASTATCH DUAL

Outer shaft is 3-5/16" long from mounting surface, with double-fluted mill . . . brass for quick cutting to proper length. Use for single or double flat or round shaft. Scores make cutting for single or double slot easy.

## FRONT UNIT



FASTATCH DUAL - REAR UNIT
Distinctive blue oluminum inner shaft is $33 / 4^{\prime \prime}$ long from mounting surface. Easily cut to proper length. Diameter, $3 / 16^{\prime \prime}$ with $.156^{\prime \prime}$ flat. Fits . $187^{\prime \prime}$ or .202" flat shaft knob - spring adapter furnished for other knob types convert to switch type with type KB switches listed on List Price $\$ 1.60$ - F or $R$ page R-40. Front and rear units.

| Max. Resist. | Taper or Tap | Front Unit | Rear Unit |
| :---: | :---: | :---: | :---: |
| 300 | Cl | FI- 0 |  |
| 500 | Cl | F1-1 | R2-1 |
| 750 | $\mathrm{Cl}_{5}$ | F1-2 |  |
| 750 750 | C5 | F3-2 |  |
| 750 | 500 | FI- 3 |  |
| 1000 | Cl | FI- 4 | R2- 4 |
| 1000 | C5 | FI. 5 | R2-5 |
| 1500 | $\mathrm{Cl}^{1}$ | F1. 6 | R2- 6 |
| 1500 | C5 | FI- 7 | R2- 7 |
| 1500 | 187 and 375 | F1-8 |  |
| 2000 | CI | FI- 9 | R2. 9 |
| 2000 | $\mathrm{CL}_{5}$ | F1-10 | R2-10 |
| 2000 | 1500 | FI-11 |  |
| 2000 | 250 and 500 | F3-11 |  |
| 2500 | Cl | F1-12 | R2-12 |
| 2500 | C2 | - | R2-13 |
| 2500 | C3 |  | R2-14 |
| 2500 | C5 | FI-15 | R2-14 |
| 2500 | 500 | FI-16 |  |
| 2500 | 625 | F1.17 |  |
| 3500 | C5 |  |  |
| 5000 | Cl | FI-19 | R2-19 |
| 5000 | $\mathrm{C}_{3}$ | F1-20 |  |
| 5000 7500 | ${ }^{C}$ | F\|-2| |  |
| 7500 | Cl | - | R2-22 |
| 10K | Cl | F1-23 | R2-23 |
| 10K | $\mathrm{C}_{2}$ | F1-24 | R2-23 |
| 10K | C5 510 K | FI-25 | R2-25 |
| 15K | 5 SK and 10K | F1-26 |  |
| 25K | Cl | F1-27 | R2-27 |
| 35 K 50 K | CI | F1-28 |  |
| 50 K 75 K | Cl | F1-29 | R2-29 |
| 75 K 100 K | Cl | F1-30 | R2-30 |
| 100 K 125 K | Cl | Fl-31 | R2-31 |
| 125K | Cl | Fl-32 | R2-32 |


| Max. Resist. 200 K 250 K 250 K 250 K 250 K 250 K | Taper or Tap $C 1$ $C 1$ $C 2$ $C 4$ $C 5$ $C 5$ | Front Unit <br> FI-33 <br> FI-34 <br> $\mathrm{FI}-35$ <br> $\mathrm{FI}-37$ <br> $\mathrm{~F} 3-37$ | Rear Unit <br> R2-33 <br> R2-34 <br> R2-35 <br> R2-36 <br> R2-37 <br> R4-37 <br> $R 2-38$ |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & 330 \mathrm{~K} \\ & 350 \mathrm{~K} \\ & 500 \mathrm{~K} \\ & 500 \mathrm{~K} \\ & 500 \mathrm{~K} \end{aligned}$ | $\begin{aligned} & 66 K \\ & C_{2} \\ & C_{1} \\ & C_{2} \\ & C_{4} \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { FI-39 } \\ & \text { FI-40 } \\ & \text { FI-41 } \\ & \text { FI-42 } \end{aligned}$ | $\begin{aligned} & \text { R2-38 } \\ & \hline \text { R2-40 } \\ & \text { R2-41 } \\ & \text { R2-42 } \end{aligned}$ |
| $\begin{aligned} & 500 \mathrm{~K} \\ & 500 \mathrm{~K} \\ & 500 \mathrm{~K} \\ & 500 \mathrm{~K} \\ & 500 \mathrm{~K} \\ & \hline \end{aligned}$ | 100 K 150 K 250 K 50 K 150 K | $\overline{F I-44}$ | $\begin{aligned} & \text { R2-44 } \\ & \text { R2-45 } \\ & \text { R2-46 } \\ & \text { R2-47 } \\ & \text { R2-48 } \\ & \hline \end{aligned}$ |
| 750 K 850 K meg. meg. meg. men men | $\begin{aligned} & C_{7} \\ & C_{1} \\ & C_{1} \\ & C_{2} \\ & C_{2} \end{aligned}$ | $\begin{aligned} & \hline \mathrm{FI}-49 \\ & \mathrm{FI}-50 \\ & \mathrm{FI}-51 \\ & \mathrm{FI} 1.52 \\ & \mathrm{FI}-53 \\ & \hline \end{aligned}$ | R2-51 R2-52 R2-53 |
| meg. meg. meg. meg. | $\begin{aligned} & \hline \mathrm{C}_{4} \\ & \mathrm{C7} \\ & 500 \mathrm{~K} \\ & 200 \mathrm{~K} \\ & 250 \mathrm{~K} \end{aligned}$ | $\begin{aligned} & \text { Fl-54 } \\ & \text { FI-55 } \\ & \hline= \\ & = \end{aligned}$ | $\begin{aligned} & \hline \text { R2-54 } \\ & \hline \text { R2-56 } \\ & \text { R2-57 } \\ & \text { R2-58 } \\ & \hline \end{aligned}$ |
| meg. meg. meg. meg. meg. | 300 K 500 K 100 K 300 K 200 K and 500 K | $\begin{aligned} & \overline{\text { FI-59 }} \\ & \overline{\overline{F I}-63} \end{aligned}$ | $\begin{aligned} & \hline \text { R2-59 } \\ & \text { R2-60 } \\ & \text { R2-61 } \\ & \text { R2-62 } \end{aligned}$ |
| $\begin{aligned} & 11 / 2 \text { meg. } \\ & 1 / 2 \text { meg. } \\ & 11 / 2 \text { meg. } \\ & 2 \text { megs. } \\ & 2 \quad \text { megs. } \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \mathrm{Cl} \\ & \mathrm{Cl} \\ & 250 \mathrm{~K} \text { and } 500 \mathrm{~K} \\ & \mathrm{Cl} \\ & \mathrm{C} 2 \\ & \hline \end{aligned}$ | $\begin{aligned} & \mathrm{FI}-64 \\ & \mathrm{FI}-65 \\ & \hline \mathrm{FI} .67 \\ & \mathrm{FI}-68 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { R2-64 } \\ & \hline \text { R2-66 } \\ & \text { R2-67 } \\ & \text { R2-68 } \\ & \hline \end{aligned}$ |
| 2 megs. <br> 2 megs. <br> 2 megs. <br> 2 megs. <br> 2 megs. | $\begin{aligned} & \hline C_{4} \\ & \text { C5 } \\ & \text { C7 } \\ & 1 \mathrm{meg} . \\ & 400 \mathrm{~K} \end{aligned}$ | $\frac{\mathrm{FI}-69}{\mathrm{FI}-71}$ | R2-70 <br> $\mathbf{R 2 - 7 2}$ <br> R2-73 |
| 2 megs. 2 megs. 2 megs. $2^{1 / 2}$ megs. $21 / 2$ megs. | 200 K 600 K 10 meg. C 1 C 7 | $\begin{aligned} & \hline \mathrm{FI}-74 \\ & \hline \mathrm{FI}-75 \\ & \mathrm{FI}-76 \\ & \mathrm{FI}-77 \\ & \hline \end{aligned}$ | R2-74 <br> R4-74 <br> R2-75 <br> R2-78 <br> R2-77 <br>  <br> 8278 |
| 3 megs. <br> 3 megs. <br> 3 megs. <br> 3 megs. <br> 4 megs. | Cl <br> $\mathrm{C}_{2}$ <br> $11 / 2$ meg. <br> 900 K <br> C7 | $\begin{aligned} & \hline \mathrm{FI}-78 \\ & \mathrm{FI}-79 \\ & \hline \mathrm{FI}-81 \\ & \mathrm{FI}-82 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { R2-78 } \\ & \text { R2-79 } \\ & \text { R2-80 } \\ & \text { R2-81 } \end{aligned}$ |
| 5 megs. 5 5 megs. | $\begin{aligned} & \mathrm{C7} \\ & \mathrm{C} 3 \end{aligned}$ | F1-83 | $\begin{aligned} & \text { R2-83 } \\ & \text { R2-84 } \end{aligned}$ |

FASTATCH WIREWOUND FRONT UNITS
The latest addition to the Centralab control line. These wirewound units are constructed just like Centralab's carbon units and may be units are constructed just the carbon fronts. All linear taper. Replace snapped in place behind the carbon fronts. All inear taper. Replace
any unit rated from 2 to 5 watts, $11 / 8^{\circ}$ diameter. All $\$ 2.25$ ea. List.

Resistance
Ohms
Cat. No
F7-50
F7-53
F7-59
F7-65
F7-65
F7-68
F7-88
F7-72
esistance

| Ohms | Caf.No |
| ---: | :---: |
| 2,000 | F7.75 |
| 2,250 | F7-78 |
| 2,500 | F7-82 |
| 3,000 | F7-85 |
| 5.000 | F7.90 |
| 10,000 | F7-98 |

## FASTATCH ${ }^{1}$ CONTROL SHOP KITS



FR-22A KIT-Contains the II most popular fronts and the 11 most popular rears. Used in $80 \%$ of dual-concentric controls by major TV manufacturers. Complete with Fastatch switches and adapter bushings. No extra charge for metal cabinet $\$ 39.17$ List FR-228 KIT-Cabinet of Fastatch controls selected by you to meet your own particular needs. Ask your distributor.

CENTRALAB POCKET-EDITION CONTROL GUIDE
Handy size $33 / 4^{\prime \prime} \times 81 / 2^{\prime \prime}$. Gives replacements by TV manufacturers' part numbers. Up-to-date-revised quarterly. From your distributor or direct from Centralab.

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Dalohm deposited carbon resistors are manufactured under a licensed agreement with Western Electric. The matchless stability and accuracy of these precision resistors are the result of years of intensive research and development. Dalohm deposited carbon resistors are manufactured by depositing pure carbon in crystalline form which is bonded to a selected ceramic core. They are iniended for circuits calling for the accuracy and stability of wire wound resistors such as instrumentation, advanced electronics and critical television circuits but with the marked economy of carbon resistors.

Dalohm deposited carbon resistors are sealed from moisture by special silicone coating material having a high dielectric strength, excellent thermal conductivity, and offer high resistance to abrasion.

## DIMENSIONS OF DEPOSITED CARBON RESISTORS



Individually Packed In Plastic Tubes For Your Protection.

Your requests for samples and quotations are cordially invited

[^48][^49]
 ditions.

## AVAILABLE IN RESISTANCE VALUES FROM 1 OHM TO 3 MEGOHMS

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## DALE PRODUCTS, INC. NALT COLUMBUS, NEBRASKA U.S.A.

- Completely sealed. - Thermal Shock Proof.
- Fully insulated.
- Non-Hydroscopic.
- Ultra-high-frequency.
- Ruggedized construction.

DALOHM hermetic sealed ruggedized precision resistors are produced under most exacting methods of quality control. They are completely solder sealed in a newly developed envelope of non-hydroscopic ceramic. Ideally suited for use in U.H.F. equipment where only the optimum of quality may be tolerated. Ruggedized for incorporation into "snap-in" component clips. Production tested for resistance to thermal shock, salt-water immersion and humidity.


|  | DIMENSIONS |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| TYPE | $A$ | $B$ | $C$ | RESISTANCE RANGE |
| DCSCH- $1 / 2$ | $3 / 4^{\prime \prime} \pm 1 / 32^{\prime \prime}$ | $13 / 8^{\prime \prime} \pm 1 / 8^{\prime \prime}$ | $.280^{\prime \prime} \pm .010^{\prime \prime}$ | 1 Ohm to 2 Megohms |
| DCH-1 | $11 / 8^{\prime \prime} \pm 1 / 32^{\prime \prime}$ | $17 / 8^{\prime \prime} \pm 1 / 8^{\prime \prime}$ | $.390^{\prime \prime} \pm .010^{\prime \prime}$ | 1 Ohm to 10 Megohms |
| DCH-2 | $21 / 4^{\prime \prime} \pm 1 / 32^{\prime \prime}$ | $13 / 3^{\prime \prime} \pm 1 / 8^{\prime \prime}$ | $.390^{\prime \prime} \pm .010^{\prime \prime}$ | 1 Ohm to 200 Megohms |

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# － <br> INCORPORATED • 5560 NORTHWEST HIGHWAY，CHICAGO 30，ILLINOIS 

## VITREOUS ENAMELED RESISTORS



## Adjustable Wire－Wound Types

The same high quality and construction are used ior LECTROHM Adjustable lie－ sistors as are incorporated in LECTROHAI fixed units．

These resistors are used for replacing voltage dividers in radio receivers，for radio transmitter power supply，and for gemeral experimental work．

TYPE $13 / 4 E V-10$. WATT
DIMENSIONS

TERMINALS
MAXIMUM RESISTANCE MOUNTING BRACKET

| Res． <br> Ohms | Max． M．A． | List Price | Res． Ohms | Max． <br> M．A． | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3150 | \＄1．47 | 750 | 115 | \＄1．47 |
| $\underline{2}$ | 2230 | 1.47 | soo | 111 | 1.47 |
| 3 | 158 | 1.47 | 1000 | 1110 | 1.47 |
| i | 141\％ | 1.47 | 1250 | ＊ | 1.53 |
| 7.5 | 115： | 1.47 | 1500 | $7!$ | 1.53 |
| 10 | 1 （10）0 | 1.47 | 2000 | （i）${ }^{\text {a }}$ | 1.53 |
| 15 | 515 | 1.47 | 2－50 | （i） | 1.53 |
| 201 | 715 | 1.47 | 9.500 | （ $]^{1}$ | 1.53 |
| 25 | （：3） | 1.47 | ：1000 | $\therefore 15$ | 1.53 |
| 50 | 4.4 | 1.47 | 3500 | 51 | 1.53 |
| 75 | ：3fi， | 1.47 | 41800 | 47 | 1.53 |
| 1110 | $\because 15$ | 1.47 | 4.000 | 4.4 | 1.53 |
| 150 | 25 s | 1.47 | 51100 | 10 | 1.53 |
| 200 | $\simeq 23$ | 1.47 | diroo | ：36 | 1.63 |
| 250 | 2011 | 1.47 | 7600 | 33 | 1.63 |
| 300 | 129 | 1.47 | 7500 | 32 | 1.63 |
| 850 | 165 | 1.47 | सいいい | 31 | 1.63 |
| 400 | －58 | 1.47 | 8500 | 311 | 1.63 |
| 500 | 141 | 1.47 | 110000 | 24 | 1.63 |
| 600） | 129 | 1.47 |  |  |  |

TYPE 2SV－25－WATT
dIMENSIONS
TERMINALS
MAXIMUM RESISTANCE MOUNTING BRACKET

| Res． Dhms | Max． <br> M．A． | List Price | Res． Ohms | Max． <br> M．A． | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 5000 | \＄1．87 | 1000 | 158 | \＄1．87 |
| 3 | 2890） | 1.87 | 1250 | 141 | 1.88 |
| 5 | 22411 | 1.87 | 1500 | $1: 9$ | 1.88 |
| 10 | 1580 | 1.87 | 2000 | 112 | 1.88 |
| 15 | 1290 | 1.87 | 2500 | 101 | 1.88 |
| 25 | 1000 | 1.87 | 3000 | ${ }_{6} 1$ | 1.88 |
| 50 | 707 | 1.87 | 3500 | 84 | 1.88 |
| 75 | 575 | 1.87 | 4000 | 71 | 1.88 |
| 100 | 500 | 1.87 | 6000 | 71 | 1.88 |
| 150 | 400 | 1.87 | 6000 | 64 | 2.03 |
| 200 | 35.3 | 1.87 | 7500 | 57 | 2.03 |
| 250 | 316 | 1.87 | 10000 | $51)$ | 2.03 |
| 300 | 288 | 1.87 | 12000 | 44 | 2.08 |
| 400 | 250 | 1.87 | 15000 | 26 | 2.08 |
| 500 | 2』4 | 1.87 | 20000 | 22 | 2.08 |
| 750 | 18： | 1.87 | 25000 | 20 | 2.28 |

TYPE 41／2MV—50．WATT

\section*{DIMENSIONS TERMINALS} MAXIMUM RESISTANCE $3 / 4$ MOUNTING BRACKE $\begin{array}{ll}\text { MOUNTING BRACKET } & \text { Centers } 5^{\prime} 2^{\prime \prime} \\ \text { Res．Max．List } & \text { Res．Max．List }\end{array}$ | Res． | Max． | List | Res． | Max． | List |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Ohms | M．A． | Price | Ohms | M．A． | Price | $\begin{array}{lllllll}511010 & \$ 2.37 & -3000 & 129 & \$ 2.47\end{array}$



TYPE 6 $1 / 2 K Y-100$－WATT

| DIMENSIONS $11 / 8^{\prime \prime} \times 3^{\prime}{ }^{\prime \prime} \times 6^{1} 2^{\prime \prime}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MAXIMUM RESISTANCE 100.000 ohms |  |  |  |  |  |
| MOUNTING BRACKET |  |  |  |  |  |
| Res． Ohms | $\begin{aligned} & \text { Max. } \\ & \text { M.A. } \end{aligned}$ | List Price | Res． Ohms | Max． <br> M．A． | List <br> Price |
| ［0 | $1+13$ | \＄3．58 | 1 51000 | －1 | \＄4．12 |
| 1101 | 1060 | 3.58 | 21 | i＂ | 4.12 |
| \％un | 447 | 3.58 |  | 8：3 | 4.37 |
| 1006 | ：31\％ | 3.58 | ：310n | 5\％ | 4.37 |
| 20n！ | 208 | 3.67 | 3501001 | 5．3 | 4.37 |
| $3010 \%$ | 1゙ロ | 3.67 | 41060 | 511 | 4.37 |
| 10ヶ＂ | 15 | 3.67 | 510000 | 44 | 4.53 |
| ．รッロー | $1+1$ | 3.67 | 7．30\％ | $\underline{2} 3$ | 4.75 |
| 7 BOO | 115 | 3.67 | 11101001 | 211 | 4.95 |
| 110001 | 1101 | 3.87 |  |  |  |

## TYPE 81／2KY－160－WATT

| DIMENSIONS ．．．． $11 / 8^{\prime \prime} \times 3^{3}{ }^{\prime \prime} \times 8^{\prime} z^{\prime \prime}$Solder Lugs |  |
| :---: | :---: |
|  |  |
|  |  | MAXIMUM RESISTANCE 100.000 ohins MOUNTING BRACKET ．．Centers 91／2＂


| Res． Ohms | $\begin{aligned} & \text { Max. } \\ & \text { M.A. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Res． Ohms | Max． M．A． | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 5660 | \＄5．33 | 10000 | ） $21 ;$ | \＄4．44 |
| 111 | 4000 | 4.14 | 15000 | 1113 | 4.69 |
| 9.7 | $\xrightarrow{2} 530$ | 4.14 | 200019 | 6.4 | 4.69 |
| 50 | 178＊ | 4.14 | 25000 | －1 | 4.81 |
| 1010 | 1260 | 4.14 | 300000 | 7：3 | 4.81 |
| 5110 | 516 6 | 4.14 | 410110 | ：5 | 4.81 |
| 111010 | 400 | 4.14 | 50 mon | 43 | 4.94 |
| 2．501） | 253 | 4.19 | 7 70000 | 27 | 5.17 |
| 5010 | $17!$ | 4.19 | 1 10\％to | 1 － | 5.44 |

## TYPE $101 / 2 K$ Y－200－WATT

 MAXIMUM RESISTANCE 100.000 ohms MOUNTING BRACKET ．．Centers $111^{\prime \prime}$

| Res． Ohms | Max． M．A． | List Price | Res． Ohms | Max． <br> M．A． | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ， | 2000 | \＄4．37 | 100001 | 141 | \＄4．70 |
| 1101 | 1414 | 4.37 | 29040 | 119 | 4.92 |
| $\therefore 101$ | 13\％2 | 4.37 | 2.50001 | －\％ | 5.03 |
| 11001 | 447 | 4.37 | 300006 | $\checkmark 1$ | 5.03 |
| 1.800 | 361 | 4.45 | －$\because$ H0\％ 0 | 03 | 5.17 |
| 2 COO | 316 | 4.45 | 750040 | ：1 | 5.42 |
| $\underline{2} \mathbf{2} 10$ | 283 | 4.45 | 100000 | 25 | 5.67 |
| 5 T 190 | 200 | 4.45 |  |  |  |

Mounting brackets and one band are turnished with all adjustable tyjes．

## C凸ERROMM <br> INCORPORATED • 5560 NORTHWEST HIGHWAY，CHICAGO 3O，ILLINOIS

## VITREOUS ENAMELED RESISTORS <br> Fixed Wire－Wound Types

LECTROHM Resistors are manufactured from the highest quality materials obtainable and are rated according to RTMA standards．They are rugged， dependable，accurate quality components that will give long，trouble－free service．Mounting brack－ ets available for $10,20,50,80,100,160$ and 200 watt units．


TYPE $11 / 4 \mathrm{~L}$ — 5－WATT


TYPE $13 / 4 E-10$－WATT

## DIMENSIONS

TERMINALS
MAXIMUM RESISTA． No Mounting Brackets

| Res． Ohms | Max. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Res． Ohms | Max. | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 31.0 | \＄0．75 | 1500 | 79 | \＄0．80 |
| $\stackrel{2}{2}$ | 2＂：0 | ． 75 | 17.0 | 74 | ． 80 |
| 3 | $1 \times 8$ | ． 75 | 201010 | 69 | ． 80 |
| 7. | 11.6 | ． 75 |  | ${ }_{6}^{64}$ | ．80 |
| （ii） | 1101\％ | ． 75 | 30111 | 5 | ． 80 |
| ！ | 81. | ． 75 | 3.3011 | 51 | ． 80 |
| 2！ | 711\％ | ． 75 | ＋11010 | 47 | ． 80 |
| 2. | （\％：19 | ． 75 | 4：00 | 44 | ． 80 |
| 51 | $11:$ | ． 75 | 511414 | 41 | ． 80 |
| 1078 | 36.5 | ． 75 | 81100 | 36 | ． 92 |
| 108110 | 运 | ． 75 | \％$\% 10010$ | 为 | ．92 |
| 200 | 20 | ． 75 | Sillio | 3 | ． 92 |
| 2．31） | 201 | ． 75 | x：111 | 0 | ． 92 |
| 301 | 18： | ． 75 | 110011 | $\because 1$ | 92 |
| \％ | 16：1 | ． 75 | 1 2 010 | 20 | 1.03 |
| 411 | 1is | ．75 | 1ジラッ＂ | ＂11 | 1.03 |
| 3011 | 111 | ． 75 | 1．\＃100 | 18 | 1.03 |
| ¢ili | 123 | ． 75 | 17：091 | 17 | 1.03 |
| T01 | $11!$ | ． 75 | 1＊＊＊＊ | 16 | 1.03 |
| －in | 11. | ． 75 | ¢1114 | 1.7 | 1.03 |
| v010 | 111 | ． 75 |  | 15 | 1.08 |
| ！011 | 11\％ | ． 75 | ㅍ．1以＂ | 11 | 1.08 |
| 10108 | 1110 | ． 75 | 301010 | 8 | 1.22 |
| 1200 | \％ 8 | ． 80 | ＋u110 | \％ | 1.22 |

## LECTROHM

R．F．PLATE CHOKES


TYPE 2R－20－WATT

| Res． 0 hms | Max． M．A． | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Res． Ohms | Max． $M . A .$ | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 2001 | $\$ 0.95$ | 1100 | 1：1 | \＄0．97 |
| 10. | 111： | .95 <br> .95 |  | 126 | ． 97 |
| 21 | 11001 | ． 95 | 20110 | 100 | ．97 |
| 号 | $8: 1$ | ． 95 |  | $\times 1$ | ． 97 |
| 411 | 710 | .95 | 3000 | 81 | ． 97 |
| 511 | \％3 | ． 95 | 11110 | 70 | ． 97 |
| （i） | 57 | ． 95 | รッハ10 | \％i．3 | ． 97 |
| ${ }^{2107}$ | 317 | ． 95 | 6040 | 57 | 1.12 |
| $1 \geq 5$ | 411 | .95 | 8 \％．110 | \％1 | 1.12 |
| 150 | 34. | ． 95 | x090 | 511 | 1.12 |
| － | ： 14 | ． 95 | 1 （1ヵ1） | 4：3 | 1.12 |
| \％．81 | ？x：： | ． 95 | 12．511 | \％ 3 | 1.20 |
| \％00 | （2．x | ． 95 | 150410 | 30 | 1.20 |
| 3011 | \％ | ．95 | \％ 2101010 | シ＂ | 1.20 |
| 501） | ＂iii | ．95 |  | $\frac{21}{21}$ | 1.37 |
| （ix） | 1 $\times$ ： | ． 95 | 351\％11 | 18 | 1.37 |
| \％111 | $16 \%$ | ． 95 | 416100 | 17 | 1.37 |
| \％inl | 10：\％ | ． 95 | ¢－71411 | $1: 1$ | 1．58 1.58 |
| 1000 | 111 | ． 95 | 51\％ 110 | 11 | 1.58 |

TYPE 41／2M—50－WATT


TYPE 61／2M—80－WATT

## DIMENSIONS



MOUNTING BRACKANCE Res．
$0 h \mathrm{hm}$

| Res． Ohms | Max． $\mathbf{M} \cdot \mathbf{A}$ | List Price | Res． Ohms | Max． M．A． | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 4010 | \＄2．00 | 5010 | 122 | \＄2．08 |
| 10 | 27：30 | 2.00 | 61110 | 112 | 2.25 |
| 号 | 15： | 2.00 | －50］ | 110 | 2.25 |
| \％11 | 1ッロ11 | 2.00 | 80104 | 98 | 2.25 |
| 110 |  | 2.00 | 100010 | xis | 2.25 |
| －111 | 11\％ | 2.00 | 1：5010 | 70 | 2.45 |
| \＃．．． | 二is | 2.00 | －00｜10 | 61 | 2.45 |
| －111 | $3 \times 7$ | 2.00 | －5．0410 | 5. | 2.78 |
| 7 \％ | ：16 | 2.00 | \％10110 | 50 | 2.78 |
| 1010 | 2：1 | 2.00 | \＄00010 | 43 |  |
| ！ 1010 | 为 | 2． 2.08 | （341106 | 339 | 2．87 |
|  | 1：3： | 2.08 2.08 |  | 35 | ${ }_{3}^{3.22}$ |
|  | 173 | ${ }_{2}^{2.08}$ | 7，\％10 | 31 | 3.22 |
| 31019 | 1：38 | 2.08 2.08 | 1000110 | 27 | 3.58 |

TYPE 61／2K—100－WATT

| DIMENSIONS．．．．．．．． |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MOUNTING BRACKET．．．．．．．．．Centers $71 / 2$ |  |  |  |  |  |
|  |  |  |  |  |  |
| Res. | max． | List | Res． ohms | Max． | List |
| $\because$ | （ti | 52.42 | \％＂11 | 1811 | \＄2．53 |
| in |  | 2.12 | Fill 1 | 116 | 2.53 |
| \％i＇ | $11 \%$ | 2.42 | 7 7．14＂ | 115 | 2.70 |
| 1111 | $11 \ldots$ | 2.42 | 1 1140\％ | 1111 | 2.70 |
| 1.11 | N： | 2.42 | 1．7401 | \％ | 2.97 |
| ＂！in | \％： | 2.42 | 9141010 | 711 | 2.97 |
| S！ | ： | 2.42 | 2．514 | $1: 3$ | 3.20 |
| ： | ：3： | 2.42 | ：1ヵแい | is | 3.20 |
| 1101 |  | 2.42 | เ11110 | 50 | 3.20 |
| 1：314 | ＂： | 2.53 |  | 44 | 3.37 |
| \％il1 | － | 2.53 | ：11460 | 41 | 3.37 |
| － | 2\％ | 2.53 | 8 －7110 | 0 | 3.58 |
| ご里曲 | 21＊） | 2.53 | 1 ¢ッハリ | 31 | 3.58 |

TYPE 81／2K—160－WATT
DIMENSIONS
DIMENSIONS．．．．．．．．．．．．．．11／8＂$\times 3 / 4^{\prime \prime} \times 81 / 2^{\prime \prime}$ TERMINALS ．．．．．．．．．．．．．．．．．．．Solder Lugs MOUNTING BRACKET．．．．．．．．．．．．Centers $91^{\prime \prime}$ Res．
Ohm

| Res． Ohms | Max. $\mathrm{M} . \mathrm{A}_{\text {. }}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Res． Ohms | Max． <br> M．A． | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| i | －3\％ | 54.16 | 4501 | 18.7 | \＄3．04 |
| 11 | 111\％ | 2.98 | －11111 | $1 \times 6$ | 3.04 |
| $\because$ | 23：3 | 2.98 | 750 | 115 | 3.30 |
| Il | $1: \cdots$ | 2.98 | 111） | 12.5 | 3.30 |
| \％ | 1160 | 2.98 | 1．71010 | 105 | 3.54 |
| 111 | 112019 | 2.98 | 20110） | （11） | 3.54 |
| －\％＂ | ［111 | 2.98 | 20．0100 | 80 | 3.64 |
| Fin！ | －：＂ | 2.98 |  | $1: 7$ | 3.64 |
| 1104 | ＂：＂． | 2.98 | 3：－114 | 57 | 3.64 |
| 154n |  | 3.04 | 100100 | ：11） | 3.64 |
| ミ゙11＂ | 201 | 3.04 | ¢．1111\％ | 111 | 3.76 |
| ジャッ | ＂．．＂ | 3.04 | （\％！111］ |  | 3.76 |
| \％114 | 23：1 | 3.04 | \％ $1111 \%$ | － | 3.76 |
| ：514 | －1\％ | 3.04 | （1841\％ | 20 | 4.03 |
| 1010 | 214 | 3.04 | 1100640 | 31） | 4.26 |

TYPE $10^{1 / 2 K} \mathrm{~K}$－200－WATT

## DIMENSIONS

DIMENSIONS
$\ldots .1_{1 / 8^{\prime \prime}} \times 3 / 4^{\prime \prime} \times 10^{1 / 2 " \prime}$

 MOXINU RESISTANCE．．．．．．．．．100，000 ahms MOUNTING BRACKET．．．．．．．．．．．．．Centers $\|^{\prime \prime} / 2^{\prime \prime}$ | Res． | Max． | List | Res． | Max． | List |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Ohims | M．A． | Price | Ohnis | M．A． | Price |



$\square$ ALSO AVAILABLE

## Upright and axial lead

 designs
# - 

INCORPORATED • 5560 NORTHWEST HIGHWAY, CHICAGO 30, ILLINOIS

## LECTROHM IS CREATING NEW DESIGNS AND MATERIALS IN WIRE WOUND RESISTORS FOR NEW ASSEMBLY METHODS

In addition to supplying the electronics industry with a superior vitreous enameled wire-wound power resistors in the familiar sizes and ratings, LECTROHM is producing whole new groups of types, each designed to solve a special problem. Miniaturization and printed circuit restrictions in space and ventilation no longer are complicated by conventional power re-
sistor size standards. New coating materials and winding methods developed by LECTROHM permit an infinite variety of configurations yet retain operating and life characteristics expected of the finest grade vitreous enameled types. LECTROHM engineers will fit the resistor size and shape to your design.


TYPICAL LECTROHMS FOR PRINTED CIRCUITS

Other styles quickly designed for your individual space limitations.

3 to 25 watts. 10 to 25,000 Ohms.

## NEW LECTROHMS FOR UTMOST ECONOMY

Competing in price with sand coated types, but offering a new standard of moisture resistance and long life performance.
; to 20 watts. 10 to 15,000 Olims.


RIB-ON-EDGE LECTROHM (STANDARD SIZES AND VALUES)
155 to 420 watts. .06 to 22 Ohms.


VITREOUS ENAMELED LECTROHM-FERRULE TYPE (STANDARD SIZES AND VALUES)

13 to 190 watts.
To 100.0000 hms ,

# (8) HARDWICK-HINDLE INC. (4) <br> <br> NEWARK•NEW JERSEY 

 <br> <br> NEWARK•NEW JERSEY}

## VITREOUS ENAMELED RHEOSTATS Insulated shafts and mounting bushings

Type A-25 - Will withstand rugged treatment under the most odverse conditions. It has unusually smooth mechanical operation. The terminals, made of strong corrosion resistant alloy, ore permanently weided to the winding form. The wound ring is mode on integral port of the refractory base by vitreous enamel. The phosphor bronze actuating arm, with its graphite brush, gives smoothest action and excellent electrical control. Shafts ore insulated. Three terminols permit either potentiometer or rheostot use; ond our new high lempe oture gray enomel gives an added sofety factor.


TABLES OF SIZES AND RATINGS OF RHEOSTATS

| $\begin{gathered} \text { TYPE A-25 } \\ 25 \text { WATT RHEOSTAT } \end{gathered}$ |  |  |  |  | TYPE H-50 <br> 50) WATT RHEOSTAT |  |  |  |  | TYPE H-100 100 WATT RHEOSTAT |  |  |  |  | TYPE H-150 <br> 150 WATT RHEOSTAT |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock No. | Total Ohms | Max. Amps. | Approx <br> No. <br> Steps | List Price | Stock No. | Tota! Ohm: | Max. <br> Amps. | Approx No. Steps | List Price | Stock No. | Total Ohms | Max. <br> Amps. | pprox <br> No. <br> Steps | List Price | Stock No. | Total Ohms | Max. Amps. | Approx. <br> No. <br> Steps | List Price |
| 0201 | 0.50 | 7.06 | 17 | \$7.39 | 030: | 0.50 | 10.0 | 25 | \$7.81 | 0401 | 0.50 | 14.2 | 30 | \$11.70 | 0501 | 0.50 | 17.30 |  | 14.83 |
| 0202 | 0.75 | 5.77 | 17 | 7.39 | 030 | 0.75 | 8.16 | 25 | 7.81 | 0402 | 0.75 | 11.6 | 30 | 11.70 | 0502 | 0.75 | 14.10 | 30 | 14.83 |
| 0203 | 1.0 | 5.00 | 17 | 7.03 | 030\% | 1.0 | 7.06 | 52 | 7.81 | 0403 | 1.0 | 10.0 | 30 | 11.70 | 0503 | 1.00 | 12.25 | 40 | 14.83 |
| 0204 | 1.5 | 4.08 | 34 | 7.03 | 330 + | 5 | 5.77 | 52 | 7.81 | 0404 | 1.5 | 8.16 | 30 | 11.7C | 0504 | 1.5 | 10.00 | 37 | 14.83 |
| 0205 | 2.5 | 3.16 | 34 | 6.22 | 030: | 2.5 | 4.48 | 52 | 7.03 | 0405 | 2.5 | 6.34 | 54 | 11.70 | 0505 | 2.5 | 7.75 | 39 | 14.83 |
| 0206 | 5.0 | 2.22 | 34 | 6.22 | 030\% | 5.0 | 3.16 | 52 | 7.03 | 0406 | 5.0 | 4.48 | 54 | 11.7C | 0506 | 5.0 | 5.48 | 79 | 14.83 |
| 0207 | 7.5 | 1.82 | 34 | 6.22 | 0307 | 7.5 | 2.58 | 52 | 7.03 | 0407 | 7.5 | 3.66 | 54 | 10.95 | 0507 | 7.5 | 4.47 | 75 | 14.83 |
| 0208 | 10 | 1.58 | 90 | 6.22 | 0305 | 10 | 2.22 | 98 | 7.03 | 0408 | 10 | 3.16 | 54 | 10.95 | 0508 | 10 | 3.88 | 77 | 14.03 |
| 0209 | 15 | 1.29 | 90 | 6.22 | 0304 | 15 | 1.82 | 98 | 7.03 | 0409 | 15 | 2.58 | 112 | 10.95 | 0509 | 15 | 3.16 | 151 | 14.03 |
| 0210 | 25 | 1.00 | 100 | 6.22 | 031H | 25 | 1.41 | 98 | 7.03 | 0410 | 25 | 2.00 | 188 | 10.95 | 0510 | 25 | 2.45 | 151 | 14.03 |
| 0211 | 50 | 0.706 | 100 | 6.22 | 031. | 56 | 1.00 | 129 | 7.03 | 0411 | 50 | 1.42 | 127 | 10.95 | 0511 | 50 | 1.73 | 192 | 14.03 |
| 0212 | 75 | 0.577 | 135 | 6.22 | 0312 | 75 | 0.816 | 1.53 | 7.03 | 0412 | 75 | 1.16 | 151 | 10.95 | 0512 | 75 | 1.41 | 224 | 14.03 |
| 0213 | 100 | 0.500 | 112 | 6.22 | 0315 | 104 | 0.706 | 257 | 7.03 | 0413 | 100 | 1.00 | 160 | 10.95' | 0513 | 100 | 1.22 | 204 | 14.03 |
| 0214 | 150 | 0.408 | 146 | 6.22 | 031.4 | 150 | 0.577 | 187 | 7.03 | 0514 | 150 | 0.816 | 190 | 10.95 | 0514 | 150 | 1.00 | 280 | 14.03 |
| 0215 | 250 | 0.316 | 146 | 6.22 | 0317 | 250 | 0.448 | 258 | 7.03 | 0415 | 250 | 0.634 | 250 | 10.95 | 0515 | 250 | 0.775 | 252 | 14.03 |
| 0216 | 500 | 0.222 | 180 | 6.22 | 031.5 | 5 Ca | 0.316 | 308 | 7.03 | 0416 | 500 | 0.448 | 302 | 10.95, | 0516 | 500 | 0.548 | 362 | 14.03 |
| 0217 | 750 | 0.182 | 214 | 6.22 | 0317 | 750 | 0.258 | 294 | 7.39 | 0417 | 750 | 0.366 | 303 | 10.95 | 0517 | 750 | 0.447 | 378 | 14.83 |
| 0218 | 1000 | 0.158 | 248 | 7.03 | 031:3 | - 0 C0 | 0.222 | 390 | 7.39 | 0418 | 1000 | 0.316 | 317 | 11.711 | 0518 | 1000 | 0.388 | 398 | 14.83 |
| 0219 | 1500 | 0.129 | 292 | 7.03 | 0319 | 1504 | 0.182 | 364 | 7.39 | 0419 | 1500 | 0.258 | 375 | 11.70 | 0519 | 1500 | 0.316 | 483 | 15.61 |
|  |  |  |  |  | 0320 | 25014 | 0.141 | 485 | 7.39 | 0420 | 2500 | 0.200 | 494 | 11.79 | 0520 | 2500 | 0.245 | 635 | 15.61 |
|  |  |  |  |  | 0321 | 5003 | 0.100 | 690 | 7.81 | 0421 | 5000 | 0.141 | 640 | 12.47 | 0521 | 5000 | 0.173 | 790 | 16.36 |
|  |  |  |  |  | 0322 | 75014 | 0.082 | 714 | 7.81 | 0422 | 7500 | 0.115 | 760 | 13.20 | 0522 | 7500 | 0.141 | 940 | 17.17 |
|  |  |  |  |  | 0323 | 13004 | 0.070 | 750 | 7.81 | 0423 | 10000 | 0.100 | 740 | 14.03 | 0523 | 10000 | 0.122 | 1020 | 18.72 |
| *Thru all or any part of winding |  |  |  |  | *Thru atd or any part of winding. |  |  |  |  | *Thru all or any part of winding. |  |  |  |  | *Thru all or any part of winding. |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Diameter of base: $\mathbf{1}_{10}{ }^{\prime \prime \prime}$. |  |  |  |  | Diameter of base: $23 / \mathbf{m}^{\prime \prime}$. |  |  |  |  |  |  |  |  |  | Diamet | r of base: | "'. |  |  |
| Depth | ehind pane | : $1 \frac{1}{1}{ }^{\prime}$ |  |  | Depth | ehind pane | : 1 -7" ${ }^{\prime \prime}$ |  |  | Depth behind panel: $1 z^{2}{ }^{\prime \prime}$. |  |  |  |  | Depth behind panes: $133^{\prime \prime}$. |  |  |  |  |
| Mount | g: Sinule | hole for | 3/8' | hing. | Mounting: Single hole for $3 / /^{\prime \prime}-32$ bushing. |  |  |  |  | Mounting: Single hole for $3 / \mathbf{g}^{\prime \prime}-32$ bushing. |  |  |  |  | Mounting: Two holes as shown 10-32 $\times 5 / s^{\prime \prime}$ screws flurnished. |  |  |  |  |
| Shaft: yond | " diamet ushing. | er, proje | eting | be- | Shaft: $1 / 4$ " diameter, projecting $1 / 2^{\prime \prime}$ beyund bushing. |  |  |  |  | Shaft: $1 / 4^{\prime \prime}$ diameter, projecting $1 / 2^{\prime \prime}$ be. yond bushing. |  |  |  |  | Shaft: $1 / 4^{\prime \prime}$ diameter, projecting $1 / 2^{\prime \prime}$ heyond bushing. |  |  |  |  |
| Standard Bushing: Will take panels up to $1 / 4^{\prime \prime}$. |  |  |  |  | Standard Bushing: Will take panels up t11 $1 / 4^{\prime \prime}$. |  |  |  |  | Standard Bushing: Will take panels up to $1 / 4^{\prime \prime}$. |  |  |  |  | Standard Bushing: Will take panels up to $1 / 4^{\prime \prime}$. |  |  |  |  |
| Mechanical Rotation: 285 degrees. |  |  |  |  | Mechanical Eotation: 300 degrees. <br> Norr-Turt Flature: Standard position as |  |  |  |  | Mechanical Rotation: 300 deqrees. |  |  |  |  | Mecharical Rotation: 300 degrees. |  |  |  |  |
| Non-T show | n Feature Changed | Standard on reque |  | ion as | Norr-Turt Frature: Standard position as snown Changed on request. |  |  |  |  | Non-Turn Feature: Standard position as shown. Changed on request. |  |  |  |  | Non-Turn Feature: For single hole mounting supplied on request. |  |  |  |  |
| Termin | 15: Holes | or No. 4 | screw |  |  |  |  |  |  | Furnished with or without knob. Terminals: Holes for No. 8 screw. |  |  |  |  | Furnished with or without knob. <br> Terminals: Holes for No. 8 screw. |  |  |  |  |

"Thru all or any part of winding Diameter of base: $1^{\circ}{ }^{\prime \prime}$.
Depth behind panel: $1 \frac{\mathrm{j} \frac{1}{2} \text { ". }}{}$
Mounting: Single hole for $3 / 8^{\prime \prime}$ bushing.
Shaft: $1 / 4^{\prime \prime}$ diameter, projecting $1 / 2^{\prime \prime}$ beyond bushing.
Standard Bushing: Will take panels up to $1 / 4^{\prime \prime}$.
Mechanical Rotation: 285 degrees.
Non-Turn Feature: Standard position as shown. Changed on request.
Terminals: Holes for No. 4 screw.

Types H-50, H-100, H-150 - These ore our newest rheostats and they will give longer service and greater profection. They are designed for use under extremes of humidity and abnormal otmospheric conditions. The unique "buss bar" type brush automatically adjusts tension for complete, continuous contact. It eliminates backlash and prevents binding. It assures
 entire winding surface. Our new high-temperature gray enamel bonding gives you on increo:ed safety foctor and better overall service. These improved rheostats are designed to comply with current stondards of: (o) Military Specificotions JAN-R-22. (b) R.T. M.A. (c) N.E.M.A. (d) "listed by Underwriters Laboratories, Inc." perfect contact with the

RAIING-current ratings shown for oll Rheostats are for use in free air. When units are enclosed values should be reduced about $50 \%$.
Data on non-stock Rheostats-speciol shafts and bushings; values intermediate to those listed; tapered windings; tandem assemblies, etc., furnished upon request.

## FIXED VITREOUS ENAMELED RESISTORS WITH MOUNTING BRACKETS

Five stock sizes fill a greal variety of applications.
Ratings are in occordance with NEMA standards, being based on a temperature rise of $300^{\circ} \mathrm{C}$. in free air.
Data on types, sizes and values not listed herein, and for resistors with intermediate taps, special mountings, etc., furnished upon request.

TABLE OF RATINGS

|  |  |  |  | 40 WATT SIZE <br> Type 31/2l-35 3 $1 / 2^{\prime \prime}$ Lond $x 3 / /^{\prime \prime}$ 0.D. <br> Mounting Centers $4^{\prime \prime}$ |  |  |  | 80 WATT SIZE <br> Type 61/2t-35 <br> $61 / 2^{\prime \prime}$ Long $x 3 / 4^{\prime \prime} 0 . D$. <br> Mounting Centers 7" |  |  |  | 160 WATT SIZE <br> Type $81 / 2$ F- 35 <br> $81 / 2^{\prime \prime}$ Long $\times 1 / \mathrm{s}^{\prime \prime}$ O.D. <br> Mounting Centers $93 /$ /a $^{\prime \prime}$ |  |  |  | 200 WATT SIZE <br> Type 101/2 F- 35 <br> $101 / 2^{\prime \prime}$ Long $\times 1 / s^{\prime \prime} 0$. D. <br> Mounting Centers $113 / \mathrm{B}^{\prime \prime}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Stock No. | Ohmis | Max. <br> Milli- <br> Amps | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohms | Max. <br> Milli. <br> Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohms | Max. MilliAmps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock | Ohms | Max. <br> Milli- <br> Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohms | Max. MilliAmps. | List Price |
| 1001 | 5 | 2225 | \$.97 | 2001 | 5 | 2830 | \$1.63 | 3001 | 5 | 4000 | \$2.42 | 4001 | 5 | 5660 | \$4.16 | 5001 | 5 | 6310 | \$4.53 |
| 1002 | 10 | 1580 | . 97 | 2002 | 10 | 2000 | 1.63 | 3002 | 10 | 2830 | 2.42 | 4002 | 10 | 4000 | 2.98 | 5002 | 10 | 4470 | 3.22 |
| 1003 | 25 | 1000 | 97 | 2003 | 25 | 1260 | 1.63 | 3003 | 25 | 1790 | 2.42 | 4003 | 25 | 2530 | 2.98 | 5003 | 25 | 2830 | 3.22 |
| 1004 | 50 | 700 | . 97 | 2004 | 50 | 895 | 1.63 | 3004 | 50 | 1260 | 2.42 | 4004 | 50 | 1788 | 2.98 | 5004 | 50 | 2000 | 3.22 |
| 1005 | 75 | 575 | . 97 | 2005 | 75 | 730 | 1.63 | 3005 | 75 | 1030 | 2.42 | 4005 | 75 | 1460 | 2.98 | 5005 | 75 | 1635 | 3.22 |
| 1006 | 100 | 500 | . 97 | 2006 | 100 | 635 | 1.63 | 3006 | 100 | 890 | 2.42 | 4006 | 100 | 1260 | 2.98 | 5006 | 100 | 1414 | 3.22 |
| 1007 | 150 | 410 | . 97 | 2007 | 150 | 518 | 1.63 | 3007 | 250 | 565 | 2.42 | 4007 | 150 | 1036 | 2.98 | 5007 | 150 | 1155 | 3.22 |
| 1008 | 200 | 353 | . 97 | 2008 | 200 | 448 | 1.63 | 3008 | 500 | 400 | 2.42 | 4008 | 250 | 800 | 2.98 | 5008 | 250 | 895 | 3.22 |
| 1009 | 250 | 316 | . 97 | 2009 | 250 | 400 | 1.63 | 3009 | 1000 | 283 | 2.42 | 4009 | 500 | 566 | 2.98 | 5009 | 500 | 632 | 3.22 |
| 1010 | 500 | 224 | . 97 | 2010 | 500 | 283 | 1.63 | 3010 | 1500 | 231 | 2.53 | 4010 | 750 | 461 | 2.98 | 5010 | 750 | 515 | 3.22 |
| 1011 | 750 | 182 | . 97 | 2011 | 750 | 230 | 1.63 | 3011 | 2000 | 200 | 2.53 | 4011 | 1000 | 400 | 2.98 | 5011 | 1000 | 447 | 3.22 |
| 1012 | 1000 | 158 | 97 | 2012 | 1000 | 200 | 1.63 | 3012 | 2500 | 179 | 2.53 | 4012 | 1500 | 326 | 3.04 | 5012 | 1500 | 365 | 3.30 |
| 1013 | 1500 | 129 | 1.03 | 2013 | 1500 | 163 | 1.75 | 3013 | 3000 | 163 | 2.53 | 4013 | 2000 | 282 | 3.04 | 5013 | 2000 | 315 | 3.30 |
| 1014 | 2000 | 112 | 1.03 | 2014 | 2000 | 140 | 1.75 | 3014 | 4000 | 141 | 2.53 | 4014 | 2500 | 253 | 3.04 | 5014 | 2500 | 283 | 3.30 |
| 1015 | 2500 | 100 | 1.03 | 2015 | 2500 | 125 | 1.75 | 3015 | 5000 | 126 | 2.53 | 4015 | 3000 | 231 | 3.04 | 5015 | 3000 | 258 | 3.30 |
| 1016 | 3000 | 91 | 1.03 | 2016 | 3000 | 115 | 1.75 | 3016 | 7500 | 103 | 2.70 | 4016 | 5000 | 179 | 3.04 | 5016 | 5000 | 200 | 3.30 |
| 1017 | 3500 | 85 | 1.03 | 2017 | 4000 | 100 | 1.75 | 3017 | 10000 | 89 | 2.70 | 4017 | 7500 | 146 | 3.30 | 5017 | 7500 | 163 | 3.53 |
| 1018 | 4000 | 79 | 1.03 | 2018 | 5000 | 90 | 1.75 | 3018 | 15000 | 73 | 2.97 | 4018 | 10000 | 126 | 3.30 | 5018 | 10000 | 140 | 3.53 |
| 1019 | 5000 | 71 | 1.03 | 2019 | 7500 | 73 | 1.92 | 3019 | 20000 | 63 | 2.97 | 4019 | 15000 | 105 | 3.54 | 5019 | 15000 | 115 | 3.77 |
| 1020 | 6000 | 64 | 1.14 | 2020 | 10000 | 63 | 1.92 | 3020 | 25000 | 56 | 3.20 | 4020 | 20000 | 89 | 3.54 | 5020 | 20000 | 100 | 3.77 |
| 1021 | 7500 | 57 | 1.14 | 2021 | 12500 | 56 | 2.08 | 3021 | 30000 | 52 | 3.20 | 4021 | 25000 | 80 | 3.64 | 5021 | 25000 | 90 | 3.90 |
| 1022 | 10000 | 50 | 1.14 | 2022 | 15000 | 52 | 2.08 | 3022 | 35000 | 48 | 3.20 | 4022 | 30000 | 73 | 3.64 | 5022 | 30000 | 81 | 3.90 |
| 1023 | 12000 | 44 | 1.19 | 2023 | 20000 | 15 | 2.08 | 3023 | 40000 | 45 | 3.20 | 4023 | 40000 | 63 | 3.64 | 5023 | 40000 | 70 | 3.90 |
| 1024 | 15000 | 40 | 1.19 | 2024 | 25000 | 10 | 2.33 | 3024 | 50000 | 40 | 3.37 | 4024 | 50000 | 56 | 3.76 | 5024 | 50000 | 63 | 4.03 |
| 1025 | 20000 | 26 | 1.19 | 2025 | 35000 | 33 | 2.33 | 3025 | 60000 | 36 | 3.37 | 4025 | 75000 | 46 | 4.03 | 5025 | 75000 | 51 | 4.25 |
| 1026 | 25000 | 23 | 1.36 | 2026 | 50000 | 28 | 2.58 | 3026 | 75000 | 32 | 3.58 | 4026 | 10000 | 40 | 4.26 | 5026 | 1000 | 44 | 4.53 |

## ADJUSTABLE VITREOUS ENAMELED RESISTORS

## WITH MOUNTING BRACKETS

Embodying features originated by Hardwick, Hindle, Ine., resulting in a Resistor possessing the many advantages of Virreous Enamel Construction, plus an adiustable feature.

The winding is closely and evenly spaced, assuring ample insulation between turns. Where the winding appears exposed in the track, its underside is tightly embedded in the enamel, the upper surface only being exposed for contact with the adjustable band.
All sizes of Adjustable Resistors listed herein ore furnished complete with mounting brackets and with one adjustable contoct band




$$
\begin{aligned}
& 50 \text { WATT SIZE } \\
& \text { Type K-50 } \\
& 1 /{ }^{\prime \prime} \text { Loni } x 5 / /^{\prime \prime} 0.0 \\
& \text { Mount. Centers } 5^{\prime \prime}
\end{aligned}
$$


Maxilin
TABLE OF RATINGS


## BLUE RIBBON RESISTORS

## TABLE OF RATINGS



Blue Riobon resistors differ from tubular resistors in that they are wound on an ellip tical core. An aluminum bar through the center insures more even distribution of hewt avoiding hot spots
Our gray enamel eliminates crazing which results in failure of the resistive element due to moisture penetration from humidity, sal and other severe atmospheric conditions

Mounting studs-corrosion and rust resistant -peened to the ends of the thru-bar conduct heat to the mounting surface. You can stack two or more units. Our method of fastening the tube to the thru-bar prevents loosening
In comparison with tubular units of equiva lent wattage rating these resistors offer out standing advantages: Higher wattage rating per unit space requirement. - Reduction in space requirement. - Simple sturdy mounting, single or stacked. •Light weight. Lowef inductance.
Designed for and manufactured in accordance with JAN-R-26A specifications.

TYPE 2" B
40 Watt Rating
Mounting Centers $23 / 4^{n}$ Stur
No. Sturk Max. Lis Stork Max. List Stork Mill. List

No. Ohms Amp. Pit B201 $52830 \quad \$ 2.61$ | $B 202$ | 10 | 2000 | 2.01 | $8: 102$ | 11 |
| :--- | :--- | :--- | :--- | :--- | :--- | $2350 \quad 2.32$

 $\begin{array}{llllllll}\text { B204 } & 25 & 1260 & 2.01 & \mathrm{~B} 314 & 25 & 1480 & 2.32 \\ B 304 & 50 & 10501 & 2.32\end{array}$ B2リラ $\quad 30 \quad 840 \quad 2.01 \quad$ Bsef $1010 \quad 7+0 \quad 2.32$ ع20fi 1100 630 2.01 H20 1505102.01 $\begin{array}{llll}B 204 & 250 & 400 & 2.11\end{array}$ B2(t) $500 \quad 28 \div 2.01$
H210 $1000 \quad 200 \quad 2.01$
E211 $1500164 \quad 2.01$
$\begin{array}{llll}\mathrm{B} 212 & 2.500 & 120 & 2.01\end{array}$

$\mathrm{B} 21+\mathrm{l}$

| B21J | 15000 | 51 | 2.52 | B310 | 250111 | 60 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | 55 Watt Rating Matniting Centers $41 / 4^{\prime \prime}$

$\begin{array}{llll}8301 ; & 100 & 1+0 & 2.32 \\ 3.07 & 150 & 6011 & 2.32\end{array}$
$36: 250 \quad 470 \quad 2.32$ B.014 50113323.321

3ito lo0\% 235 2.32

TYPE 6" B 75 Watt Rating* Mounting Centers $61 / 4^{\prime \prime}$$\begin{array}{rrrr}\text { B6IO } & 1000 & 273 & 2.88\end{array}$

| B6II | 1500 | 224 | 2.88 |
| :--- | :--- | :--- | :--- |

## $\begin{array}{llll}\text { B612 } & 2500 & 173 & 2.88\end{array}$

 Btil: $5000 \quad 122 \quad 3.02$ $\mathrm{B6I}+10600 \quad 86 \quad 3.26$ B61. $15000 \quad 71 \quad 3.38$


- This rating based an a maximum temperature rise of 300 degrees $C$. with the Resistar maunted harizantally on a $10^{\prime \prime} \times 10^{\prime \prime} \times .040^{\prime \prime}$ steel plate supparted harizantally $1 / 2^{\prime \prime}$ abave a waaden surface.
When Resistors are maunted an a nan-metallic base the naminal watt rating should be reduced by appraximately $15 \%$.

10 and 20 WATT FIXED VITREOUS ENAMELED RESISTORS

Designed for radio service and replace. ment use-conservatively rated-wound upon Steatite Tube-combination lug and pigtail terminal connections. Vitreous

enamel insulation, insures proof against moisture. 10 watt and 20 watt sizes, in the range of resistance values shown.

| TABLE OF RATINGS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 WATT |  |  |  |  |  |  |  | 20 WATT |  |  |  |  |  |  |  |
| $13 / 4{ }^{\prime \prime}$ Lang $\times 5 / 16^{\prime \prime}$ O.D. |  |  |  |  |  |  |  | 2" Lang x $1 / 2^{\prime \prime}$ O.D. |  |  |  |  |  |  |  |
| Stock No. | Ohnis | Max. <br> Milli- <br> Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Ohwis | Max. MilliAmps. | $\begin{aligned} & \text { List } \\ & \text { Pise } \end{aligned}$ | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ | Ohmis | Max. MilliAmps. | $\begin{aligned} & \text { List } \\ & \text { PIIce } \end{aligned}$ | Stock No. | Ohurs | Max. <br> Milli- <br> Amps. | List Price |
| Al01 | 1 | 3160 | S .75 | A116 | 750 | 1.5 | \$ 75 | A201 | 5 | 2000 | \$ 95 | A216 | 2000 | 100 | \$ 97 |
| Al02 | 3 | 1825 | . 75 | Al17 | 1000 | 130 | . 75 | A202 | 10 | 1415 | . 95 | A217 | 2500 | 89 | . 97 |
| Al03 | 5 | 1415 | . 75 | Al18 | 1250 | 39 | . 80 | A203 | 25 | 895 | . 95 | A218 | 3000 | 81 | . 97 |
| Al04 | 7.5 | 1150 | . 75 | Al19 | 1500 | il | . 80 | A204 | 50 | 633 | . 95 | A219 | 4000 | 71 | . 97 |
| Al05 | 10 | 1000 | . 75 | Al20 | 2000 | $\bigcirc$ | . 80 | A205 | 75 | 517 | . 95 | A220 | 5000 | 63 | . 97 |
| Al06 | 15 | 815 | . 75 | Al21 | 2500 | . 3 | . 80 | A206 | 100 | 447 | . 95 | A221 | 6000 | 57 | 1.12 |
| A107 | 25 | 630 | . 75 | Al22 | 3000 | '8 | . 80 | A207 | 150 | 375 | . 95 | A222 | 7500 | 51 | 1.12 |
| Al08 | 50 | 450 | . 75 | Al23 | 4000 | . 0 | . 80 | A208 | 200 | 316 | . 95 | A223 | 10000 | 44 | 1.12 |
| A109 | 75 | 365 | . 75 | Al24 | 5000 | +5 | . 80 | A209 | 250 | 282 | . 95 | A224 | 12500 | 40 | 1.20 |
| Allo | 100 | 315 | . 75 | A125 | 7500 | -6 | . 92 | A210 | 400 | 224 | . 95 | A225 | 15000 | 37 | 1.20 |
| Alll | 150 | 260 | . 75 | Al26 | 10000 | 31 | . 92 | A211 | 500 | 200 | . 95 | A225 | 15000 | 37 | 1.20 |
| All2 | 200 | 225 | . 75 | A127 | 12500 | :6 | 1.03 | A212 | 750 | 163 | . 95 | A226 | 25000 | 15 | 1.37 |
| All3 | 250 | 200 | . 75 | Al28 | 15000 | 14 | 1.03 | A213 | 1000 | 141 | . 95 | A227 | 35000 | 13 | 1.37 |
| All4 | 400 | 158 | . 75 | Al29 | 20000 | 12 | 1.03 | A214 | 1250 | 126 | . 97 | A228 | 40000 | 12 | 1.37 |
| All5 | 500 | 142 | . 75 | A130 | 25000 | $\pm 1$ | 1.08 | A215 | 1500 | 115 | . 97 | A229 | 50000 | 11 | 1.58 |

[^50]
## METAL FILM RESISTORS

NOBLETTE TYPE NA


## DESIGNAND CONSTRUCTION

A metallic resistance element is deposited on a low loss ceramic carrier using a pyrochemic process developed and patented by Continental. A layer of vitreous enamel protects metal film against unusual atmospheric conditions. They are calibrated to value by means of spiralled grooves cut into the film to increase the resistance path. The NOBLETTE with its axial leads and the NOBLEOY with radial leads permits the use of metal film resistors in a wider range of application.

Notable quantities of these metal film resistors are low intuc-tance-initial accuracy and excellent resistance stability under adverse operating conditions.

| Type | Wattage | Resistance Range | Voltage | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | 1\% | 5\% |
| NA15 | 1/2 watt | 1 ohm tu 1 megohm | 3.50 | \$0.80 | \$0.70 |
| NA25 | 1 watt | 1 ohm to 1 meguhm | S(0) | 1.00 | . 90 |
|  |  | 1.1 megohlun to 5 megohm | 500 | 1.30 | 1.15 |
| NA30 | 2 watt | 2 ohm to 1 meguhm | 750 | 1.25 | 1.10 |
|  |  | 1.1 megohm to 10 megohm | 750 | 1.65 | 1.50 |
|  |  |  |  |  |  |
| NR20 | 1/2 watt | 1 ohm to 1 megohm | 3.50 | . 80 | . 70 |
|  |  | 1.1 megohm to 3 megohm | 350 | 1.05 | . 95 |
| NR25 | 1 watt | 1 ohm to 1 megrohm | 500 | 1.00 | . 90 |
|  |  | 1.1 megohm to 5 megohm | $5(0)$ | 1.30 | 1.15 |
| NR30 | 2 watt | 2 ohm to 1 megohm | 750 | 1.25 | 1.10 |
|  |  | 1.1 megolim to 10 meguhm | 750 | 1.65 | 1.50 |
| NR50 | 5 watt | 3 ohm to 24 ohm | 1000 | 2.00 | 1.80 |
|  |  | 25 ohm to 1 megohm | 1000 | 1.50 | 1.35 |
|  |  | 1.1 megohm to 15 megohm | 1000 | 2.00 | 1.80 |

No. 18 AWG Tinned Cipper Radial Leads. $11 / 2^{\prime \prime}$ long.

## CONTINENTAL CARBON, INC.

## CARBOMITE RESISTORS

## COMPOSITION TYPE M



## BULK PACKAGE TYPE M

Type M resistors are RETMA color coded for identification. They are rated at 70 C ambient temperature and cahibit long life with excellemt stability. Conveniently packaged in 10 or 50 per box in bulk. Whon ordering. -pecify quantits, resistance, tolerance and type or wattage.

| Type | Wattage | Rating |  | List Price per Unit $5 \%$ Tol. $10 \%$ Tol. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| M20 | 1/2 watl | $70{ }^{\circ} \mathrm{C}$ Am) | isu Violts Max. | \$0.33 | \$0.17 |
| M25 | 1 watt | $70^{\circ} \mathrm{C}$. Am | 500 Violt, Max. | . 50 | . 25 |
| M30 | 2 watt | $70^{\circ} \mathrm{C}$ Am), | 1000 Villts Mix. | . 66 | . 33 |



## CARD MOUNTED TYPE MR

Fise Type 10 rewintor of one resistance, type and tolerance are mounted on a $3 \times 5$ index card, 10 cards per package When orfering. opecify quantity, resistance, tolerance and type or wattage.

| Type | List Price per Unit 10\% Tol. |
| :---: | :---: |
| MR20 | \$0.17 |
| MR25 | . 25 |
| MR30 | . 33 |

RESIST-O-FILES TYPE MRC
Five Type $M$ resistors are mounted on a $3 \times 5$ index carl and arranged in RESIST-O-FILES for $1 / 2$ watt, 1 watt or $\geq$ watt, all $10 \%$ tolerance
( orld MRC20, Whatt (200) resistors), 1 card each with values (1f: 10 , ,h1ms. 15, 22, 33, 47, 68, 100, 150, 220, 330, 470, 680, 10:00. $1500,2200,3.300,4700,6800,10 \mathrm{~K}, 15 \mathrm{~K}, 22 \mathrm{~K}, ~ 33 \mathrm{~K}, 47$ に, 68K, $150 \mathrm{~K}, 220 \mathrm{~K}, 3,30 \mathrm{~K}, 680 \mathrm{~K} .1 .5 \mathrm{meg}, 2.2 \mathrm{meg} .3 .3$ meg.. +7 meg., ( 6.8 mes. and 10 meg., and 2 cards each of 100 K . 470 K and 1 meg .
Corle MRC25, I watt (200 resisturs), the same values and frantitios as MRC20 anoortment.
Code MRC, 30. 2 watt ( 150 resistors), 1 carcl each with sallues of: 10 ohms, 15, 22, 47, 68, 1000, 150, 220, 3,30, 470, 680, 10100 , 1500. 2200, 3300, $4700,6800,10 \mathrm{~K}, 15 \mathrm{~K}, ~ 22 \mathrm{~K}, 33 \mathrm{~K}, 47 \mathrm{~K}, 68 \mathrm{~K}$, $100 \mathrm{~K}, 150 \mathrm{~K}, 220 \mathrm{~K}, 330 \mathrm{~K}, 470 \mathrm{~K}, 680 \mathrm{~K}$, and 1 meg.


All package arrangements are available from your local distributor exclusively.

## CONTINENTAL CARBON, INC.

## WIRE WOUND RESISTORS

LOW POWER

## Axial Lead－Insulated <br> For low power application．Composed with a minimum of ． 0015 inclo wire that is wound auto－ matically for true parallel winding to prevent shorting at turns．Terminals are securely bonded to permanent comections to the winding．The are moisture resistant and recommended for cir－ chits refuiring very low resistance，which is mut ordinarily awalable in the carbon style．

Resistance Wire Molded in Bakelite

## Color Coded－RETMA Standard


$\qquad$

| Resistance Range | $\underset{5 \%}{\text { Lol. }}$ | $\begin{aligned} & \text { Price } \\ & \quad 10 \% \text { Tol. } \end{aligned}$ |
| :---: | :---: | :---: |
| to whme 61010 6hns | \＄0．30 | \＄0．25 |
| 47 （han－ 10110 drms | ． 33 | ． 28 |
| ． 47 ohme 1010 whol： | ． 40 | ． 35 |

## CARBOMITE KITS TYPE MRK



A handy areorment of CAKlOOMITE revistors in hit form．Comsists of Ill carde of the most popular resistance values，a total of 50 resistors． lvailable in 3 assortnente in cach type as follows：
Assortment No．1－Five cach（if the following values： 1000 ，thoo．1uk，

Assortments No．2－Five cach uf the following values：47，100，220，270．

Assortment No．3－Five vach wi the following values：22K，27K，3ふト， ミok，が心．1ミ0に．ふ30K， 1.5 meg．． 4.7 meg．and 10 meg ．
Type \ilRK Kit，ate packated in an attractive and sturdy carton．Ship－ fing wisht． 10 cumces．Dinn

| Code | Quantity and Size | List Price |
| :---: | :---: | :---: |
| MRK 20 | S（）resiotur－watt（10）cards） | \＄8．50 |
| MRK 25 | 50 resintors 1 watt（ 10 catels） | 12.50 |
| MRK 30 | 50 resisturs 2 watt（10 catrels） | 16.50 |

## COLOR CODE INDICATOR

 liand identifation printed on batk．
l＇rice
$\$ 0.20$


## CONTINENTAL CARBON，INC．

## SUPPRESSORS

## AUTO RADIO AND OIL BURNER



CONTINEN゙TAL SLPPRESSORS have been subjected to years of laboratory development and actual road service. They effectively remove noise interference from spark discharge at the plugs and high-tension distributor-yet do not in any way affect the motor car ignition system.

They have mechanical strength to stand the most severe service. The resistance value of 10,000 ohms has been scientifically determined. Sparking across the terminals is eliminated by careful shaping of the clectrodes and cases.

The S-19. S-21 and S-23 Suppressors are equipped with a removable terminal nut for spade type monntings.


S-19. S-21 and s-23
S-20. 1

$\begin{array}{ll}\text { DISTRIPLTOR SUlPRESSORS } & \text { List Price } \\ \text { C-11 } & \text { each \$0.30 } \\ \mathrm{T}-24 & \text { each } 35\end{array}$

## OIL BURNER SUPPRESSORS



GENERATOR CONDENSERS


GBO5F


## CONTINENTAL CARBON, INC.



## DECADE RESISTANCE BOXES

36 Types 1 to 6 Dials


RESISTOR ACCURACY:


".111 whn 士.5!

TEMPERATURE COEFFICIENT:


FREQUENCY LIMIT:

UNMOUNTED DECADE RESISTANCES

 lactriaral instrimmeits, Shalleross hats anailablo ['nm-natomel beratle
 shalleross prowision wirwownd resistors momuted ant a ceramic in*1rament switch ata: are the same




| Typ: | Dials | Ohm Steps | Total Resistance <br> Ohms | Net Price |
| :--- | :---: | :---: | :---: | :---: |
| 436 | 1 | 1 | 10 | $\$ 13.25$ |
| 437 | 1 | 10 | 1001 | 13.25 |
| 438 | 1 | 100 | 1,000 | 15.00 |
| 439 | 1 | 1,000 | 10.1000 | 16.00 |

## SHALLCROSS <br> No. 6100 <br> FAULT LOCATION WHEATSONE BRIDGE

Resisfance Range
1 ohm to $1,011,000$ ohms


APPLICATIONS - Me:tisures resistances irom | bhm to I merehnu. foumfes grounds, er sises amb shorts hy Surray, Farleg, Hilborn or Pishlum lant.
RHEOSTAT ARM—Fonr atoradres, 10,110 whms in 1 whn sieps. Can
 RATIO-Multiplier dial marked $\frac{1}{1000}, \frac{1}{190}, \frac{1}{14}, \frac{1}{1}, \frac{10}{1}, \frac{1000}{1}$ M10ns, $M 100, \mathrm{M10}, \frac{1}{4}$ and $\frac{1}{1}$. Ratis arm resistors accurate to Miliz
GALVANOMETER-Initt-in Nhallcross gralvanmmetwr, Nensitivity 1 miormampere per man soale division.
SWITCHES-Nhallcross molded phenolic instrument type. Jure nickel contacts, berrsllium copper brushes.
CASE-l.irht-weipht almminum rarrying casc with haticary compartmen: and rumovabie cover.

WEIGHT-Ipproximately o lbs.
NET PRICE- $\$ 175.00$

## decade voltage

 DIVIDERS(Potentiometers)


 at conapleter lime manutarlumed by shall-




| Type | Dials | Ohm Steps | Tobal Resistance <br> Ohms | Net Price |
| :--- | :---: | :---: | :---: | :---: |
| 837 | 1 | 18.1 | 1,1100 | $\$ 126.00$ |
| 835 | 1 | 1 | 10,0100 | 132.00 |
| 836 | $!$ | 10 | 100,0100 | 146.00 |


| Type | Dials | Ohm Steps | Total Resistance Ohms | Ne Price |
| :---: | :---: | :---: | :---: | :---: |
| 550 | 1 | 1.11001, 1000) | 10.0000 .0000 | \$66.00 |
| 823 | : | 1,1010 | 1.110,1130 | 77.00 |
| 824 | : | 11.0001 | 11.1180 .18110 | 120.00 |
| 817.A | ${ }^{\circ}$ | 13.01 | 111.1 | 75.00 |
| 819 | 1 | 11.1 | 1.111 | 71.00 |
| 825 | 1 | 1 | 11.1110 | 77.00 |
| 826 | 1 | 111 | 111.1010 | 79.00 |
| 827 | 1 | 11111 | 1.111 .10101 | 92.00 |
| 828 | 1 | 1.1704 | $11.110 .010 \times$ | 139.00 |
| 817-B | - | 11.11 | 1.111.1 | 94.00 |
| 8285 | - | 11.1 | 11.111 | 94.00 |
| 829 | : | 1 | 111.111 | 101.00 |
| 830 | $\therefore$ | 11 | 1.111 .1111 | 113.00 |
| 832 | $1{ }^{\prime}$ | 1 | 1,1J1.111\% | 121.00 |
| 833 | ; | $1{ }^{1}$ | 11,111,100 | 169.00 |

APPLICATION-This eonblina1 ion Kelvin-Wheatstone Bridge measures resistances trom 9.001


RHEOSTAT ARM-K心lvin range's up (i) 11,110 microlnes $i_{11}$ whe microhm steps. Whatstone rankes up to 11,110 whms in we whe steps. Rheustat resistors aceurate within 0.1 Fo except the 1 when
 , lissipate 0.5 watt.
RESISTANCE BOX-Minling posts permit use of rhe matat its it re-- istanee box
 and fine line scalle bats sensitivity of 1 microanpere per mom seilu.
CASE-Wooden carryine case with battery compartinent and romow able cover.

WEIGHT-Approximately 9 lhs.
NET PRICE—\$260.00



| Poles | Positions | Contact Spacing | Contact Plate Material | Shorting | NUMBERS $\qquad$ Non－Shorting | $\begin{aligned} & \text { Iso- } \\ & \text { lated } \end{aligned}$ | $\begin{aligned} & \text { Non- } \\ & \text { Iso- } \\ & \text { lated } \end{aligned}$ | Nel Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 11 | 32．7こ0 | Statitu | 4.5 .30 .4 | 1．心．力 | ， |  | \＄ 6.75 |
| $\because$ | 11 | 32．7こ0 | Steatia． | 46006． | 461．\％ |  | $\lambda$ | 10.00 |
| $\stackrel{\square}{2}$ | 11 | ： $\mathbf{7 2}^{\circ}$ | Stwatil． | 10015.1 | 100に馬 | 1 |  | 11.75 |
| $\because$ | 11 | $32.7 \geq^{\circ}$ | Steatitr | $2-1+\%$ | 593：－ | 1 |  | 11.25 |
| 1 | 11 | $32.7 \pm 0$ | Sleatit． | 16，0\％ | 4611． |  | 1 | 4.50 |
| 1 | $1 \%$ | $30^{\circ}$ | Hatmolite． | ち．5．50－ | 512ご年 |  | 1 | 5.25 |
| 1 | 1. | $\because 1$ | slatila | 的10．0 | 4ご． |  | ： | 6.00 |
| $\because$ | 1. | 31 | S1：11ir． | \1：1．．． | 1！いいい |  | 1 | 13.50 |
| 1 | $\because 1$ | 1. | ｜Bahalit． | ＋1630． | $\therefore .50 .0$ |  | ． 1 | 10.00 |


When orderine specif！＇number tullused to－ 13


## SHALLCROSS AUDIO ATTENUATORS


－Ofr pumition alternation woll－

in ieses of 100 oll
 Non－irancelin，shalleross pr aut anver flat atlvantion It assuri fat alformation
j⿴囗十力刂灬s．
－Xasian lowal ratines that anor
 factual－1：30 ill or more lo low 7 ．0\％bevel．
Thpes and：sizes emerinerred for all meerels．
－N1fmation accurarcins on

 Whicll are 100.0010 allal $2 .=0.000$ ohms．


 ＇II！O1 Eha！



 DIALS：Slact linl eatrll alliliomal．


120－2A3 $\$ 10.50$ Silver 9.50 Brass

C720－2A3





$\$ 10.50$ Silver
9.50 Brass

Bridged T Attenuator， 20 stogse $1-\bar{a}$ aloper stap tapered




## 420－2B2

$\$ 21.50$ Silver






SPECIFICATIONS
（Single Deck Types）

| Number | $\begin{aligned} & \hline \text { Poles per } \\ & \text { Deck } \end{aligned}$ | $\begin{aligned} & \text { Degree } \\ & \text { Spacing } \end{aligned}$ | Positions | Stods | Net Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12200－06 | I | $\because 1$ | 3－： | Yes | \＄ 8.00 |
| 12208－13 | 1 | 20 | 111．15 | 门缞 | 8.50 |
| 12213 | 1 | 20 | 1， | IN， | 8.50 |
| 12256－62 | 2 | 20 | 3－19 | 1以 | 9.00 |
| 12284－87 | S | $\because$ | ：3－1； | i．． | 10.00 |
| 12300－07 | 1 | 30 | $2-9$ | j．．． | 9.00 |
| 12308 | 1 | 311 | 11 | j1．0 | 9.50 |
| 12309 | 1 | 31 | 12 | n， | 9.50 |
| 12340－44 | $\because$ | 311 | －－1． | Y－ | 10.00 |
| 12360－62 | ： | 311 | $\because-1$ | Y， | 12.50 |
| 12400－03 | 1 | 411 | $\cdots$ | い | 8.00 |
| 12404－06 | 1 | 411 | fi．a | ，．．． | 8.50 |
| 12407 | 1 | 40 | ： | II＇ | 8.50 |
| 12432－35 | $\cdots$ | 411 | $\cdots$ | い | 9.00 |
| 12448－49 | ： | ：11 | $\pm$ | i， | 10.00 |

SHALLCROSS
PRECISION WIREWOUND RESISTORS
SHALLCROSS
PRECISION WIREWOUND RESISTORS

| Resistance Ohms | BX183AE | $\begin{array}{r} P R \\ \mathrm{~B} \times 193 \mathrm{E} \\ \hline \end{array}$ | S | B $\times 116 \mathrm{E}$ |
| :---: | :---: | :---: | :---: | :---: |
| ！ 12041 | \＄ 1.90 | \＄ 1.90 | \＄ 2.28 | \＄ 2.85 |
| －11000 | 2.09 | 2.09 | 2.57 | 3.28 |
| 10.1000 | 2.14 | 2.14 | 2.70 | 3.47 |
| 15．1100 | 2.19 | 2.19 | 2.90 | 3.51 |
| 30.1000 | 2.42 | 2.42 | 3.04 | 3.80 |
| S0．0100 | 2.47 | 2.47 | 3.23 | 4.13 |
|  | 2.82 | 2.82 | 3.42 | 4.47 |
| 100.0100 | 3.08 | 3.08 | 3.84 | 4.60 |
| 125．000 | 3.36 | 3.36 | 4.07 | 4.89 |
| 1．31．0061 | 3.63 | 3.63 | 4.40 | 5.22 |
| 200．6190 | 4.06 | 4.06 | 4.82 | 5.52 |
| 2.50 .010010 | 4.20 | 4.20 | 5.07 | 5.59 |
| $\because 600.000$ | 4.35 | 4.35 | 5.48 | 5.60 |
| 1100.0108 | 4.76 | 4.76 | 5.96 | 6.31 |
| S100．01\％0 | 5.28 | 5.28 | 6.50 | 6.89 |
| f000．010） | 5.71 | 5.71 | 6.96 | 7.30 |
| T03．1100 | 6.17 | 6.17 | 7.36 | 7.51 |
| 7－0．0000 | 6.42 | 6.42 | 7.64 | 7.64 |
| ！100．00\％ | 6.78 | 6.78 | 7.95 | 8.16 |
| 1 Mers． | 7.02 | 7.02 | 8.28 | 8.90 |
| 1．5 M10 | － | 9.11 | 9.72 | 12.21 |
| $\bigcirc 110$ ． | － | 11.16 | 12.42 | 15.30 |
| －．－M\％\％ | － | 14.47 | 15.30 | 19.05 |

## BE RIGHT WITH OHMITE

## VITREOUS ENAMELED RHEOSTATS

## CLOSE CONTROL RHEOSTATS

## Underwriters' Laboratories Reexamination Service Listed

For many years the Ohmite line of ten wirewound, vitreous enameled rheostats, ranging from 25 to 1000 watts in size, has been the most extensive available to industry. Six of the most popular sizes have been carried in stock by Ohmite Distributors and at our factory. Now, the other four sizes, the Model G, 75 watts; Model P, 225 watts; Model T, 750 watts; and the Model U, 1000 watts are available from stock, thus making the entire line of ten sizes quickly obtainable for design and production needs and for emergencies.
FEATURES OF CONSTRUCTION: Ohmite rheostats are designed to produce permanently smooth, close control. The construction is all ceramic and metal; there is nothing to smoke, char, shrink, or shift. All models have insulated shafts with provision to keep the rheostat from turning on the panel. The resistance wire is wound over a solid ceramic core. Each turn is a separate resistance step and is locked against shifting by vitreous enamel. The core and base are also bonded by vitreous enamel. The pivoted universal-action-mounted contact brush is of copper-graphite or silver-graphite on the heavier current rheostats. It rides upon a large flat surface and assures perfect contact without wear on the wire. Pressure

## MODEL "H", Series A - 25 WATT

Diameter $1 \mathrm{~m}^{\prime \prime}$-Depth behind panel $13 / \mathrm{B}^{\prime \prime}$-Shaft $1 / 4^{\prime \prime}$ diameter Rotation $295^{\circ}-M o u n t i n g$ for panels up to $1 / 4^{\prime \prime}$ by means of $3 / 8^{\prime \prime}-32$ Bushing and Hex. Nut-Non-turn lug requires is" hole $1 / 2^{\prime \prime}$ below center of shaft-Stock No. 5150 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps. | List Price | Stock No. | Total Ohms | Max. Amps. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0140 | 1 | 5.000 | \$7.03 | 0152 | 125 | .445 | \$6.22 |
| 0141 | 2 | 3.540 | 6.22 | 0153 | 175 | . 375 | 6.22 |
| 0142 | 3 | 2.880 | 6.22 | 0154 | 250 | . 316 | 6.22 |
| 0143 | 6 | 2.040 | 6.22 | 0155 | 350 | . 267 | 6.22 |
| 0144 | 8 | 1.770 | 6.22 | 0156 | 500 | . 222 | 6.22 |
| 0145 | 10 | 1.580 | 6.22 | 0157 | 750 | . 182 | 6.22 |
| 0146 | 15 | 1.290 | 6.22 | 0158 | 1,000 | . 155 | 7.03 |
| 0147 | 25 | 1.000 | 6.22 | 0159 | 1,500 | . 129 | 7.03 |
| 0148 | 35 | . 845 | 6.22 | 0160 | 2,500 | . 100 | 7.03 |
| 0149 | 50 | . 707 | 6.22 | 0161 | 3,500 | . 084 | 7.39 |
| 0150 | 75 | . 575 | 6.22 | 0162 | 5,000 | . 070 | 7.39 |
| 0151 | 100 | . 500 | 6.22 |  |  |  |  |

## MODEL "J", Series A - 50 WATT

Diameter 2 N $^{\prime \prime}$ ——Depth behind panel $13 / 8^{\prime \prime}$ —Shaft $1 / 4^{\prime \prime}$ Diameter Rotation $300^{\circ}-$ Mounting for panels up to $1 / 4^{\prime \prime}$ by means of $3 / 8^{\prime \prime}-32$ Bushing and Hex Nut-Non-turn lug requires $10^{\prime \prime}$ hole $1 / 2^{\prime \prime}$ below center of shaft-Stock No. 5150 Knob Supplied.

| Stork No. | Total <br> 0 hms | Max. Amps. | List Price | Stock No. | Total Ohms | Max. <br> Amps. | List 1’rice |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0308 | 0.5 | 10.000 | \$7.81 | 0321 | 150 | . 575 | \$7.03 |
| 0309 | 1 | 7.070 | 7.81 | 0322 | 225 | . 470 | 7.03 |
| 0310 | 2 | 5.000 | 7.81 | 0323 | 300 | . 408 | 7.03 |
| 0311 | 4 | 3.530 | 7.03 | 0324 | 500 | .316 | 7.03 |
| (03) 12 | 6 | 2.880 | 7.03 | 0325 | 800 | . 250 | 7.39 |
| 0313 | 8 | 2.500 | 7.03 | 0326 | 1,000 | . 224 | 7.39 |
| $0 \cdot 314$ | 12 | 2.040 | 7.03 | 0327 | 1,600 | . 176 | 7.39 |
| 0315 | 16 | 1.760 | 7.03 | $0: 328$ | 2,500 | .141 | 7.39 |
| 0316 | 22 | 1.500 | 7.03 | 0329 | 3,500 | .119 | 7.81 |
| 0317 | 35 | 1.190 | 7.03 | 0330 | 5,000 | . 100 | 7.81 |
| 0318 | 50 | 1.000 | 7.03 | 0331 | 8,000 | . 079 | 7.81 |
| 0319 | 80 | . 790 | 7.03 | 0332 | 10,000 | . 070 | 7.81 |
| 0320 | 125 | . 630 | 7.03 |  |  |  |  |

at the contact and at the center lead are independent. The construction is patented under U. S. Patent No. 1,942,495 and Re-issue 19607; other patents pending. Ohmite Rheostat Models H. J. K. L, and N, all marked Series A, are listed under the Underwriters' Laboratories Reexamination Service.

RATING: The current carrying capacities shown in the tables are for use in free air; when units are enclosed, these currents should be reduced possibly as much as $30 \%$ to $50 \%$, depending upon the degree of ventilation. The rated current will cause the rheostat to dissipate its rated wattage when the full resistance is in the circuit.


## MODEL "G" - 75 WATT

 Diameter $23 / 4^{\prime \prime}$ —Depth behind panel $13 / 4^{\prime \prime}$-Shaft $1 / s^{\prime \prime}$ Diameter.Rotation $300^{\prime \prime}$-Mounting for panels up to $1 / 4^{\prime \prime}$ by means of $3 / 8^{\prime \prime}-32$
 Bushing and Hex. Nut-Non-turn kug requires ${ }^{\text {renter of }}$

| Stock No. | Total <br> Ohms | Max. <br> Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | Total Ohms | Max. Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1100 | 0.5 | 12.300 | \$10.57 | 1112 | 200 | . 612 | \$9.72 |
| 1101 | 1 | 8.660 | 10.57 | 1113 | 300 | . 540 | 9.72 |
| 1102 | 2 | 6.120 | 10.57 | 1114 | 400 | . 433 | 9.72 |
| 1103 | 3 | 5.000 | 10.57 | 1115 | 500 | .3*8 | 9.72 |
| 1104 | 5 | 3.880 | 9.72 | 1116 | 750 | .3:6 | 10.57 |
| 1105 | 7.5 | 3.160 | 9.72 | 1117 | 1,000 | . 2.4 | 10.57 |
| 1106 | 10 | 2.740 | 9.72 | 1118 | 1,500 | .224 | 10.57 |
| 1107 | 16 | 2.170 | 9.72 | 1119 | 2,000 | . 144 | 10.57 |
| 1108 | 25 | 1.730 | 9.72 | 1120 | 2,500 | .173 | 10.57 |
| 1109 | 50 | 1.230 | 9.72 | 1121 | 5,000 | .123 | 11.28 |
| 1110 | 75 | 1.000 | 9.72 | 1122 | 7,500 | .140 | 12.12 |
| 1111 | 100 | . 866 | 9.72 | 1123 | 10,000 | . 087 | 12.12 |

## MODEL "K", Series A - 100 WATT

Diameter $31 / 8^{\prime \prime}$ —Depth behind panel $13 / 4^{\prime \prime}$-Shaft $1 / 4^{\prime \prime}$ Diameter. Rotation $300^{\circ}$-Mounting for panels up to $1 / 4^{\prime \prime}$ by means of $3 / 8^{\prime \prime}-32$ Bushing and Hex. Nut-Non-turn lug requires $\mathrm{I}^{\prime \prime}$ " hale $1 / 2^{\prime \prime \prime}$ below Bushing and Hex. Nut-Non-turn Kug requires

| Stock No. | Total <br> Ohms | Max. <br> Amps. | List Price | Stock No. | Total Ohms | Max. Amps. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.440 | 0.5 | 14.100 | \$11.70 | 0452 | 200 | . 707 | \$10.95 |
| 0441 | 1 | 10.000 | 11.70 | $0 \cdot 45$ | 300 | . 575 | 10.95 |
| 0442 | 2 | 7.070 | 11.70 | 0454 | 400 | . 500 | 10.95 |
| 0443 | 3 | 5.750 | 11.70 | 0-45 | 500 | .417 | 10.95 |
| 0444 | 5 | 4.470 | 11.70 | 0.456 | 750 | . 365 | 10.95 |
| 0445 | 7.5 | 3.650 | 10.95 | 0.157 | 1,000 | . 316 | 11.70 |
| 0446 | 10 | 3.160 | 10.95 | 0.458 | 1,500 | . 258 | 11.70 |
| 0447 | 16 | 2.500 | 10.95 | 0.459 | 2,000 | .22.4 | 11.70 |
| 0448 | 25 | 2.000 | 10.95 | 0460 | 2,500 | . 200 | 11.70 |
| 0449 | 50 | 1.410 | 10.95 | 0461 | 5,000 | .141 | 12.47 |
| 0450 | 75 | 1.150 | 10.95 | 0462 | 7,500 | . 115 | 13.28 |
| 0451 | 100 | 1.000 | 10.9\% | 0.463 | 10,000 | .100 | 14.03 |

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## VITREOUS ENAMELED RHEOSTATS



Model " $L$ "
MODEL "L", Series A - 150 WATT
Diameter 4"—Depth behind panel 2"—Shaft 1/4" Diameter. Rotation $300^{\circ}$-Mounting for panels up to $1 / 4^{\prime \prime}, 3 / 8^{\prime \prime}-32$ Bushing and Hex. Nut or two $10-32 \times 3 / 4$ fhat head screws. mounting centers $7 / 8$ " each side of center of shaft on line perpendicular to center ter-minal.-Stock No. 5150 Knob Supplied.

| Stock No. | Total Ohms | Max. Amps. | List Price | Stock No. | Tozal <br> Ohms | Max. Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.524 | 0.5 | 17.300 | \$14.83 | 05:37 | 150 | 1.001 | \$14.03 |
| 0525 | 1 | 12.300 | 14.83 | 0538 | 200 | .86. | 14.03 |
| 0526 | 2 | 8.650 | 14.83 | 05.39 | 250 | . 77 : | 14.03 |
| 0527 | 3 | 7.070 | 14.83 | 0.540 | 350 | . 65.7 | 14.03 |
| 0528 | 5 | 5.480 | 14.83 | (0). 41 | 500 | . 548 | 14.03 |
| 0509 | 7.5 | 4.470 | 14.83 | 0.42 | 750 | . $44{ }^{\circ}$ | 14.83 |
| 05150 | 10 | 3.880 | 14.03 | 0.543 | 1,250 | . 346 | 14.83 |
| 0.531 | 15 | 3.613 | 14.03 | 0544 | 1,80) | . 288 | 15.61 |
| 0532 | 25 | 2.450 | 14.03 | 0545 | 2.250 | . 259 | 15.61 |
| 0533 | 35 | 2.070 | 14.03 | 0546 | 3,00)(1 | . 221 | 15.61 |
| 0534 | 50 | 1.735 | 14.03 | 0517 | 1,506 | . 182 | 16.36 |
| 0535 | 75 | 1.415 | 14.03 | 05.48 | 7,50( | . 141 | 17.17 |
| 0.536 | 100 | 1.225 | 14.03 | 05.49 | 10,9)00 | 122 | 18.72 |

MODEL "P" - 225 WATT
Diameter $5^{\prime \prime}$-Depth behind panel $21 / 8^{\prime \prime}$-Shraft, $3 / 8^{\prime \prime}$ Diameter. Rotation $310^{\circ}$-Mounting for panels up to $11 / 4^{\prime \prime}$, two $1 / 4^{\prime \prime}-20 \mathrm{x}$ $11 / 2^{\prime \prime}$ flat head screws, mounting centers $7 / \mathrm{s}^{\prime \prime}$ each side of center of shaft on center line of cross-bar.-Sotck No. 5105 Kneb Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

| Stock No. | Total <br> (Ohms | Max. Amps. | List Price | Stock No. | Total Ohms. | Max. Amps. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1250 | 1 | 15.000 | \$19.43 | 1261 | 100 | 1.500 | \$19.4.3 |
| 1251 | 2 | 10.600 | 19.43 | 1262 | 150 | 1.220 | 19.43 |
| 1252 | 3 | 8.660 | 19.43 | 1263 | 200 | 1.040 | 19.43 |
| 1253 | 4 | 7.500 | 19.43 | 126.4 | 300 | .886 | 19.43 |
| 1254 | 5 | 6.710 | 19.43 | 126\% | 100 | .7.00 | 19.43 |
| 1255 | 7.5 | 5.490 | 19.43 | 1266 | 700 | . 5177 | 19.43 |
| 1256 | 10 | 4.740 | 19.43 | 1267 | 90 C | . 5110 | 19.43 |
| 1257 | 15 | 3.870 | 19.43 | 1268 | 1,200 | .4:13 | 19.43 |
| 1258 | 25 | 3.000 | 19.43 | 1269 | 1,500 | . 337 | 19.4 |
| 1259 | 50 | 2.120 | 19.43 | 1270 | 1,750 | . 338 | 19.43 |
| 1260 | 75 | 1.730 | 19.43 | 1271 | 2,500 | . 300 | 19.43 |

## MODEL "N", Series A - 300 WATT

Diameter $6^{\prime \prime}$-Depth behind panel $23 / 8^{\prime \prime}$ —Shaft $3 / \mathbf{R}^{\prime \prime}$ Diameter. Rotation $315^{\circ}$-Mounting for panels up to $11 / 4^{\prime \prime}$, two $1 / 4^{\prime \prime}-20 \times$
 11/2 fat head screws, mounting centers 1 nit each side of center of Three 8-32 Terminal Screws. Nuts and Washers are supplied.

| Stock <br> No. | Total Ohms | Max. Атря. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Stork } \\ & \text { No. } \end{aligned}$ | Total Ohmes | Max. Amps. | List <br> Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0650 | 1 | 17.320 | \$21.06 | 0661 | 100 | 1.730 | \$21.06 |
| 0651 | 2 | 12.240 | 21.06 | 0662 | 150 | 1.410 | 21.06 |
| 0652 | 3 | 10.000 | 21.06 | 066; | 200 | 1.230 | 21.06 |
| 0653 | 4 | 8.660 | 21.06 | 066.4 | 300 | 1.030 | 21.06 |
| 0654 | 5 | 7.750 | 21.06 | 0665 | 400 | . 866 | 21.06 |
| 0655 | 7.5 | 6.320 | 21.06 | 0666 | 700 | . 655 | 21.06 |
| 0656 | 10 | 5.480 | 21.06 | 0 ¢67 | 900 | . 578 | 21.06 |
| 0657 | 15 | 4.470 | 21.06 | 0668 | 1,200 | . 00 | 21.06 |
| 06.58 | 23 | 3.460 | 21.06 | 0669 | 1,500) | . 447 | 21.06 |
| 6659 | 50 | 2.450 | 21.06 | 0670 | 1,75i) | . 414 | 21.06 |
| 0660 | 75 | 2.000 | 21.06 | 0671 | 2.500 | . 346 | 21.06 |



Models " $N$ " and" " $R$ " (" $P$ ", " $T$ " and " $U$ " Similar)

MODEL "R" - 500 WATT
Diameter $8^{\prime \prime}$ - Depth behird panel 2 L" Shaft $3 / 8^{\prime \prime}$ " Diameter, Rotation $325^{\circ}$-Mounting for punels up to $11 / 4^{\prime \prime}$, two $1 / 4^{\prime \prime}-20 \times 11 / \mathbf{c}^{\prime \prime}$ flat head screws, mounting centers $1 / 3$ each side of center of shaft on center line of cross-bar-Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nirs and Washers are supplied.

| Stock No. | Total <br> Ohms | Max. Amps. | List I'rice | Stork No. | Total <br> 1)hms | Max. Amps. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0849 | 1.0 | 22.300 | \$31).45 | 0872 | 50 | 3.160 | \$30.45 |
| 0850 | 1.5 | 18.200 | 30.45 | 0861 | 80 | 2.520 | 30.45 |
| 0851 | 2 | 15.800 | 30.45 | 0862 | $12 \%$ | 2.000 | 30.45 |
| 0852 | 2.5 | 14.10*) | 30.45 | 086: | 175 | 1.690 | 30.45 |
| 0853 | 3 | 12.900 | 30.45 | 086.4 | 250 | 1.410 | 30.45 |
| $08 \% 4$ | 4 | 11.200 | 30.45 | 0865 | 325 | 1.240 | 30.45 |
| 085 | 5 | 10.00) | 30.45 | 0866 | 500 | 1.000 | 30.45 |
| 0856 | 8 | 7.900 | 30.45 | 0867 | 750 | .817 | 30.45 |
| 0857 | 12.5 | 6.300 | 30.45 | 0868 | 1,000 | . 707 | 30.4. |
| 0858 | 16 | 5.600 | 30.45 | 0869 | 1,500 | . 577 | 30.15 |
| 0859 | 25 | 4.470 | 30.4.i | 087\% | 2.000 | .500 | 30.45 |
| 0860 | 40 | 3.540 | 30.4 ii | 0871 | 2,500 | .147 | 311.45 |

## MODEL "T" - 750 WATT

Diameter $10^{\prime \prime}$-Depth behind panel $3^{\prime \prime}$-Shaft $3 / 8^{\prime \prime}$ Diameter. Rotation $330^{\circ}$-Mounting for panels up to $11 / 4$ ", two $1 / 4 "-20 \mathrm{x}$ $11 / 2^{\prime \prime}$ flat head screws, mounting centers $17 / 8^{\prime \prime}$ each side of center of haft on center line of cross-bar.-Stock No. 5105 Knob Supplied. Three 8-32 Terminal Screws, Nuts and Washers are supplied.

| Stock No. | Total <br> Ohms | Max. <br> Amps. | List, <br> Price | Stork No. | Total <br> (1)hms | Max. Amps. | List Irice |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1309 | 1 | 27.400 | \$12.97i | 1:31: | 51 | 3.870 | \$42.97 |
| 1301 | 1.5 | 22.300 | 12.97 | 1:31:1 | 81 | 3.060 | 42.97 |
| 1:302 | 2 | 19.430 | $12.9 \%$ | 1:315 | 100 | 2.740 | 42.97 |
| 1:303 | 2.) | 17.300 | 12.9 ${ }^{\text {E* }}$ | 131.5 | 160 | 2.170 | 42.97 |
| 1:30.4 | 3 | 1.5.800 | 12.97 | 1316 | 200 | 1.940 | 42.97 |
| $130 \%$ | 4 | 13.600 | 12.9\% | 1315 | 3101 | 1.580 | 42.97 |
| 130ti | 5 | 12.2(\%) | $42.9 \%$ | 131\% | $4(10)$ | 1.370 | 42.97 |
| 1307 | 8 | 9.650 | 42.9\% | 131:4 | 600) | 1.117 | 42.97 |
| 1308 | 10 | $8.651)$ | $42.9 \%$ | 1320 | 750 | 1.000 | 42.97 |
| 1:30! | 12.5 | 7.750 | 42.98 | 1331 | 1.2010 | . 741 | 42.97 |
| 1310 | 16 | 6.820 | $42.9 \%$ | 1332 | 1.800 | . 6.46 | 42.97 |
| 1311 | 25 | 5.470 | 42.9 \% | 1332? | 2,500 | . 8.47 | 42.97 |

## MODEL "U" - 1000 WATT

Diameter $12^{\prime \prime}$ - Depth behind panel $3^{\prime \prime}$ - Shaft $3 / 8^{\prime \prime}$ Diameter. Rotation $335^{\circ}$-Mounting for panels up to $11 / 4$ ", two $1 / 4 "-20 \mathrm{x}$ $11 / 2^{\prime \prime}$ flat head screws, mounting centors $3^{\prime \prime}$ each side of center of shaft on center line of crows-bar.-Stock No, 5105 Knob Supplied. Three 8-32 Terminal Scrisws. Nuts ant Washers are supplied.

| Stock No. | Total Ohms | Max. <br> Amps. | $\begin{aligned} & \text { Lisi } \\ & \text { Prico? } \end{aligned}$ | Stock Nu. | Tutal <br> (Dhms | Max. <br> Amps. | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1450 | 1 | 31.600 | \$50.22 | 146* | 50 | 4.470 | \$50.22 |
| 1451 | 1.5 | 25.800 | 50.22 | 1.16: | 75 | 3, 3.50 | 50.22 |
| 1452 | 2 | 22.400 | 50.27 | 1464 | 100 | 3.160 | 50.22 |
| 1453 | 2.5 | 20.000 | 50.182 | 146\% | 175 | 2.390 | 50.22 |
| 1454 | 3 | 18.300 | 50.28 | 146\% | 225 | 2.110 | 50.22 |
| 145\% | 4 | 15.800 | 50.22 | 146 | 300 | 1.830 | 50.22 |
| 1456 | 5 | 14.100 | 50.18 | 1.163 | 400 | 1.580 | 50.22 |
| 1457 | 8 | 11.200 | 50.12 | 1469 | 500 | 1.410 | 50.22 |
| 1458 | 10 | 10.000 | 50.22 | 1470 | 750 | 1.150 | 50.22 |
| 1459 | 12.5 | 8.950 | 50.2 | 1471 | 1,000 | 1.000 | 50.22 |
| 1460 | 16 | 7.900 | 50.2 | 1475 | 1,500 | . 816 | 50.22 |
| 1461 | 25 | 6.3330 | 50.2 \% | 1473 | 2,500 | . 633 | 50.22 |

# BE RIGHT HMITE 

OHMITE＂LITTLE DEVIL＂® RESISTORS


Ohmite＂Little Devils＂are full $1 / 2$ Watt， 1 Watt and 2 Watt Insulated Composition Resistors and can be used at their full wattage ratings at $70^{\circ}$ C．（ $158^{\circ} \mathrm{F}$ ．）ambient tempera－ ture．They meet requirements of spec－ ification JAN－R－11．
＂LITTLE DEVILS＂are available from stock in $1 / 2,1$ and 2 watt sizes with $\pm 5 \%$ or $\pm 10 \%$ rolerance．The standard RMA values， 10 ohms to 22 megohms can be furnished．In the 1 watt size，$\pm 10 \%$ tolerance values as low as 2.7 ohms are available from stock．

## Stocked in RETMA Values $\pm 5 \%$ or $\pm 10 \%$ Tolerance

 （Figures in bold type are $\pm 10 \%$ RETMA values．All values except（＊） available in $\pm 5 \%$ tolerance．）| （1）hms | Ohms | Ohms | Ohms | Megs． |
| :---: | :---: | :---: | :---: | :---: |
| ＊2． 7 | 110 | 2.100 | 51，000 | 1.1 |
| ＊3．3 | 120 | 2.700 | 56，000 | 1.2 |
| ＊3．9 | 130 | 3，000 | 62，000 | 1.3 |
| ＊．4．7 | 150 | 3，300 | 68，000 | 1.5 |
| ＊5．6 | 160 | 3，600 | 75，000 | 1.6 |
| ＊6．8 | 180 | 3，900 | 82，000 | 1.8 |
| ＊ 8.2 | 200 | 4，300 | 91，000 | 2.0 |
| 10 | 220 | 4，700 | MESS | 2.2 |
| 11 | 240 | 5，：00 | 0.1 | 2.4 |
| 12 | 270 | 5，600 | 0.11 | 2.7 |
| 13 | 300 | 6，200 | 0.12 | 3.0 |
| 15 | 330 | 6，800 | 0.13 | 3.3 |
| 16 | 360 | 7，500 | 0.15 | 3.6 |
| 18 | 390 | 8，200 | 0.16 | 3.9 |
| 20 | 430 | 9，100 | 0.18 | 4.3 |
| 22 | 470 | 10，000 | 0.20 | 4.7 |
| 24 | 510 | 11，000 | 0.22 | 5.1 |
| 27 | 560 | 12，000 | 0.24 | 5.6 |
| 30 | 620 | 1：3，000 | 0.27 | 6.2 |
| 33 | 680 | 15，000 | 0.30 | 6.8 |
| 36 | 750 | 16，000 | 0.33 | 7.5 |
| 39 | 820 | 18，000 | 0.36 | 8.2 |
| 43 | 910 | $\because 0,000$ | 0.39 | 4.1 |
| 47 | 1.000 | 22，000 | 0.43 | 10.0 |
| 51 | 1，100 | 21，000 | 0.17 | 11.0 |
| 56 | 1，200 | 27.1000 | 0.51 | 12.0 |
| 6； | 1，300 | 331，000 | 0.56 | 13.0 |
| 68 | 1，500 | 33，000 | 0.69 | 15.0 |
| 75 | 1，500 | ：36， 1100 | 0.68 | 14.0 |
| 82 | 1，800 | 3！ 3 ， 1000 | 0.75 | 18.0 |
| 91 | 2，000 | 4：1，000 | 0.82 | $\because 0.0$ |
| 100 | 2，200 | 47，000 | $\begin{aligned} & 0.91 \\ & 1.01 \end{aligned}$ | 22.0 |

＊1 Watt Size Only．$\pm 10 \%$ tolerance．

| Type | size <br> L．gth．Diam | Max． Volts | $\begin{aligned} & \text { List } \\ & \text { Pric } \\ & \pm 10 \% \end{aligned}$ | $\begin{aligned} & \text { list } \\ & \text { 1rice } \\ & \pm 5 \% \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1／2 Watt | $3 / 8{ }^{\prime \prime} \quad 9{ }_{61}{ }^{\prime \prime}$ | 350 | 17c | 33c |
| 1 Watt |  | 500 | 25 c | $10 \stackrel{50 \mathrm{c}}{\mathrm{Ohms}}$ and up |
| 2 Wat | s作 | 1，000 | 33 c | 6fic |

## Popular OHMITE＂BROWN DEVIL＂® RESISTORS



5 Watt－1＂$\times 5 / 16^{\prime \prime}$ Core Size

| Ohms | Mils． | Ohms | Mils． | Ohms |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mils． |  |  |  |  |
| 1 | 2,236 | 125 | 200 | 1,250 | 63 |
| 1.5 | 1,820 | 150 | 182 | 1,500 | 57 |
| 2 | 1,580 | 200 | 158 | 1,750 | 53 |
| 3 | 1,290 | 225 | 149 | 2,000 | 49 |
| 4 | 1,120 | 250 | 141 | 2,250 | 46 |
| 5 | 1,000 | 300 | 129 | 2,500 | 44 |
| 7.5 | 818 | 350 | 120 | 3,000 | 39 |
| 10 | 707 | 400 | 112 | 3,500 | 36 |
| 12 | 645 | 450 | 105 | 4,000 | 33 |
| 15 | 575 | 500 | 100 | 4,500 | 31 |
| 20 | 500 | 600 | 91 | 5,000 | 29 |
| 25 | 447 | 700 | 84 | 6,000 | 26 |
| 30 | 408 | 750 | 81 | 7,000 | 24 |
| 35 | 378 | 800 | 79 | 7,500 | 22 |
| 40 | 353 | 900 | 74 | 8,000 | 21 |
| 50 | 316 | 1,000 | 70 | 9,000 | 14 |
| 75 | 258 | 1,100 | 67 | 10,000 | 18 |
| 100 | 224 | 1,200 | 64 |  |  |

List Price， 1 thru 1，000 ohms．
List Price， 6,000 hru i） 000 hms


## WITH WELDED TERMINALS

High quality，small size，wire－wound resistors ideal for voltage dropping． bias units，bleeders，etc．They＇re extra－ sturdy，all－ceramic，vitreous enameled． These all－welded construction units have welded high－strength alloy termi－ nals．For perfect electrical connection． the resistance wire is welded to the terminal．They give time－proved pro－ tection against shock，vibration，heat and humidity．Their long record of continuous trouble－free service－their wide use in all climates of the world －prove their complete reliability and economy．All units can be convenient－ ly mounted by means of their $1 / 2^{\prime \prime}$ tinned wire leads．

## 20 Watt－ $2^{\prime \prime} \times 7 / 16^{\prime \prime}$ Cole Size

| Ohms | Mils． | Ohms | Mils． | Ohms | Mils． |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 2，000 | 1，250 | 126 | 12，500 | 35 |
| 10 | 1，414 | 1，500 | 115 | 15，000 | 30 |
| 25 | 1，89．4 | 1，750 | 107 | 20，000 | 24 |
| 50 | 632 | 1，850 | 101 | 25，000 | 20 |
| 75 | 516 | 2，000 | 100 | 30，000 | 17 |
| 100 | 447 | 2，250 | 9.4 | 35，000 | 15 |
| 150 | 365 | 2，400 | 91 | 40，000 | 14 |
| 200 | 316 | 2，500 | 89 | 45，000 | 13 |
| 250 | 28：3 | 2，750 | 85 | 50，000 | 12 |
| 300 | 258 | 3，000 | 81 | 55，000 | 10 |
| 350 | 239 | 3，500 | 75 | 60，000 | 9 |
| 400 | 223 | 4.000 | 70 | 65，000 | 8 |
| 500 | 200 | 4，500 | 66 | 70，000 | － |
| 650 | 175 | 5,000 | 63 | 75，000 | i |
| 700 | 169 | 6，000 | 57 | 80,000 | T |
| 750 | 163 | 7，000 | 53 | 85，000 | 6 |
| 800 | 158 | 7，500 | 51 | 90，000 | 6 |
| 850 | 153 | 8，000 | 50 | 95.000 | 6 |
| 1，000 | 111 | 9.000 | 47 | 100，000 | 6 |
| 1，200 | 129 | 10，000 | 43 |  |  |

List Price， 5 thru 1,000 ohms．
．．．

List Price， 1,200 thru 5,000 ohms ．．．．．．． 97
List Price，6，000 thru 10,000 ohms ．．．．． 1.12
List Price，12，500 thru 20，000 ohms，．．． 1.20
List Price，25，000 thru 40,000 ohms ．．．． 1.37
List I＇rice， 45,000 thru 60,000 ohms ．．．． 1.58
List Price，65，000 thru 80,000 ohms ．．．． $1.8: 3$
1，ist Price，85，000 thru 100,000 ohms ．．．，2．11

10 WATT DIVIDOHM ${ }^{(3)}$ ADJUSTABLE RESISTORS

Adjustabla Res．Adjustable Rus．

| Adjustatila Rus． |  |  | Adjustabl（ Res． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Rい心． <br> （1hms | $\begin{aligned} & \text { Max. } \\ & \text { Mils. } \end{aligned}$ | $\begin{aligned} & \text { Surk } \\ & \text { No. } \end{aligned}$ | Res． 1）hms | $\begin{aligned} & \text { Max. } \\ & \text { Mils. } \end{aligned}$ | $\begin{aligned} & \text { Stock } \\ & \text { No. } \end{aligned}$ |
| 1 | 3，150 | 1001 | 75 | 365 | 1011 |
| 2 | 2，2：35 | 1002 | 100 | 316 | 1012 |
| 3 | 1，825 | $100: 3$ | 150 | 258 | 1013 |
| 5 | 1，415 | 10114 | 200 | 223 | 1014 |
| 7.5 | 1，155 | 1005 | 250 | 200 | 1015 |
| 10 | 1，000 | 1006 | 300 | 182 | 1016 |
| 15 | 816 | 1007 | 350 | 169 | 1017 |
| 20 | 707 | 1008 | 400 | 158 | 1018 |
| 25 | 6；32 | 1009 | 500 | 141 | 1019 |
| 50 | 4.17 | 1010 | 600 | 129 | 1020 |


| Adjustahlo les． |  |  | Adjustable Russ． |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res． （）hms | Max. Mils. | Stock No． | lees． <br> （）hms | Max． Mils． | $\begin{aligned} & \text { Nuck } \\ & \text { No. } \end{aligned}$ |
| 750 | 115 | 1021 | 1,000 | 17 | 10.31 |
| 800 | 111 | 102\％ | 4,500 | 15 | 1032 |
| 1，000 | 100 | 102：3 | 5，000 | 4.3 | 10333 |
| 1，250 | 89 | 1024 | 6，000 | 38 | 1034 |
| 1，500 | 79 | 1025 | 7，000 | 3.4 | 1035 |
| 2，000 | 69 | 1026 | 7，500 | 3：3 | 10.36 |
| 2，250 | 61 | 1027 | 8,000 | \＄1 | 1037 |
| 2，500 | 63 | 1028 | 8，500 | 29 | $10: 38$ |
| 3，000 | 56 | 1029 | 9，000 | 28 | 1039 |
| 3,500 | 51 | 1030 | 10，000 | 26 | 10.40 |
| List Price， 1 thru 1,000 ohms．．．．．．．．．$\$ 1.47$ |  |  |  |  |  |
| list Price， 1,250 thru 5,000 ohms ．．．．．． 1.53 |  |  |  |  |  |
| List Pri | e，6，00 | thru | ，000 oh | ms．．． | ． 1.63 |

## B E <br> RIGHT <br> W ITH <br> HMITE

## OHMITE VITREOUS ENAMELED FIXED AND DIVIDOHM ${ }^{\circledR}$ RESISTORS



25 WATTS
Core Size $2^{\prime \prime} x^{9}$
Fixenting Centers 28 Stock List. $\frac{\text { Adj. Resist. }}{\text { Stock List }}$ Res.

| Res. Ohms | Max. Mils. | Fixed Resist. |  | Adj. Ressist. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Stock No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | List Price |
| 1 | 5,000 | 0200 J | \$0.97 | 0360 | \$1.87 |
| 2 | 3,535 | 0200K | . 97 | 0360B | 1.87 |
| 3 | 2,885 | 0200L | . 97 | 0361 | 1.87 |
| 5 | 2,2:35 | 0200A | . 97 | 0362 | 1.87 |
| 7.5 | 1,825 |  |  | 0362 B | 1.87 |
| 10 | 1,580 | 0200B | . 97 | 0363 | 1.87 |
| 15 | 1,290 | 0200R | . 97 | 0364 | 1.87 |
| 20 | 1,117 |  |  | $0: 364$ B | 1.87 |
| 25 | 1,000 | 0200C | . 97 | 0365 | 1.87 |
| 50 | 707 | 0200 D | . 97 | 0366 | 1.87 |
| 75 | 577 | 0200E | . 97 | 0367 | 1.87 |
| 100 | 500 | 0200F | . 97 | 0368 | 1.87 |
| 150 | 408 | 0200G | . 97 | 0369 | 1.87 |
| 200 | 353 | 0200H | . 97 | 0370 | 1.87 |
| 250 | 316 | 0201 | . 97 | 0371 | 1.87 |
| 300 | 288 |  |  | 037113 | 1.87 |
| 400 | 250 |  |  | 0371C | 1.87 |
| 500 | 223 | 0202 | . 97 | 0372 | 1.87 |
| 750 | 182 | 0203 | . 97 | 0373 | 1.87 |
| 800 | 176 | 0204 | . 97 | 0374 | 1.87 |
| 1,000 | 158 | 0205 | . 97 | 0375 | 1.87 |
| 1,250 | 141 |  |  | 037513 | 1.88 |
| 1,500 | 129 | 0206 | 1.03 | 0376 | 1.88 |
| 2,000 | 111 | 0207 | 1.03 | ${ }^{0377}$ | 1.88 |
| 2,250 | 105 |  |  | 037713 | 1.88 |
| 2,500 | 100 | 0208 | 1.03 | 0378 | 1.88 |
| 3,000 | 91 | 0209 | 1.03 | 0379 | 1.88 |
| 3,500 | 84 | 0210 | 1.03 | 0380 | 1.88 |
| 4,000 | 79 | 0211 | 1.03 | 0381 | 1.88 |
| 4,500 | 74 |  |  | 0381 B | 1.88 |
| 5.000 | 70 | 0212 | 1.03 | 0382 | 1.88 |
| 6,000 | 64 | 0213 | 1.14 | 03883 | 2.03 |
| 7,000 | 60 |  |  | 038:314 | 2.03 |
| 7,200 | 59 |  |  | 0383 C | 2.03 |
| 7,500 | 57 | 0214 | 1.14 | 0384 | 2.03 |
| 8,000 | 55 |  |  | 038413 | 2.03 |
| 9,000 | 52 |  |  | 0384C | 2.03 |
| 10,000 | 50 | 0215 | 1.14 | 0385 | 2.03 |
| 12,000 | 42 | 0216 | 1.19 | 0386 | 2.08 |
| 15,000 | 34 | 0217 | 1.19 | 0387 | 2.08 |
| 20,000 | 26 | 0218 | 1.19 | 0388 | 2.08 |
| 25,000 | 21 | 0219 | 1.36 | 0389 | 2.28 |
| 40,000 | 1.4 | 0222 | 1.36 |  |  |
| 50,000 | 12 | 0224 | 1.56 |  |  |
| 100,000 | 7 | 0229 | 2.11 |  |  |

100 WATTS
Core Size $61 / 2^{\prime \prime} x^{8} / 4^{\prime \prime} \quad$ Mounting Centers $73 /{ }^{\prime \prime}$

|  | Fixed Resist. | Adj. Resist |
| :--- | :--- | :--- |


| Res. | Max. | Stock | List | Stock | 1,ist |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | Mils. | No. | Price | No. | Price |



50 WATTS
Core Size $4^{\prime \prime} x^{9}{ }_{6}{ }^{n \prime} \quad$ Mounting Centers 48/4

| Res. Ohms | Max. Mils. | Fixed Resist. |  | Adj. Resist. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Stuck No. | List Price | Stock No. | List Price |
| 5 | 3,160 | 0400 A | \$1.63 | 0560 | \$2.37 |
| 10 | 2,2:35 | 0400B | 1.63 | 0561 | 2.37 |
| 25 | 1,414 | 0.100C | 1.63 | 0562 | 2.37 |
| 50 | 1,000 | 0.4001 | 1.63 | 0563 | 2.37 |
| 75 | 816 | 0400E | 1.63 | 0.56 .4 | 2.37 |
| 100 | 707 | 0400F | 1.63 | 0565 | 2.37 |
| 150 | 577 | 0400G | 1.63 | 0566 | 2.37 |
| 200 | 500 | 0400 H | 1.63 | 0567 | 2.37 |
| 250 | 4.47 | 0.401 | 1.63 | 0568 | 2.37 |
| 300 | 408 |  |  | 056813 | 2.37 |
| 400 | 353 |  |  | 0568 C | 2.37 |
| 500 | 316 | 0.402 | 1.63 | 0569 | 2.37 |
| 750 | 258 | 0.103 | 1.63 | 0570 | 2.37 |
| 1,000 | 223 | 0.405 | 1.63 | 0.572 | 2.37 |
| 1,250 | 200 |  |  | 0572 B | 2.47 |
| 1,500 | 182 | 0.406 | 1.75 | 0.573 | 2.47 |
| 2,000 | 158 | 0407 | 1.75 | 0574 | 2.47 |
| 2,500 | 141 | 0.408 | 1.75 | 0575 | 2.47 |
| 3,000 | 129 | 0409 | 1.75 | 0576 | 2.47 |
| 3,500 | 119 |  |  | 057613 | 2.47 |
| 4,000 | 111 | 0410 | 1.75 | 0577 | 2.47 |
| 4,500 | 105 |  |  | 057713 | 2.47 |
| 5,000 | 100 | 0.411 | 1.75 | 0578 | 2.47 |
| 6,000 | 91 |  |  | 0578 B | 2.63 |
| 7,000 | 84 |  |  | 0578 C | 2.63 |
| 7,500 | 81 | 0412 | 1.92 | 0579 | 2.63 |
| 8,000 | 79 | 0413 | 1.92 | 0580 | 2.63 |
| 9,000 | 74 |  |  | 0580 B | 2.63 |
| 10,000 | 70 | 0414 | 1.92 | 0.581 | 2.63 |
| 12,000 | 64 | 0415 | 2.08 | 0582 | 2.83 |
| 15,000 | 57 | 0.416 | 2.08 | 0583 | 2.83 |
| 20,000 | 48 | 0417 | 2.08 | 0584 | 2.83 |
| 25,000 | 41 | 0418 | 2.33 | 0585 | 3.08 |
| 30,000 | 36 |  |  | 0586 | 3.08 |
| 35,000 | 32 | 0419 | 2.33 |  |  |
| 40,000 | 28 |  |  | 0.587 | 3.08 |
| 50,000 | 23 | 0420 | 2.58 | 0.588 | 3.30 |
| 60,000 | 19 |  |  | 0589 | 3.30 |
| 75,000 | 16 | 0421 | 2.92 |  |  |
| 80,000 | 15 |  |  | 0590 | 3.67 |
| 100,000 | 12 | 0.422 | 3.20 | 0591 | 3.92 |

## 160 WATTS

Core Size $81 / 2^{\prime \prime} \times 11 / 8^{\prime \prime} \quad$ Mounting Centers $93 / 8^{\prime \prime}$ Fixed Resist. Adj. Resist.

## Ress Ohm

Ohms Max. Stock I
 5 Mils

| Res. Ohms | Max. Mils. | Stock No | List Price | Stock No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 5 | 5,660 | 0700A | \$4.16 | 1156 | \$5.33 |
| 10 | 4,000 | 070013 | 2.98 | 1157 | 1.14 |
| 25 | 2,530 | 0701 | 2.98 | 1158 | 4.11 |
| 50 | 1.788 | 0702 | 2.98 | 1159 | 4.14 |
| 75 | 1,460 | 0703 | 2.98 |  |  |
| 100 | 1,265 | 0704 | 2.98 | 1160 | 4.14 |
| 150 | 1,032 | 0705 | 2.98 |  |  |
| 250 | 800 | 0706 | 2.98 | 116013 | 4.14 |
| 500 | 566 | 0707 | 2.98 | 1161 | 4.14 |
| 750 | 462 | 0708 | 2.98 |  |  |
| 1,000 | 400 | 0709 | 2.98 | 1162 | 4.1.4 |
| 1.500 | 326 | 0710 | 3.04 | 1162 B | 4.19 |
| 2,000 | 283 | 0711 | 3.04 |  |  |
| 2,500 | 253 | 0712 | 3.04 | 1163 | 4.19 |
| 3,000 | 231 | 0713 | 3.04 |  |  |
| 5,000 | 179 | 0714 | 3.04 | 1164 | 4.19 |
| 7,500 | 146 | 0715 | 3.30 |  |  |
| 10,000 | 126 | 0716 | 3.30 | 1165 | 4.44 |
| 15,000 | 103 | 0717 | 3.54 | 1166 | 4.69 |
| 20,000 | 89 | 0718 | 3.54 | 1167 | 4.69 |
| 25,000 | 80 | 0719 | 3.64 | 1168 | 4.81 |
| 30,000 | 67 | 0720 | 3.64 | 1169 | 4.81 |
| 40,000 | 50 | 0721 | 3.64 | 1170 | 4.81 |
| 50,000 | 40 | 0722 | 3.76 | 1171 | 4.94 |
| 60.000 | 34 | 0723 | 3.76 |  |  |
| 75,000 | 27 | 0724 | 4.03 | 1172 | 5.17 |
| 100,000 | 21 | 0725 | 4.26 | 1173 | 5.44 |

These all-welded construction resistors have welded high-strength alloy terminals. For perfect electrical connection, the resistance wire is welded to the terminal. Units are wire-wound on ceramic cores and protected by Ohmite Vitreous Enamel. Furnished with mounting brackets and on DIVIDOHM with one adjustable lug.

|  |  | 51 | T'ГS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Core Size $6^{\prime \prime} \mathrm{x}^{9}{ }_{16}{ }^{\prime \prime}$ |  |  | Mountin | Cen | rs $68 / 4^{\prime \prime}$ |
| Adjustable Res. |  |  | Adjustable Res. |  |  |
| Res. | Max. | Stock | Res. | Max. | Stock |
| Ohms | Mils. | No. | Ohms | Mils. | No. |
| 5 | 3,870 | 0769 | 5,000 | 122 | 0783 |
| 10 | 2,735 | 0770 | 6,000 | 111 | 0783 B |
| 15 | 2,236 | 0771 | 7,000 | 103 | 0783C |
| 25 | 1,732 | 0772 | 7,500 | 100 | 0784 |
| 50 | 1,224 | 0773 | 8,000 | 96 | 0784 B |
| 100 | 866 | 0774 | 9,000 | 91 | 078.1C |
| 200 | 612 | 0774 B | 10,000 | 86 | 0785 |
| 250 | 547 | 0775 | 12,000 | 79 | 0785B |
| 300 | 500 | 0775B | 15,000 | 70 | 0786 |
| 400 | 433 | 0775 C | 20,000 | 61 | 0787 |
| 500 | 387 | 0776 | 25,000 | 49 | 0788 |
| 750 | 316 | 0777 | 30,000 | 42 | 0789 |
| 1,000 | 273 | 0778 | 35,000 | 36 | 0790 |
| 1,250 | 245 | 0778B | 40,000 | 32 | 0791 |
| 1,500 | 223 | 0779 | 45,000 | 29 | 0792 |
| 2,000 | 193 | 0780 | 50,000 | 26 | 079:3 |
| 2,500 | 173 | 0781 | 60,000 | 22 | 0794 |
| 3,000 | 158 | 0781 B | 80.000 | 17 | 0795 |
| 3,500 | 1.46 | 0782 | 100,000 | 13 | 0796 |
| 4,000 | 136 | 0782 B |  |  |  |
| List Price, 5 thru 1,000 ohms. . . . . . . . . $\$ 2.75$ |  |  |  |  |  |
| List IPrice, 1,250 thru 5,000 ohms . . . . . . 2.83 |  |  |  |  |  |
| List IPrice, 6,000 thru 10,000 ohms . . . . . 3.00 |  |  |  |  |  |
| List Price, 12,000 thru 20,000 ohms . . . . 3.20 |  |  |  |  |  |
| List Price, 25,000 thru 40,000 ohms . . . . 3.53 |  |  |  |  |  |
| List IPrice, 45,000 thru 60,000 ohms . . . . 3.62 |  |  |  |  |  |
| List Price, 80,000 ohms . . . . . . . . . . . . . 3.97 |  |  |  |  |  |
| List Irice, 100,000 ohms |  |  |  |  |  |

200 WATTS
Core Size $101 / 2^{\prime \prime} \times 11 / \kappa^{\prime \prime}$ Mounting Centers $113 / 8^{\prime \prime}$

| Res. Ohms | Max. <br> Mils. | Fixed Resist. |  | Adj. Resist. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Stock No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Stock No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| 5 | 6,320 | 0900A | \$4.53 | 1356 | \$5.67 |
| 10 | 4,470 | 0900 B | 3.22 | 1357 | 4.37 |
| 25 | 2,828 | 0901 | 3.22 | 1:358 | 4.37 |
| 50 | 2,000 | 0902 | 3.22 | 1359 | 4.37 |
| 75 | 1,635 | 0903 | 3.22 |  |  |
| 100 | 1,414 | 090.4 | 3.22 | 1360 | 4.37 |
| 150 | 1,153 | 0905 | 3.22 |  |  |
| 250 | 89.4 | 0906 | 3.22 | 136013 | 4.37 |
| 500 | 6332 | 0907 | 3.22 | 1361 | 4.37 |
| 750 | 516 | 0908 | 3.22 |  |  |
| 1,000 | 4.47 | 0909 | 3.22 | 1362 | 4.37 |
| 1.500 | 3685 | 0910 | 3.30 | 136213 | 4.45 |
| 2,000 | 316 | 0911 | 3.30 |  |  |
| 3.500 | 28:3 | 0912 | 3.30 | 1363 | 4.45 |
| 3,000 | 258 | 0913 | 3.30 |  |  |
| 5,000 | 200 | 0914 | 3.30 | 1364 | 4.45 |
| 7.500 | 163 | 0915 | 3.53 |  |  |
| 10,000 | 1.11 | 0916 | 3.53 | 1365 | 4.70 |
| 15,000 | 115 | 0917 | 3.77 | 1366 | 4.92 |
| 20,000 | 100 | 0918 | 3.77 | 1367 | 4.92 |
| 25,000 | 80 | 0919 | 3.90 | 1368 | 5.03 |
| 30,000 | 81 | 0920 | 3.90 | 1369 | 5.03 |
| 40,000 | 61 | 0921 | 3.90 | 1370 | 5.03 |
| 50,000 | 49 | 0922 | 4.03 | 1371 | 5.17 |
| 60.000 | 41 | 0923 | 4.03 |  |  |
| 75,000 | 33 | 0924 | 4.25 | 1372 | 5.42 |
| 100,000 | 25 | 0925 | 4.53 | 1378 | 5.67 |

AD.IUSTABLE LUGS

| Bakelite Knob |  |  | Screw I river Type |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Res. Dia. | Stock No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Res. Dia. | Stock No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| ${ }^{9} 16{ }^{\prime \prime}$ | $0: 359$ | \$0.36 | ${ }^{5} 16{ }^{\prime \prime}$ | 10.58 | \$0.25 |
| $8 / 4{ }^{\prime \prime}$ | 1959 | .47 | $916{ }^{\prime \prime}$ | 0358 | . 25 |
| $1^{1 / 9 \prime \prime}$ | 2159 | . 47 | 8/4" | 1958 | .42 |
|  |  |  | 11/3" | 2158 | . 42 |

## OHMITE R.F. PLATE CHOKES



This series of seven Ohmite single layer wound solenoid radio frequency plate chokes covers the entire frequency range of 3 to 520 megacycles. The four highest frequency chokes are wound on low power factor plastic cores while the other three units are wound on steatite tubes. Windings are insulated and protected by a moisture-proof coating. The single layer winding is designed to avoid adverse harmonic effects within the recommended operating range and also prevents breakdown from high r.f. potentials.

| $\begin{aligned} & \text { Stork } \\ & \text { Number } \end{aligned}$ | Operating Range Megarycles | Miero- henries | $\begin{aligned} & \text { Core } \\ & \text { Dimensions } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| \%-7 | 3 to 20 Mc | 84.0 | $6^{\prime \prime} \times{ }^{\text {a }}$ if" | \$1.56 |
| 7.14 | 7 to 35 Mc. | 14.0 | $2^{\prime \prime} \times{ }^{\text {imin }}$ | 68 |
| $7-28$ | 20 to 60 Me. | 21.0 | $13 / 4{ }^{\prime \prime} \times{ }^{516 "}$ | 4.4 |
| \%-50 | 35 to 110 Mc . | 7.0 |  | 33 |
| T-144 | 80 to 200 Mc . | 1.8 | $3{ }^{\prime \prime} \times 3$ "16" | . 33 |
| Z-235 | 160 to 350 Mc. | 0.8 .4 |  | . 33 |
| \%-460 | :320 to 520 Mc . | 0.20 |  | . 3.3 |

Non-magnetic Brackets Furnished with Z-7. The Z-14 and Z-28 are rated at 600 ma . All others 1000 ma .

## 2 WATT MOLDED COMPOSITION POTENTIOMETER - TYPE AB



LITTLE DEVIL® RESISTOR ASSORTMENTS FOR SERVICE USE


Serviceman's assortments of 150 Ohmite "Little Devil," $1 / 2$-watt, or 125. 1-watt or 2 -watt insulated composition resistors, in the 40 values ( 10 ohms to 10 megohms) most frequently used by servicemen. The assortment is offered at the price of the resistors alone-the cabinet is furnished without extra cost! Cabinet is only $9^{\prime \prime}$ long, $43 / 4^{\prime \prime}$ high, and $5 \frac{1}{4} 4^{\prime \prime}$ deep.

| Assortinent | Stock No. | Quantity of Resistors | Wattages | Net Prie* |
| :---: | :---: | :---: | :---: | :---: |
| SERVICE |  |  |  |  |
| $10 \%$ toleranme | CAB-10 | 150 |  | \$15.00 |
| (10) resistance | CAB-2 | 125 | 1 watt | 18.75 |
| values) | CAB-3 | 125 | 2 watt | 25.00) |

## NEW OHM'S LAW CALCULATOR

Redesigned! This new: improved version of the famous Ohmite Ohm's Law Calculator - popular the world over with servicemen, engineers and students - now has scales for solving parallel resistance problems, AND a standard slide rule. More useful than ever! With
 one setting of the slide the calculator gives the answer to any Ohm's Law problem-reading directly in ohms, volts, amperes, and watts. Three of the new scales on the back provide a quick, one-setting means of solving parallel resistance problems. The slide rule scales will multiply, divide, find squares, and square roots.

Ohm's Law Calculator (Cardboard) .........Net Price $\mathbf{\$ 0 . 2 5}$
Ohm's Law Calculator (Plastic)
Net Price 1.50

The Type AB Potentiometer is an exceptionally high quality unit designed especially for industrial, laboratory, radio service and other uses where reliability is particularly important. Because the resistor element is molded, the unit has an exceptionally large safety factor. The power rating of 2 watts is unusual for a unit of such small size. The unit has a very low noise level and low voltage coefficient. It will pass the ArmyNavy 200 hour salt spray test, specification AN-QQ-S-91. The single unit is $1-1 / 16^{\prime \prime}$ diameter and extends $9 / 16^{\prime \prime}$ behind the panel. The dual unit extends $1-3 / 16^{\prime \prime}$ behind the panel. The $2^{\prime \prime}$ long round shaft (including the $3 / 8{ }^{\prime \prime}$ long mounting bushing) is available from stock on potentiometers with all three resistance tapers and on the dual unit. The screwdriver shaft with locking-nut is available from stock on the linear taper units only. A SPST switch, to be attached to the back of the control. can be supplied extra.


| $\begin{aligned} & \text { Total } \\ & \text { Resistance } \\ & \pm 10 \% \text { Except } \\ & \text { as Noted } \end{aligned}$ | Resistance Retation Characteristics (Taper) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | LINEAR |  |  | Type A Clockwise Log. Stock No. | Type B Comnterelock. Log. Stock No. |
|  | $\begin{aligned} & \text { Type U } \\ & 2^{\prime} \text { Shaft } \\ & \text { Stock No. } \end{aligned}$ | $\begin{aligned} & \text { Type LV } \\ & \text { Lorking Shiuft } \\ & \text { Stock No } \end{aligned}$ | $\begin{aligned} & \text { Type U } \\ & \text { Dual Init } \end{aligned}$ Stock No. |  |  |
| 500 hms | CU 5001 | CLU 3001 |  |  |  |
| 100 Ohms | CU 1011 | CLU 1011 |  |  |  |
| 250 Ohms | CU 2511 | CLU $2+11$ |  |  |  |
| 500 Ohms | CU 5011 | CLU 3011 |  |  |  |
| 1,000 Ohms | ('UU 1021 | CLU 108 |  |  |  |
| 2,500 Ohms | CU 2521 | CLU 25.81 |  |  |  |
| $5,000 \mathrm{Ohms}$ $10,000 \mathrm{Ohms}$ | CU 5021 | CLU 5121 | ECU 1031 |  | CR 10:31 |
| 25,(000 Ohms | CU 2531 | CLU 2.31 | CCU 2531 |  | CB 25.31 |
| $50,000 \mathrm{Ohms}$ | CU 5031 | CLU $3+31$ | CCU 5031 |  | CB 50:31 |
| . 10 Meg . | CU 1041 | CLU 1041 | CCU 1041 | CA 1041 |  |
| .25 Mes. | CU 2.541 | CLU 2.ial | CCU 2541 | CA 2541 |  |
|  | CU 5041 CU 1052 | CLU 5041 | CCU 5041 | $\begin{aligned} & \text { CA } 5041 \\ & \text { CA } 1032 \end{aligned}$ |  |
| 1.0 Meg. $\pm 20 \%$ | CU 1052 | CLU 113.2 | CCU 1052 | CA 2552 |  |
| $5.0 \mathrm{Meg} . \pm 20 \%$ | CU 5052 | CLU 50 -2 |  |  |  |

[^51]For more complete information on OHMITE PRODCCTS, ask for Ohmite Stock Catalog.

## - 6 <br> WARD LEONARD



## 25-Watt - 50-Watt

The Ward leonard 25 -watt (Type $25 R$ ) and 50 -watt (Type 50R) Type Rheostats are especially suited or use in electronic and electrical circuits where gradual and positive resistance change is essential Balanced contact arms, self.lubricating metal araphite contact shoes, and no backlash in the drive shaft combine to assure uniform contact pressure and smooth operation.

Standard shaft length for back-of-board mounting on $1 / 4$ "panel.


EE DIMENSIONS
HEADING EACH
TABIE

25 WATTS TYPE $25 R$
Dimensions: $A-1^{3}{ }^{\prime \prime}{ }^{\prime \prime}$, $8-13 / 32^{"}$

| Current M.A. | Approx. No. of Steps | List Price | Ohms | Current M.A. | Approx. No. of Steps | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5000 | 27 | \$7.03 | 1 | 7070 | 49 | \$7.81 |
| 3540 | 27 | 6.22 | 2 | 5000 | 49 | 7.81 |
| 2880 | 27 | 6.22 | 3 | . | * | . |
| * | * | * | 4 | 3540 | 59 | 7.03 |
| 2040 | 81 | 6.22 | 6 | 2880 | 108 | 7.03 |
| 1770 | 90 | 6.22 | 8 | 2500 | 113 | 7.03 |
| 1580 | 90 | 6.22 | 10 | 2230 | 150 | 7.03 |
| 1280 | 103 | 6.22 | 15 | 1810 | 150 | 7.03 |
| 1000 | 103 | 6.22 | 25 | 1415 | 188 | 7.03 |
| 840 | 108 | 6.22 | 35 | 1190 | 119 | 7.03 |
| 707 | 137 | 6.22 | 50 | 1000 | 188 | 7.03 |
| 574 | 137 | 6.22 | 75 | 812 | 188 | 7.03 |
| 500 | 171 | 6.22 | 100 | 707 | 225 | 7.03 |
| 407 | 171 | 6.22 | 150 | 574 | 225 | 7.03 |
| 316 | 240 | 6.22 | 250 | 447 | 300 | 7.03 |
| 267 | 274 | 6.22 | 350 | 374 | 338 | 7.03 |
| 223 | 308 | 6.22 | 500 | 316 | 375 | 7.03 |
| 181 | 308 | 6.22 | 750 | 256 | 450 | 7.39 |
| 158 | 390 | 7.03 | 1000 | 223 | 450 | 7.39 |
| 128 | 376 | 7.03 | 1500 | 181 | 570 | 7.39 |
| 100 | 520 | 7.03 | 2500 | 141 | 570 | 7.39 |
| 84 | 520 | 7.39 | 35co | 119 | 713 | 7.81 |
| ${ }_{7}^{70}$ | 520 | 7.20 | 5097 | 100 | 713 | 7.81 |
| * | * | . | $\therefore$ \%n | 81 | 855 | 7.81 |
| * | * | * | f"ro | 70 | 998 | 7.81 |

The Ring Rneostats shown on this page are standard values and sizes carried in stock at our factory and by our Distributors. Information con. cerning Rheostats of special construction available on request.

## 100-Watt - 150-Watt

The Ward Leonard 100 -watt TType 100R1 and 150 -watt (Type 150R\} Ring Type Rheostats are of sturdy construction for electrical applications, such as cortrol of fractional h.p. motors, rectifiers, voltage regulators, and some electronic circuits, such as filament and battery control.

100 WATTS
TYPE IOOR

| Current M.A. | Approx. No. of Steps | List Price | Ohms | Current M.A. | Approx. No. of Steps | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10000 | 41 | \$11.70 | 1 | 12240 | 43 | \$14.83 |
| 7070 | 41 | 11.70 | 2 | 8660 | 43 | 14.83 |
| 5740 | 72 | 11.70 | 3 | 7070 | 54 | 14.83 |
| 4470 | 82 | 11.70 | 5 | 5470 | 107 | 14.83 |
| 3640 | 82 | 10.95 | 7.5 | 4470 | 107 | 14.83 |
| 3160 | 72 | 10.95 | 10 | 3870 | 107 | 14.03 |
| 2560 | 156 | 10.95 | 15 | 3160 | 107 | 14.03 |
| 2000 | 196 | 10.95 | 25 | 2440 | 204 | 14.03 |
| 1415 | 274 | 10.95 | 50 | 1730 | 245 | 14.03 |
| 1150 | 313 | 10.95 | 75 | 1415 | 286 | 14.03 |
| 1000 | 274 | 10.95 | 100 | 1224 | 367 | 14.03 |
| 707 | 313 | 10.95 | 200 | 866 | 326 | 14.03 |
| 574 | 353 | 10.95 | 300 | 707 | 408 | 14.03 |
| 500 | 392 | 10.95 | 400 | 612 | 408 | 14.03 |
| 447 | 392 | 10.95 | 500 | 547 | 489 | 14.03 |
| 364 | 464 | 10.95 | 750 | 447 | 489 | 14.83 |
| 316 | 470 | 11.70 | 1000 | 387 | 620 | 14.83 |
| 223 | 595 | 11.70 | 2000 | 273 | 775 | 15.61 |
| 200 | 744 | 11.70 | 2500 | 244 | 775 | 15.61 |
| 141 | 893 | 12.47 | 5000 | 173 | 930 | 16.36 |
| 115 | 893 | 13.28 | 7500 | 141 | 1240 | 17.17 |
| 100 | 1041 | 14.03 | 10000 | 122 | 1240 | 18.72 |

TYPE 100R


Wire wound resistors, sfurdy construction, using low temperature coeflicient materials. Coated with Ward leonard's own crazeless Green Enamel.

| 5 WATTS |  | Size-1" ${ }^{3}{ }^{3} 1 i^{\prime \prime}$ |  |  |  | TYPE 5F |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ohms | M.A. | List Price | Ohms |  | List Price | Ohms |  | List Price |
| 1 | 2230 | \$0.67 | 100 | 223 | \$0.67 | 1250 | 63 | \$0.72 |
| 1.5 | 1820 | . 67 | 125 | 200 | . 67 | 1500 | 57 | . 72 |
| 2 | 1580 | . 67 | 150 | 182 | . 67 | 1750 | 53 | . 72 |
| 3 | 1290 | . 67 | 200 | 158 | . 67 | 2000 | 50 | . 72 |
| 4 | 1117 | . 67 | 250 | 141 | . 67 | 2250 | 47 | . 72 |
| 5 | 1000 | . 67 | 300 | 129 | . 67 | 2500 | 45 | . 72 |
| 7.5 | 811 | . 67 | 350 | 119 | . 67 | 3000 | 40 | . 72 |
| 0 | 707 | . 67 | 400 | 112 | . 67 | 3500 | 37 | . 72 |
| 12 | 644 | . 67 | 450 | 105 | . 67 | 4000 | 35 | . 72 |
| 15 | 577 | . 67 | 500 | 100 | . 67 | 4500 | 33 | . 72 |
| 20 | 500 | . 67 | 600 | 91 | . 67 | 5000 | 31 | . 72 |
| 25 | 450 | . 67 | 700 | 84 | . 67 | 6000 | 28 | . 78 |
| 30 | 408 | . 67 | 750 | 81 | . 67 | 7000 | 26 | . 78 |
| 5 | 378 | . 67 | 800 | 79 | . 67 | 7500 | 25 | . 78 |
| 40 | 353 | . 67 | 900 | 74 | . 67 | 8000 | 25 | . 78 |
| 0 | 316 | . 67 | 1000 | 70 | . 67 | 9000 | 23 | . 78 |
| 5 | 257 | . 67 | 1100 | 67 | . 72 | 10000 | 22 | . 78 |
|  |  |  | 1200 | 64 | . 72 |  |  |  |

10 WATTS Type $10 F$-fixed Type $10 A$-Adi.


| Ohms | M.A. | List Price |  | Ohms | M.A. | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Fixed | Adj. |  |  | Fixed | Adj. |
| 1 | 3160 | \$0.75 | \$1.47 | 1200 | 91 | \$0.80 | A |
| 1.5 | 2580 | . 75 | © | 1250 | 89 | . 80 | \$1.53 |
| 2 | 2235 | . 75 | 1.47 | 1500 | 81 | . 80 | 1.53 |
| 3 | 1825 | . 75 | 1.47 | 1750 | 75 | . 80 | . |
| 4 | 1580 | . 75 | * | 2000 | 70 | . 80 | 1.53 |
| 5 | 1415 | . 75 | 1.47 | 2250 | 66 | . 80 | . |
| 7.5 | 1155 | . 75 | 1.47 | 2500 | 63 | . 80 | 1.53 |
| 10 | 1000 | . 75 | 1.47 | 3000 | 58 | . 80 | 1.53 |
| 12 | 913 | . 75 | 1.47 | 3500 | 53 | . 80 | 1.53 |
| 15 | 815 | . 75 | 1.47 | 4000 | 50 | . 80 | 1.53 |
| 20 | 707 | . 75 | 1.47 | 4500 | 47 | . 80 | 1.53 |
| 25 | 630 | . 75 | 1.47 | 5000 | 45 | . 80 | 1.53 |
| 30 | 577 | . 75 | * | 6000 | 41 | . 92 | 1.63 |
| 35 | 534 | . 75 | * | 7000 | 38 | . 92 | 1.63 |
| 40 | 500 | . 75 | \% | 7500 | 36 | . 92 | 1.63 |
| 50 | 450 | . 75 | 1.47 | 8000 | 35 | . 92 | 1.63 |
| 75 | 365 | . 75 | 1.47 | 8500 | 34 | . 92 | 1.63 |
| 100 | 316 | . 75 | 1.47 | 9000 | 33 | . 92 | 1.63 |
| 125 | 283 | . 75 | * | 10000 | 32 | . 92 | 1.63 |
| 150 | 258 | . 75 | 1.47 | 11000 | 30 | 1.03 | . 6 |
| 200 | 224 | . 75 | 1.47 | 12000 | 29 | 1.03 | * |
| 225 | 211 | . 75 | \% | 12500 | 28 | 1.03 | * |
| 250 | 200 | . 75 | 1.47 | 13500 | 27 | 1.03 | * |
| 300 | 182 | . 75 | 1.47 | 15000 | 25.5 | 1.03 | * |
| 350 | 169 | . 75 | 1.47 | 16000 | 25 | 1.03 | * |
| 400 | 158 | . 75 | 1.47 | 17500 | 24 | 1.03 | * |
| 450 | 149 | . 75 | * | 18000 | 23 | 1.03 | * |
| 500 | 142 | . 75 | 1.47 | 20000 | 22 | 1.03 | * |
| 300 | 129 | . 75 | 1.47 | 22500 | 21 | 1.08 | * |
| 700 | 120 | . 75 | 1.17 | 25000 | 20 | 1.08 | * |
| 750 | 115 | . 75 | 1.47 | 30000 | 18 | 1.22 | * |
| 800 | 112 | . 75 | 1.47 | 35000 | 17 | 1.22 | * |
| 900 | 105 | . 75 | , | 40000 | 16 | 1.22 | * |
| 1000 | 100 | . 75 | 1.47 | 45000 | 15 | 1.22 | * |
| 1100 | 95 | . 80 | . | 50000 | 14 | 1.22 | * |

20 WATTS


| Ohms M.A. Price |  |  | Ohms | $\begin{aligned} & \text { List } \\ & \text { M.A. Price } \end{aligned}$ |  | Ohms | $\begin{array}{r} \text { List } \\ \text { M.A. Price } \end{array}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 4480 | \$0.95 | 850 | 153 | \$0.95 | 8000 | 50 | \$1.12 |
| 3 | 2580 | . 95 | 1000 | 141 | . 95 | 10000 | 45 | 1.12 |
| 5 | 2000 | . 95 | 1200 | 130 | . 97 | 12500 | 40 | 1.20 |
| 10 | 1410 | . 95 | 1250 | 125 | . 97 | 15000 | 36 | 1.20 |
| 15 | 1150 | . 95 | 1500 | 115 | . 97 | 20000 | 32 | 1.20 |
| 25 | 900 | . 95 | 1750 | 107 | . 97 | 25000 | 28 | 1.37 |
| 50 | 630 | . 95 | 1850 | 104 | . 97 | 30000 | 26 | 37 |
| 75 | 517 | . 95 | 2000 | 100 | . 97 | 35000 | 24 | 37 |
| 100 | 450 | . 95 | 2250 | 94 | . 97 | 40000 | 22 | 1.37 |
| 150 | 365 | . 95 | 2400 | 91 | . 97 | 45000 | 21 | 1.58 |
| 17 | 0 | . 95 | 2500 | 90 | . 97 | 50000 | 20 | . 58 |
| 0 | 0 | . 95 | 2750 | 85 | . 97 | 55000 | 18 | 1.58 |
| 50 | 285 | . 95 | 3000 | 81 | . 97 | 60000 | 16 | 1.58 |
| 300 | 258 | . 95 | 3500 | 76 | . 97 | 65000 | 15 | 1.83 |
| 0 | 240 | . 95 | 4000 | 70 | . 97 | 70000 | 14 | 1.83 |
| 0 | 224 | . 95 | 4500 | 67 | . 97 | 75000 | 13 | 1.83 |
| 500 | 200 | . 95 | 5000 | 63 | . 97 | 80000 | 12 | 1.83 |
| 650 | 175 | . 95 | 6000 | 57 | 1.12 | 85000 | 11.5 | 2.11 |
| 700 | 169 | . 95 | 7000 | 53 | 1.12 | 90000 | 11 | 2.11 |
| 750 | 163 | . 95 | 7500 | 51 | 1.12 | 95000 | 10.5 | 2.11 |
| 800 | 155 | . 95 |  |  |  | 100000 | 10 | 2.1 |

Types 5F, 10F, and 20 F. Furnished with wire terminal leads. Brackets supplied on request.


Type 10A, 25A, 50A, 80A, 100A, 160A, 200A. Furnished with mounting brackets and one adjustable band.

Order by Type Number and Resistance Value.

Asterisks (*) in Tables indicate that Resistors are not Stock Items.

ADJUSTABLE BANDS
Screw Driver Type

| Size of <br> Resistor | Cat. No. | Price |
| ---: | ---: | ---: |
| 10 Watts | $507-685$ | $\$ 0.25$ |
| 25 Watts | $507-686$ | .25 |
| 50 Wats | $507-688$ | .25 |
| 80 Watts | $507-688$ | .25 |
| 100 Watts | $507-690$ | .42 |
| 160 Watts | $507-690$ | .42 |
| 200 Watts | $507-690$ | .42 |
| Bakelite Knob Type |  |  |
| 25 Watts |  | $507-691$ |
| 50 Watts | $507-693$ | $\$ 0.36$ |
| 80 Watts | $507-693$ | .36 |
| 100 Watts | $507-695$ | .47 |
| 160 Wats | $507-695$ | .47 |
| 200 Watts | $507-695$ | .47 |

80 WATTS
TYPE 80A
$\frac{\text { Size-61 } 2_{2}^{\prime \prime} \times 84^{\prime \prime} \text { Mtg. Centers 714" }}{\text { List }}$

$$
0
$$

| 1 | 8940 | $\$ 3.53$ | 3000 | 161 | $\$ 2.83$ |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 2 | 6320 | 3.53 | 3500 | 151 | 2.83 |
| 3 | 5160 | 2.72 | 4000 | 141 | 2.83 |
| 4 | 4470 | 2.72 | 4500 | 133 | 2.83 |
| 5 | 4000 | 2.72 | 5000 | 126 | 2.83 |
| 10 | 2830 | 2.72 | 6000 | 115 | 3.00 |
| 15 | 2310 | 2.72 | 7000 | 107 | 3.00 |
| 25 | 1790 | 2.72 | 7500 | 103 | 3.00 |
| 50 | 1260 | 2.72 | 8000 | 100 | 3.00 |
| 75 | 1030 | 2.72 | 9000 | 94 | 3.00 |
| 100 | 894 | 2.72 | 10000 | 89 | 3.00 |
| 200 | 632 | 2.72 | 15000 | 73 | 3.17 |
| 250 | 565 | 2.72 | 20000 | 63 | 3.17 |
| 300 | 515 | 2.72 | 25000 | 57 | 3.50 |
| 400 | 447 | 2.72 | 30000 | 51 | 3.50 |
| 500 | 400 | 2.72 | 35000 | 48 | 3.50 |
| 750 | 325 | 2.72 | 40000 | 45 | 3.50 |
| 800 | 316 | 2.72 | 45000 | 41 | 3.61 |
| 1000 | 282 | 2.72 | 50000 | 40 | 3.61 |
| 1250 | 253 | 2.83 | 60000 | 36 | 3.61 |
| 1500 | 231 | 2.83 | 70000 | 33 | 3.94 |
| 2000 | 200 | 2.83 | 80000 | 31 | 3.94 |
| 2250 | 188 | 2.83 | 100000 | 28 | 4.33 |
| 2500 | 178 | 2.83 |  |  |  |



25 WATTS Type 25 F-Fixed Type 25 A-Adj. Size $-2^{\prime \prime} \times{ }^{3} 8^{\prime \prime}$ Mig. Centers $2 \frac{5}{8} 8^{\prime \prime}$

| Ohms | M.A. | List Price |  | Ohms | M.A. | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Fixed | Adj. |  |  | Fixed | Adj. |
| 1 | 5000 | \$0.97 | \$1.86 | 2500 | 100 | \$1.03 | \$1.89 |
| 2 | 3535 | . 97 | 1.86 | 3000 | 90 | 1.03 | 1.89 |
| 3 | 2890 | . 97 | 1.86 | 3500 | 85 | 1.03 | 1.89 |
| 4 | 2500 | . 97 | * | 4000 | 80 | 1.03 | 1.89 |
| 5 | 2230 | . 97 | 1.86 | 4500 | 74 | . | 1.89 |
| 7.5 | 1825 | - | 1.86 | 5000 | 70 | 1.03 | 1.89 |
| 10 | 1580 | . 97 | 1.86 | 6000 | 65 | 1.14 | 2.03 |
| 15 | 1290 | . 97 | 1.86 | 7000 | 60 | . 1 | 2.03 |
| 25 | 1000 | . 97 | 1.86 | 7500 | 58 | 1.14 | 2.03 |
| 50 | 710 | . 97 | 1.86 | 8000 | 56 | . 14 | 2.03 |
| 75 | 580 | . 97 | 1.86 | 8500 | 54 | 1.14 | 2.03 |
| 100 | 500 | . 97 | 1.86 | 9000 | 52 | 1.1 | 2.03 |
| 150 | 410 | . 97 | 1.86 | 10000 | 50 | 1.14 | 2.03 |
| 200 | 354 | . 97 | 1.86 | 12000 | 46 | 1.19 | 2.11 |
| 250 | 315 | . 97 | 1.86 | 15000 | 41 | 1.19 | 2.11 |
| 300 | 289 | . 97 | 1.86 | 20000 | 34 | 1.19 | 2.11 |
| 400 | 250 | . 97 | 1.86 | 25000 | 32 | 1.36 | 2.28 |
| 500 | 224 | . 97 | 1.86 | 30000 | 29 | 1.36 | 2.2 |
| 750 | 182 | . 97 | 1.86 | 35000 | 27 | 1.36 | * |
| 800 | 177 | . 97 | 1.86 | 40000 | 25 | 1.36 | * |
| 850 | 170 | . 97 | 1.86 | 50000 | 20 | 1.56 | * |
| 1000 | 158 | . 97 | 1.86 | 60000 | 17 | 1.56 | * |
| 1250 | 140 | 1.03 | 1.89 | 70000 | 14 | 1.83 | * |
| 1500 | 129 | 1.03 | 1.89 | 75000 | 13 | 1.83 | 4 |
| 2000 | 112 | 1.03 | 1.89 | 80000 | 12 | 1.83 | * |
| 2250 | 105 | . 1 | 1.89 | 100000 | 10 | 2.11 | * |

50 WATTS Type 50 -Fixed Type 50A-Adi.

| 1 | 7070 | \$2.25 | \$3.00 | 4500 | 105 | * | \$2.47 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 5000 | 1.63 | 2.37 | 5000 | 100 | \$1.75 | 2.47 |
| 3 | 4080 | 1.63 | 2.37 | 6000 | 91 | 1.92 | 2.63 |
| 4 | 3535 | 1.63 | 2.37 | 7500 | 82 | 1.92 | 2.63 |
| 5 | 3160 | 1.63 | 2.37 | 8000 | 79 | 1.92 | 2.63 |
| 10 | 2235 | 1.63 | 2.37 | 9000 | 75 | . | 2.63 |
| 25 | 1415 | 1.63 | 2.37 | 10000 | 71 | 1.92 | 2.63 |
| 50 | 1000 | 1.63 | 2.37 | 12000 | 65 | 2.08 | 2.83 |
| 75 | 815 | 1.63 | 2.37 | 12500 | 63 | 2.08 | 2.8 |
| 100 | 707 | 1.63 | 2.37 | 15000 | 58 | 2.08 | 2.83 |
| 150 | 575 | 1.63 | 2.37 | 20000 | 50 | 2.08 | 2.83 |
| 200 | 500 | 1.63 | 2.37 | 25000 | 45 | 2.33 | 3.08 |
| 250 | 445 | 1.63 | 2.37 | 30000 | 41 | 2.33 | 3.08 |
| 300 | 408 | 1.63 | 2.37 | 35000 | 38 | 2.33 | * |
| 400 | 353 | 1.63 | 2.37 | 40000 | 35 | 2.33 | 3.08 |
| 500 | 316 | 1.63 | 2.37 | 45000 | 33 | 2.58 | 3.08 |
| 750 | 258 | 1.63 | 2.37 | 50000 | 32 | 2.58 | 3.30 |
| 800 | 250 | 1.63 | 2.37 | 60000 | 29 | 2. | 3.30 |
| 1000 | 224 | 1.63 | 2.37 | 75000 | 23 | 2.92 | 3.67 |
| 1250 | 200 | 1.63 | 2.47 | 80000 | 21 | 2.92 | 3.67 |
| 1500 | 180 | 1.75 | 2.47 | 100000 | 17 | 3.20 | 3.92 |
| 2000 | 160 | 1.75 | 2.47 | 125000 | 14 | 3.36 | , |
| 2250 | 150 | , | 2.47 | 150000 | 12 | 3.50 | \% |
| 2500 | 141 | 1.75 | 2.47 | 175000 | 10 | 3.64 | * |
| 3000 | 130 | 1.75 | 2.47 | 200000 | 9 | 3.78 | \% |
| 3500 | 120 |  | 2.47 | 225000 | 8 | 4.22 | * |
| 4000 | 110 | 1.75 | 2.47 | 250000 | 7 | 4.22 | * |
| 100 WATTS T |  |  |  |  |  |  |  |
| Size $-6 \frac{1}{2 \prime \prime} \times 118^{\prime \prime}$ Mig. Centers-714" |  |  |  |  |  |  |  |
| 1 | 10000 | \$3.37 | \$4.53 | 2500 | 200 | \$2.53 | \$3.67 |
| 2 | 7070 | 3.37 | 4.53 | 3000 | 180 | 2.53 | 3.67 |
| 3 | 5770 | 3.37 | 4.53 | 3500 | 170 | 2.53 |  |
| 4 | 5000 | 2.42 | 3.58 | 4000 | 158 | 2.53 | 3.67 |
| 6 | 4470 | 2.42 | 3.58 | 4500 | 150 | 2.53 | 3.67 |
| 10 | 3160 | 2.42 | 3.58 | 5000 | 141 | 2.53 | 3.67 |
| 25 | 2000 | 2.42 | 3.58 | 6000 | 130 | * | 3.87 |
| 50 | 1410 | 2.42 | 3.58 | 7500 | 115 | 2.70 | 3.87 |
| 75 | 1150 | 2.42 | * | 10000 | 100 | 2.70 | 3.87 |
| 100 | 1000 | 2.42 | 3.58 | 15000 | 80 | 2.97 | 4.12 |
| 125 | 895 | 2.42 | * | 20000 | 70 | 2.97 | 4.12 |
| 150 | 815 | 2.42 | * | 25000 | 63 | 3.20 | 4.37 |
| 200 | 707 | * | 3.58 | 30000 | 58 | 3.20 | 4.37 |
| 250 | 630 | 2.42 | 3.58 | 35000 | 54 | 3.20 | * |
| 400 | 500 | * | 3.58 | 40000 | 50 | 3.20 | 4.37 |
| 500 | 447 | 2.42 | 3.58 | 50000 | 45 | 3.37 | 4.53 |
| 750 | 365 | 2.42 | 3.58 | 60000 | 41 | 3.37 | 4.53 |
| 1000 | 316 | 2.42 | 3.58 | 70000 | 38 | 3.58 |  |
| 1250 | 285 | 2.53 | * | 75000 | 36 | 3.58 | 4.75 |
| 1500 | 260 | 2.53 | 3.67 | 100000 | 32 | 3.80 | 4.95 |
| 2000 | 225 | 2.53 | 3.67 |  |  |  |  |

Order by Type Number and Resistance Value
Asterisks (*) in Tables Indicate that Resistors are not

| Ohms | M.A. | List Price |  | Ohms | M.A. | List Price |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Fixed | Adj. |  |  | Fixed | Adj. |
| 1 | 12650 | \$4.16 | \$5.33 | 2500 | 252 | \$3.04 | \$4.19 |
| 2 | 8940 | 4.16 | 5.33 | 3000 | 230 | 3.04 | 4.19 |
| 3 | 7300 | 4.16 | 5.33 | 3500 | 215 | 3.04 | 4.19 |
| 4 | 6320 | 4.16 | 5.33 | 4000 | 200 | 3.04 | 4.19 |
| 5 | 5650 | 4.16 | 533 | 4500 | 185 | 3.04 | 4.19 |
| 10 | 4000 | 2.98 | 4.14 | 5000 | 178 | 3.04 | 4.19 |
| 15 | 3265 | 2.98 | 4.14 | 7500 | 146 | 3.30 | 4.44 |
| 25 | 2525 | 2.98 | 4.14 | 10000 | 126 | 3.30 | 4.44 |
| 50 | 1785 | 2.98 | 414 | 15000 | 105 | 3.54 | 4.69 |
| 75 | 1460 | 2.98 | * | 20000 | 90 | 3.54 | 4.69 |
| 100 | 1265 | 2.98 | 4.14 | 25000 | 80 | 3.64 | 4.81 |
| 150 | 1035 | 2.98 | + | 30000 | 73 | 3.64 | 4.81 |
| 200 | 894 | 2.98 | 4.14 | 35000 | 68 | 3.64 | * |
| 250 | 800 | 2.98 | 4.14 | 40000 | 64 | 3.64 | 4.81 |
| 500 | 565 | 2.98 | 4.14 | 50000 | 57 | 3.76 | 4.94 |
| 750 | 460 | 2.98 | * | 60000 | 52 | 3.76 | 4.94 |
| 1000 | 400 | 2.98 | 4.14 | 75000 | 46 | 4.03 | 5.17 |
| 1500 | 326 | 3.04 | 4.19 | 80000 | 45 | 4.26 | 5.17 |
| 2000 | 280 | 3.04 | 4.19 | 100000 | 40 | 4.26 | 5.44 |

200 WATTS Type 200 F-Fixed Type 200A-Adj.

| Size— $10 / /^{\prime \prime} \times 11 / 8^{\prime \prime}$ |  |  |  |  |  |  | Mtg. CenterS—111/4" |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 14140 | $\$ 4.53$ | $\$ 5.67$ | 3500 | 240 | $\$ 3.30$ | $\$ 4.45$ |
| 2 | 10000 | 4.53 | 5.67 | 4000 | 225 | 3.30 | 4.45 |
| 3 | 8162 | 4.53 | 5.67 | 4500 | 210 | 3.30 | 4.45 |
| 4 | 7070 | 4.53 | 5.67 | 5000 | 200 | 3.30 | 4.45 |
| 5 | 6320 | 4.53 | 5.67 | 7500 | 163 | 3.53 | 4.70 |
| 10 | 4470 | 3.22 | 4.37 | 10000 | 141 | 3.53 | 4.70 |
| 25 | 2825 | 3.22 | 4.37 | 15000 | 115 | 3.77 | 4.92 |
| 50 | 2000 | 3.22 | 4.37 | 20000 | 100 | 3.77 | 4.92 |
| 75 | 1630 | 3.22 | $*$ | 25000 | 90 | 3.90 | 5.03 |
| 100 | 1414 | 3.22 | 4.37 | 30000 | 82 | 3.90 | 5.03 |
| 150 | 1150 | 3.22 | $*$ | 35000 | 76 | 3.90 | $*$ |
| 250 | 900 | 3.22 | 4.37 | 40000 | 71 | 3.90 | 5.03 |
| 500 | 632 | 3.22 | 4.37 | 50000 | 63 | 4.03 | 5.17 |
| 750 | 515 | 3.22 | $*$ | 60000 | 58 | 4.03 | 5.17 |
| 1000 | 447 | 3.22 | 4.37 | 75000 | 52 | 4.25 | 5.42 |
| 1500 | 365 | 3.30 | 4.45 | 100000 | 45 | 4.53 | 5.67 |
| 2000 | 315 | 3.30 | 4.45 | 125000 | 40 | $*$ | 5.67 |
| 2500 | 282 | 3.30 | 4.45 | 150000 | 35 | $*$ | 5.67 |
| 3000 | 260 | 3.30 | 4.45 |  |  |  |  |

## © WARD LEONARD

## AXIOHM

 RESISTORS5 WATTS - TYPE 5X
$\mathbf{1 0}$ WATT5-TYPE $10 X$
Vitreous enameled wire-
wound resistors with $1 / / 2^{\prime \prime}$
tinned copper leads for self.
mounting.
The same fine materials
used in the manufacture of
Ward Leonard Vitrohm Re-
sistors are used in making
Axiohms.
Order by Type Number and Resistance Value.

## OTHER STOCK RESISTORS

Plaque Type - Available in three sizes, 25 -watt, 50 -watt, and 150-watt.
Dise Type - Available in 24. watt size
Non-Inductive Type - Avail able in three sizes, 35 -watt 80 watt, and 160 -watt.

For complete information on all our stoak resistors ask for our Catalog D-130.


40 WATTS - TYPE 405

| $2^{\prime \prime}$ long-Mtg. Centers $2 \% / /^{\prime \prime}$ |  |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: |
| 1 | 6320 | $\$ 1.93$ | 750 | 230 | $\$ 1.93$ |
| 3 | 3650 | 1.93 | 1000 | 200 | 1.93 |
| 5 | 2830 | 1.93 | 1250 | 180 | 1.93 |
| 10 | 2000 | 1.93 | 1500 | 163 | 1.93 |
| 15 | 1630 | 1.93 | 2000 | 141 | 1.93 |
| 25 | 1270 | 1.93 | 2500 | 126 | 1.93 |
| 50 | 894 | 1.93 | 3000 | 114 | 2.06 |
| 100 | 632 | 1.93 | 3500 | 106 | 2.06 |
| 150 | 510 | 1.93 | 4000 | 100 | 2.06 |
| 200 | 447 | 1.93 | 5000 | 88 | 2.06 |
| 250 | 400 | 1.93 | 7500 | 73 | 2.32 |
| 400 | 315 | 1.93 | 10000 | 63 | 2.32 |
| 500 | 283 | 1.93 | 15000 | 51 | 2.42 |


| 30 WATTS |
| :--- |
| 40 WATTS TYPE 305 |
| 55 WATTS |
| 65 WAPE 405 |
| 75 WATTS 555 |
| 5 TYPE 655 |

ORS


| 10 | WATTS |  | Size-13/4" ${ }^{\prime \prime}{ }^{18} /{ }^{\prime \prime \prime}$ |  |  | TYPE |  | 10x |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3160 | \$0.90 | 300 | 182 | \$0.90 | 6000 | 41 | \$1.10 |
| 1.5 | 2580 | . 90 | 350 | 169 | . 90 | 7000 | 38 | 1.10 |
| 2 | 2235 | . 90 | 400 | 158 | . 90 | 7500 | 36 | 1.10 |
| 3 | 1825 | . 90 | 450 | 149 | . 90 | 8000 | 35 | 1.10 |
| 4 | 1580 | . 90 | 500 | 142 | . 90 | 8500 | 34 | 1.10 |
| 5 | 1415 | . 90 | 600 | 129 | . 90 | 9000 | 33 | 1.10 |
| 7.5 | 1155 | . 90 | 700 | 120 | . 90 | 10000 | 32 | 1.10 |
| 10 | 1000 | . 90 | 750 | 115 | . 90 | 11000 | 30 | 1.24 |
| 12 | 913 | . 90 | 800 | 112 | . 80 | 12000 | 29 | 1.24 |
| 15 | 815 | . 90 | 900 | 105 | . 90 | 12500 | 28 | 1.24 |
| 20 | 707 | . 90 | 1000 | 100 | . 90 | 13500 | 27 | 1.24 |
| 25 | 630 | . 90 | 1100 | 95 | . 96 | 15000 | 25.5 | 1.24 |
| 30 | 577 | . 90 | 1200 | 91 | . 96 | 16000 | 25 | 1.24 |
| 35 | 534 | . 90 | 1250 | 89 | . 96 | 17500 | 24 | 1.24 |
| 40 | 500 | . 90 | 1500 | 81 | . 96 | 18000 | 23 | 1.24 |
| 50 | 450 | . 90 | 1750 | 75 | . 96 | 20000 | 22 | 1.24 |
| 75 | 365 | . 90 | 2000 | 70 | . 96 | 22500 | 21 | 1.30 |
| 100 | 316 | . 90 | 2250 | 66 | . 96 | 25000 | 20 | 1.30 |
| 125 | 283 | . 90 | 2500 | 63 | . 96 | 30000 | 18 | 1.30 |
| 150 | 258 | . 90 | 3000 | 58 | . 96 | 35000 | 17 | 1.30 |
| 200 | 224 | . 90 | 3500 | 53 | . 96 | 40000 | 16 | 1.30 |
| 225 | 211 | . 90 | 4000 | 50 | . 96 | 45000 | 15 | 1.46 |
| 250 | 200 | . 90 | 4500 | 47 | . 96 | 50000 | 14 | 1.46 |
|  |  |  | 5000 | 45 | . 96 |  |  |  |



Vitreous enameled wire-wound resistors built on a strong refractory core, and provided with low mount

Order by Type Number and Resistance Value


# SPRAGUE RESISTORS 

## KOOLOHM ${ }^{\circledR}$ WIRE-WOUND RESISTORS



Wound with wire which is insulated before winding with a flexible ceramic coating. This coating is impervious to heat as high as $1000^{\circ} \mathrm{C}$.

Each resistor is "tropicalized" by a glazed ceramic outer coating and new type end seals which offer complete protection against moisture or any other climatic conditions

- May be mounted anywhere - even flat against chassis or grounded parts
- Extremely high insulation resistance-10,000 volts from surface of ceramic jacket to inner resistance elements

Insulated wire permits winding higher values in layers, which means much smaller physical sizes for each wattage rating

Insulated wire permits true "non-inductive" wound designs

NOTE: ALL NIT TYPES ARE NON-INDUCTIVE


# SPRAGUE RESISTORS 

## BLUE JACKET WIREWOUND RESISTORS

- A NEW Resistar That Can Be Used Almast AnywhereDependable in Critical Equipment, Yet Priced Law Enaugh far Radia.TV Service Wark.
- Ideal far Paint-ta-paint, Terminal Baard, and Printed Chassis Wiring. Axial Lead Design Pravides Secure Maunting, Even Under Severe Vibration.
- Will Satisfy MIL Specificatian Perfarmance Requirements with $35 \%$ to $50 \%$ Reduction in Size.
- Crazepraaf Vitreaus Enamel Caating Guards Against Humidity and Prevents Failure fram Electralysis. Resists Carrasive Industrial Fumes.
- Thermal Expansian Characteristics af the Ceramic Winding Care and Caating Enamel Are Clasely Matched ta Withstand Rapid Thermal Changes.
- Hat Spat Rating af $300^{\circ} \mathrm{C}$ Rise abave $40^{\circ} \mathrm{C}$ Ambient temperature.
- Standard Resistance Talerance: ta 50 ahms, $\pm 10 \%$-aver 50 ahms, $\pm 5 \%$.


TYPE 151E, 3 WATTS, $15 / 64^{\prime \prime}$ Max. D. $\times 9 / 16^{\prime \prime}$ Max.L.

| Ohms | Max MA | List | Ohms | Max MA | List | Ohms | Max Ma. | List | Ohms | Max MA | List | Ohms | Max MA | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 548 | \$.55 | 47 | 253 | \$.55 | 220 | 117 | \$.55 | 820 | 60 | \$. 55 | 3300 | 30 | \$.55 |
| 12 | 500 | . 55 | 56 | 232 | . 55 | 270 | 105 | . 55 | 1000 | 55 | . 55 | 3900 | 28 | . 55 |
| 15 | 446 | . 55 | 68 | 210 | . 55 | 330 | 95 | . 55 | 1200 | 50 | . 55 | 4700 | 25 | . 55 |
| 18 | 409 | . 55 | 82 | 191 | . 55 | 390 | 88 | . 55 | 1500 | 45 | . 55 | 5800 | 23 | . 60 |
| 22 | 370 | . 55 | 100 | 173 | . 55 | 470 | 80 | . 55 | 1800 | 41 | . 55 | 61100 | 21 | . 60 |
| 27 | 334 | . 55 | 120 | 158 | . 55 | 560 | 73 | . 55 | 2200 | 37 | . 55 | 8200 | 19 | . 60 |
| 33 | 302 | . 55 | 150 | 141 | . 55 | 680 | 66 | . 55 | 2700 | 33 | . 55 | 10000 | 15 | . 60 |
| 39 | 278 | . 55 | 180 | 129 | . 55 |  |  |  |  |  |  |  |  |  |

TYPE 27E, 5 WATTS, $11 / 32^{\prime \prime}$ Max. D. $x$ 3/16" Max.L.

| Ohms | Max MA | List | Ohms | Mox MA | List | Ohms | Max MA | List | Ohms | Max MA | List | Ohms | Mox MA | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 2236 | \$.65 | 35 | 377 | \$.65 | 400 | 112 | \$.65 | 1500 | 57 | $\$ .70$ | 7500 | 25 | \$.80 |
| 1.5 | 1928 | . 65 | 40 | 354 | . 65 | 450 | 106 | . 65 | 1750 | 53 | . 70 | 8000 | 25 | . 80 |
| 2 | 1581 | . 65 | 50 | 316 | . 65 | 500 | 100 | . 65 | 2000 | 50 | . 70 | 9000 | 23 | . 80 |
| 3 | 1356 | . 65 | 75 | 258 | . 65 | 600 | 91 | . 65 | 2250 | 47 | . 70 | 10000 | 22 | . 80 |
| 4 | 1118 | . 65 | 100 | 224 | . 65 | 700 | 84 | . 65 | 2500 | 44 | . 70 | 12000 | 20 | . 90 |
| 5 | 1000 | . 65 | 125 | 205 | . 65 | 750 | 82 | . 65 | 3000 | 40 | . 70 | 14000 | 18 | . 90 |
| 7.5 | 862 | . 65 | 150 | 183 | . 65 | 800 | 79 | . 65 | 3500 | 37 | . 70 | 15000 | 18 | . 95 |
| 10 | 707 | . 65 | 200 | 158 | . 65 | 900 | 74 | . 65 | 4000 | 35 | . 70 | 17500 | 16 | . 95 |
| 12 | 646 | . 65 | 225 | 150 | . 65 | 1000 | 70 | . 65 | 4500 | 33 | . 70 | 20000 | 15 | . 95 |
| 15 | 587 | . 65 | 250 | 141 | . 65 | 1100 | 67 | . 70 | 5000 | 31 | . 70 | 22500 | 15 | 1.00 |
| 20 | 500 | . 65 | 300 | 129 | . 65 | 1200 | 64 | . 70 | 6000 | 28 | . 80 | 25000 | 14 | 1.10 |
| 25 | 447 | . 65 | 350 | 122 | . 65 | 1250 | 63 | . 70 | 7000 | 26 | . 80 | 30000 | 13 | 1.20 |
| 30 | 406 | . 65 |  |  |  |  |  |  |  |  |  |  |  |  |

TYPE 28E, 10 WATTS, $11 / 32^{\prime \prime}$ Max. D. x 1 15/16" Max.L.

| Ohms | Max MA | List | Ohms | Max MA | List | Ohms | Max MA | List | Ohms | Max MA | List | Ohms | Max MA | List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 3162 | \$.75 | 50 | 447 | \$.75 | 750 | 115 | 5.75 | 3500 | 54 | \$. 80 | 13500 | 27 | \$1.00 |
| 1.5 | 2701 | . 75 | 75 | 365 | . 75 | 800 | 112 | . 75 | 3900 | 51 | . 80 | 14300 | 26 | 1.00 |
| 2 | 2236 | . 75 | 100 | 316 | . 75 | 900 | 10: | . 75 | 4000 | 50 | . 80 | 15000 | 25 | 1.00 |
| 3 | 1918 | . 75 | 125 | 288 | . 75 | 1000 | 100 | . 75 | 4500 | 47 | . 80 | 15000 | 25 | 1.00 |
| 4 | 1581 | . 75 | 150 | 259 | . 75 | 1100 | 9 | . 80 | 5000 | 45 | . 80 | 17500 | 24 | 1.00 |
| 5 | 1414 | . 75 | 200 | 224 | . 75 | 1200 | 9 | . 80 | 6000 | 41 | . 90 | 18000 | 23 | 1.10 |
| 7.5 | 1252 | . 75 | 225 | 213 | . 75 | 1250 | 89 | . 80 | 7000 | 38 | . 90 | 20000 | 21 | 1.10 |
| 10 | 1000 | . 75 | 250 | 200 | . 75 | 1450 | 82 | . 80 | 7500 | 36 | . 90 | 22500 | 21 | 1.20 |
| 12 | 911 | . 75 | 300 | 182 | . 75 | 1500 | 81 | . 80 | 8000 | 35 | . 90 | 25000 | 20 | 1.20 |
| 15 | 830 | . 75 | 350 | 170 | . 75 | 1750 | 75 | . 80 | 8500 | 34 | . 90 | 30000 | 18 | 1.30 |
| 20 | 707 | . 75 | 400 | 158 | . 75 | 2000 | 71 | . 80 | 9000 | 33 | . 90 | 35000 | 17 | 1.50 |
| 25 | 632 | . 75 | 450 | 148 | . 75 | 2250 | 67 | . 80 | 10000 | 32 | . 90 | 40000 | 16 | 1.65 |
| 30 | 575 | . 75 | 500 | 141 | . 75 | 2500 | 63 | . 80 | 11000 | 30 | 1.00 | 45000 | 15 | 1.75 |
| 35 | 539 | . 75 | 600 | 129 | . 75 | 3000 | 57 | . 80 | 12000 | 29 | 1.00 | 50000 | 14 | 1.80 |
| 40 | 500 | . 75 | 700 | 119 | . 75 | 3300 | 55 | . 80 | 12500 | 28 | 1.00 |  |  |  |

Cop.yrimht by $l^{\circ}$. C. P...Inc.


# VITREOUS ENAMELED RESISTORS <br> －FIXED－ADJUSTABLE <br> TRU－RIB 

our mew，modern phant occupies 80,000 square feet devoted to produciner the fimst power rheostats and wire wound resistors arailable．If von meed a rlmosiat or resistor．Whether it he riaht from stock or tu vour specitications．we assure volt of cotuteous gervict，prombt delivers amb duality morehandise


25 WATT—TYPE FR－25



FIXED

$100 \%$ | $100 \%$ RAT |
| :---: |
| VOLTS |

10 WATT－TYPE FRL－10
FIXED
OHMS

## MILLIAMPS <br> 3160 3140

3160
2580
$\underset{\substack{x \\ x}}{\substack{0 \\ x \rightarrow 1}}$
2230
1820
1820
$15 \% 0$
$15 \pi 0$
1410
1150
1000

10 WATT（Continued）


| 4111 | 63 | ． 1 E | ． 112 |
| :---: | :---: | :---: | :---: |
| 500 | 70 | ． $1+1$ | ． 100 |
| dillo | －7 | ．12！ | ．091 |
| 750 | cif | ． 115 | ．081 |
| E110 | － 4 | ． 112 | ．07： |
| 1000 | 100 | ． 100 | ．071 |
| 1250 | 111 | ．1909 | ．063 |
| 13110 | 123 | のパ・ | ． 058 |
| 2000 | 142 | ．071 | ． 050 |
| 2250 | 1.1 | ．118： | ．047 |
| 2506 | 1， | ．013 | ． 045 |
| 30106 | 1.1 | ．05\％ | ． 1141 |
| 3500 | iss | 0.53 | ． 038 |
| 41000 | －1＋1 | 1 こ0 | ．035 |
| 4500 | $\because 12$ | ．1147 | ． 033 |
| 5000 | 2.9 | ． $0+5$ | ． 032 |
| 4000 | $\because 46$ | ． $11+1$ | ．129 |
| 7000 | ごか | ． 1138 | ．027 |
| 7504 | ごい | ．11：31 | ． 0226 |
| Sll（0） | 280 | ．1）35 | ． 025 |
| 8500 | 2－！ | ．1134 | ．1024 |
| 9000 | 2！\％ | ． 033 | ． 1023 |
| 10，1000 | 300 | ．1130 | ．122 |

25 WATT－TYPE AR－25 ADJUSTABLE

$100 \%$ RATING $50 \%$ |  | IOO\％RATING |  |  | $50 \%$ |
| :---: | ---: | :---: | :---: | :---: |
| OHMS | RATING |  |  |  |
|  | VOLTS | AMPS | AMPS |  |
| 1 | 5.0 | 5.000 | 3.535 |  |
| $\%$ | -10 | 3.535 |  | 2.500 | $\begin{array}{cccc}\text { OHMS } & \text { VOLTS } & \text { AMPS } & \text { AMPS } \\ 1 & 5.0 & 5.000 & 3.535 \\ 0 & 1.0 & 3.535 & 2.500 \\ 3 & 8.0 & -.885 & 2.044 \\ 3 & 11 & 2.236 & 1.580 \\ \square & 13 & 1.805 & 1.960\end{array}$ $\begin{array}{ll}3.885 & 2.044 \\ 3.236 & 1.581 \\ 8.95 & 1.960\end{array}$ $\begin{array}{ll}2.286 & 1.580 \\ 1.825 & 1.290 \\ 1.560 & 1.118\end{array}$ $\begin{array}{ll}1.290 & 1.118 \\ 1.117 & .714 \\ 1.011\end{array}$ $\begin{array}{ll}1.117 & .914 \\ 1.000 & .760 \\ -00 & .707\end{array}$ $\begin{array}{rr}.707 & .500 \\ .577 & .408\end{array}$ $\begin{array}{ll}.5110 & .408 \\ .408 & .283 \\ .250\end{array}$ $\begin{array}{ll}.353 & .28! \\ .314 & .250 \\ .223\end{array}$ $\begin{array}{rr}\therefore 280 & -223 \\ \because 250 & -177 \\ 0.03 & 158\end{array}$ $\begin{array}{ll}.223 & .15 \\ .252 & .120 \\ 17 & .105\end{array}$ 158

.129
105

8






50\％ RAO\％ RATING
AMPS にロー
$-=$
1
1
1
1
1


Free air rating to 10,000 Ohms at 25

$$
10 \text { WATT-TYPE AR-10 }
$$


10

## 91 100 104 104 1119

3010

You are guaranteed to receive 24 hour delivery as we maintain jobber stock items！


SPECIAL
RESISTORS

rualy for shipment from stork；special

General Sales Office：Chicago 18，Ill．


TYPE R-25 - 25 WATTS

| Cat. No. | Resistance | Max. Amps. | Approx. Steps |
| :---: | :---: | :---: | :---: |
| 100 | 1 | 5.000 | 26 |
| 101 | 2 | 8.540 | 28 |
| 102 | 3 | 2.280 | 44 |
| 103 | fi | 2.040 | 51 |
| 104 | R | 1.750 | 54 |
| 105 | 10 | 1.580 | 60 |
| 106 | 15 | 1.200 | 78 |
| 107 | 25 | 1.000 | 80 |
| 108 | $3!$ | A45 | 100 |
| 109 | 50 | . 307 | 105 |
| 110 | 75 | . 575 | 120 |
| 111 | 100 | [ion | $14 \%$ |
| 112 | 125 | . 45 | 145 |
| 113 | 175 | .375 | $15 \%$ |
| 114 | 250 | .31\% | 170 |
| 115 | 350 | - ${ }^{6}$ | 180 |
| 116 | 500 | - ${ }^{\text {a }}$ | 215 |
| 117 | 750 | 1込 | 230 |
| 118 | 1000 | . 15.4 | 270 |
| 119 | 1500 | . $1: 11$ | 325 |
| 120 | 2500 | .101) | 410 |
| 121 | 3500 | .118 1 | 440 |
| 122 | 5000 | .1711 | 480 |

## CONSTRUCTION

The TRU-OHM power rheostat will provide smooth variation of resistance under the most severe operating conditions. The all ceramic-metal construction ing conditions. The all ceramic-metal construction ing temperatures. An extra deep core, on which the ing temperatures. An extra deep core, on which the
resistance wire is toroidally wound, means a more conservative power rating.
Types R-50, 75, 100 and 154 have an exclusive torsion spring assembly which provides aniform pressure of the contact brush against the winding at all times. Current flows from the brush through a flexible shunt wire to a large size slip ring. Positive, low-wear contact is maintained against the center terminal by an adequate compression spring. lack lash in the rotating assembly is reduced to a minimum by means of ing assembly is reduced to a minimum by means of tremes of rotation entirely independent at the contact arm assembly.

## SPECIAL FEATURES <br> SPECIAL FEATURES

TRU-OHM rheostats are available with many extras such as off positions. screw driver control, shaft assemblies for special mounting conditions, etc. Prompt engineering service is available for all special requirements. Knobs furnished upon request.

Resistance Max. Amps. Contact brush against the winding at all times. tact is maintained against the center terminal by an



You are guaranteed to receive 24 hour delivery as we maintain jobbef stock items!
Mfd. by TRU-OHM PRODUCTS DIVISION OF MODEL ENG. \& MFG. ING. General Sales Office: Chicago 18, II.

## 5\% AND 10\% TOLERANCE-1/2-1-2 WATT RATINGS



G-H fixed composition resistors are of the highest quality and combine the desirable features of great mechanical strength, permanent electrical characteristics and minimum physical size for a given wattage rating. Leads are differentially tempered to prevent sharp bends near the resistor body while still permitting ready forming to fit a particular arrangement.

G-H resistors are supplied in convenient packages having a perforated top section which permits the tops to hinge, (as shown in the illustration) or to be removed entirely. Since each resistor is held in an upright position by a honeycomb section within the lower portion of the box, the leads of all resistors remaining within a given container are exposed to view. Resistance value and tolerance indication are clearly marked on sides and top cover of the container. These features greatly facilitate stock location and stock control checking.
G-H maintains a complete stock of $5 \%$ and $10 \%$ tolerance resistors in all wattage ratings to insure rapid delivery on all orders.


## All Standard RTMA Values

## $5 \%$ TOLERANCE

One-half, one and two watt ratings.
Standard packages:
$\left\{\begin{array}{l}\text { One-half and one watt... } 50 \text { per package } \\ \text { Two watt.................. } 25 \text { per package }\end{array}\right.$

| 10 | 82 | 680 | 5600 | 47,000 | 390,000 | 3.3 | meg. |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 11 | 91 | 750 | 6200 | 51,000 | 430,000 | 3.6 | $n$ |  |
| 12 | 100 | 820 | 6800 | 56,000 | 470,000 | 3.9 | $n$ |  |
| 13 | 110 | 910 | 7500 | 62,000 | 510,000 | 4.3 | $n$ |  |
| 15 | 120 | 1000 | 8200 | 68,000 | 560,000 | 4.7 | $n$ |  |
| 16 | 130 | 1100 | 9100 | 75,000 | 620,000 | 5.1 | $n$ |  |
| 18 | 150 | 1200 | 10,000 | 82,000 | 680,000 | 5.6 | $n$ |  |
| 20 | 160 | 1300 | 11,000 | 91,000 | 750,000 | 6.2 | $n$ |  |
| 22 | 180 | 1500 | 12,000 | 100,000 | 820,000 | 6.8 | $n$ |  |
| 24 | 200 | 1600 | 13,000 | 110,000 | 910,000 | 7.5 | $n$ |  |
| 27 | 220 | 1800 | 15,000 | 120,000 | 1.0 | meg. | 8.2 | $n$ |
| 30 | 240 | 2000 | 16,000 | 130,000 | 1.1 | $n$ | 9.1 | $n$ |
| 33 | 270 | 2200 | 18,000 | 150,000 | 1.2 | $n$ | 10.0 | $n$ |
| 36 | 300 | 2400 | 20,000 | 160,000 | 1.3 | $n$ | 11.0 | $n$ |
| 39 | 330 | 2700 | 22,000 | 180,000 | 1.5 | $n$ | 12.0 | $n$ |
| 43 | 360 | 3000 | 24,000 | 200,000 | 1.6 | $n$ | 13.0 | $n$ |
| 47 | 390 | 3300 | 27,000 | 220,000 | 1.8 | $n$ | 15.0 | $n$ |
| 51 | 430 | 3600 | 30,000 | 240,000 | 2.0 | $n$ | 16.0 | $n$ |
| 56 | 470 | 3900 | 33,000 | 270,000 | 2.2 | $n$ | 18.0 | $n$ |
| 62 | 510 | 4300 | 36,000 | 300,000 | 2.4 | $n$ | 20.0 | $n$ |
| 68 | 560 | 4700 | 39,000 | 330,000 | 2.7 | $n$ | 22.0 | $n$ |
| 75 | 620 | 5100 | 43,000 | 360,000 | 3.0 | $n$ |  |  |

$10 \%$ TOLERANCE One-half, one and two watt ratings.

| 10 | 120 | 1500 | 18,000 | 220,000 | 2.7 meg. | Available |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 | 150 | 1800 | 22,000 | 270,000 | 3.3 | in 1 watt |
| 15 | 180 | 2200 | 27,000 | 330,000 | 3.9 | 10\% toler- |
| 18 | 220 | 2700 | 33,000 | 390,000 | 4.7 | ance only |
| 22 | 270 | 3300 | 39,000 | 470,000 | 5.6 |  |
| 27 | 330 | 3900 | 47,000 | 560,000 | 6.8 | 2.7 ohms. |
| 33 | 390 | 4700 | 56,000 | 680,000 | 8.2 | 3.3 ohms. |
| 39 | 470 | 5600 | 68,000 | 820,000 | 10.0 | 3.9 ohms. |
| 47 | 560 | 6800 | 82,000 | 1.0 meg. | 12.0 | 4.7 ohms. |
| 56 | 680 | 8200 | 100,000 | 1.2 | 15.0 | 5.6 ohms. |
| 68 | 820 | 10,000 | 120,000 | 1.5 | 18.0 | 6.8 ohms. |
| 82 | 1000 | 12,000 | 150,000 | 1.8 | 22.0 | 8.2 ohms. |
| 100 | 1200 | 15,000 | 180,000 | 2.2 |  |  |

Standard packages: $\left\{\begin{array}{l}\text { One-half and one watt... } 50 \text { per package } \\ \text { Two watt }\end{array}\right.$
Two watt................... 25 per package

## PAPER DIELECTRIC CAPACITORS

Custom manufactured to customers specifications. Can be supplied in any practical capacity, working voltage and tolerance. Containers and terminal arrangements may be in accordance with customers drawings.

Capacitors can be manufactured for AC or DC operation . . . . impregnated with Wax, Tensoil, or in the stable, highly superior oil impregnant, G-H PERMANOL. Your inquiries are invited.

## GIRARD-HOPKINS



Small, -oiseless, vitration-proof. Crack-Frool molded casing around molded carbon resistance element. Timed copper pig-tail leads 2 in. long. Resists humidity effects. Ideal for AVC circuits, highgain amplifiers. RTMA color-coded; stamped with resistance value. Precision tested. Standard tcler. ance $\pm 10 \%$.
TYPE $1097-1 / 2$ Watt-Size:
$5 / 32^{\circ} \times 3 / 8^{\text {m }} \mathrm{lg} . .$.
YPE $1098-1$ Watt-Size:
TYPE $1098-1$ Watt-Size:
$1 / 4^{n} \times 3 / 4^{n}$ lg.
$\qquad$

TYPE 1099-2 Watt-Size:
$3 / 8 \times 1-3 / 8^{\prime \prime} \mathrm{lg}$


Made under licensed agreement with Western Electric, these precision resistors are the result of years of intensive research in developing components with extreme accuracy and stability. Carbofilm resistors are intended for circuits calling for the accuracy and stability of wire-wound recuracy aldisthers economy of sistors rith tie marked economy of carbon resistors. Tey serveratory need in test equipment and laboratory instruments. All in all, Carbofilm resistors mect the requirements of ac curacy, stability and economy.

The Carbofilm resistors are a carbon deposit type and are available in the following standard or jobber stock sizes with the resistance value shown in the listing.
packed and sealed in plastic tubes
for your protection

## sizes

CP $1 / 2$ watt $0.230 \mathrm{D} \times 11 / 16 \mathrm{~L}$
$\mathrm{CP} 1 / 2$ watt $0.230 \mathrm{D} \times 11 / 16 \mathrm{~L}$
CPL
$1 / 2$ watt
$0.230 \mathrm{D} \times 15 / 16 \mathrm{~L}$
CP 1 watt $0.293 \mathrm{D} \times 15 / 16 \mathrm{~L}$
CP 2 watt $0.293 \mathrm{D} \times 2-1 / 16 \mathrm{~L}$
TOLERANCE $\pm 1 \%$

CARBOFILM RESISTORS
Precision Resistors made with Matchless Accuracy

## Standard stock values carbofilm resistors

| Ohmis | 9hns | Ohms | Ohms | Ohms | Ohms | Megohms | Megohms |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 100 | 1300 | 9950 | 110,000 | 400,000 | 910,000 | 3.5 | 8.2 | 47.0 |
| 110 | 1450 | 10,000 | 120,000 | 430,000 | Mesohms | 3.6 | 8.5 | 50.0 |
| 120 | 1500 | 11,000 | 125,000 | 450,000 | wegohms | 3.9 | 9.0 | 100.0* |
| 130 | 1750 | 12,000 | 130,000 | 470,000 | 1.0 | 4.0 | 9.1 |  |
| 150 | 1800 | 12,500 | 150,000 | 500,000 | 1.1 | 4.3 | 10.0 |  |
| 175 | 2000 | 13,000 | 175,000 | 510,000 | 1.2 | 4.5 | 12.0 |  |
| 180 | 2200 | 13,500 | 180,000 | 550,000 | 1.25 | 4.7 | 12.5 |  |
| 200 | 2250 | 15,000 | 200,000 | 560,000 | 1.3 | 5.0" | 13.0 |  |
| 220 | 2400 | 17,500 | 220,000 | 600,000 | 1.5 | 5.1 | 15.0 |  |
| 225 | 2500 | 18,000 | 225,000 | 620,000 | 1.8 | 5.5 | 18.0 |  |
| 240 | 2700 | 20,000 | 240,000 | 650,000 | 2.0 | 5.6 | 20.0 |  |
| 250 | 2950 | 22,000 | 250,000 | 680,000 | 2.2 | 6.0 | 22.0 |  |
| 270 | 3000 | 22,500 | 270,000 | 700,000 | 2.225 | 6.2 | 25.0 |  |
| 300 | 3300 | 24,000 | 300,000 | 750,000 | 2.4 | 6.5 | 27.0 |  |
| 330 | 3500 | 25,000 | 330,000 | 800,000 | 2.5 | 6.8 | 33.0 |  |
| 350 | 3600 | 27,000 | 350,000 | 820,000 | 2.7 | 7.0 | -36.0 |  |
| 360 | 3900 | 30,000 | 360,000 | 850,000 | 3.0 | 7.5 | 39.0 |  |
| 390 | 4000 | 33,000 | 390,000 | 900,000 | 3.3 | 8.0 | 43.0 |  |
| 400 | 4300 | 36,000 | CARBOFILM RESISTORS PRICES |  |  |  |  |  |
| 430 | 4450 | 39,000 |  | STANDARD VALUES ONL100 ohms to 5.0 megohms |  |  | List |  |
| 450 | 4500 | 40,000 | CP-1/2 |  |  |  |  | \$ 65 |
| 470 | 4700 | 43,000 | CPL-1/2 | 5.1 megohms to 7.5 megohms |  |  |  | . 75 |
| 500 | 5000 | 45,000 |  | 100 hms to 1.0 megohms |  |  |  | . 95 |
| 510 | 5100 | 47,000 | CP-1 | 1.1 megohms to 5.0 megohms |  |  |  | 1.00 |
| 550 | 5500 | 50,000 |  | 5.1 megohms to 15 megohms |  |  |  | 1.10 |
| 560 | 5600 | 51,000 |  |  |  |  |  |  |
| 600 | 5950 | 55,000 | CP-2 | 100 ohms to 10 megohms |  |  |  | 1.20 |
| 620 | 6000 | 56,000 |  | Over 10 megohms to 20 megohms |  |  |  | 1.30 |
| 650 | 6200 | 60,000 |  | Over 20 megohms to 30 megohms |  |  |  | 1.75 |
| 680 | 6500 | 62,000 |  | Over 30 megohms to 50 megohms |  |  |  | 2.00 |
| 750 | 6800 | 65,000 |  | - 100 megohms |  |  |  | 5.00 |
| 800 | 7000 | 68,000 | Standard tolerance $\pm 1 \%$ |  |  |  |  |  |
| 820 | 7450 | 70,000 | For addition of vinyl sleeve add $\$ .15$ to list price. |  |  |  |  |  |
| 850 | 7500 | 75,000 | * For non-standard values double the list price of the |  |  |  |  |  |
| 900 | 8000 | 80,000 82,000 |  |  |  |  |  |  |  |  |  |  |
| 190 | 8200 | 82,000 | * Only stock value above 50 megohms is 100 megohms |  |  |  |  |  |
| 1000 | 88500 | 85,000 90,000 |  |  |  |  |  |  |  |  |  |  |
| 1200 | 9000 | 91,000 | *Type CP-1/2 to 5.0 megohms. Type CPL-1/2 above |  |  |  |  |  |
| 1250 | 9100 | 100,000 | 5.0 megohnis. |  |  |  |  |  |

- Meter multiplyer resistance values - other odd values can be ordered as specials.


T9 BULB

AUTOMATIC REGULATION
WHAT IT IS！AMPERITE is an outomotic＂rheariat＂ designed to keep the current in a circuit of o definite value，e．g．， 0.5 amps．Should the supply voltage increase，the AMPERITE will automatically increase in resistance to take up the increase in supply volt－ age．Since AMPERITE is a constant current device，

it con only be used on a fixed load．

## SIZES：

T－51／8 la．Miniature．U．I． ated height．：2 38


 seated thight． $31 / 8 \mathrm{~s}$ ．

## CHARACTERISTIC CURVE

Characteristic curve of a typical Amperite．Approximate curve of any other Amperite con be obtained by multiplying or dividing the current or voltage scale by ony number．
We strangly recommend that you send us your specifications on special problems，and let us recommend the BALLAST TUBE yau need．

## AMPERITE NUMBERING SYSTEM

In general，the AMPERITE number approximately denotes the current－voltage theshold value．For example：

| A MHELATE：NPMEER | 3－4 | 3 H 4 | 10.7 | 1：－11 | 121111 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| THEESHOLJ ClGREXT | 11.3 | 11．35 | 1.0 | 1.2 | 1．25 |
|  | 4.0 | 4.1 | 7.11 | 11.0 | 11.0 |


| SPECIAL BALLAST TUBESList $\$ 3.00$－Dealer Cost $\$ 1.80$ |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ［1：11： | 11120 | 3 H | 4110 | 1；－3 | ＊＊ 7 HTF「3 | （1）10 | 12－： |
| ＊119＇14 | 1110 | 3－7 | 4－12 | 6.4 | ＊＊：1ITre 4 | ！－11 | $12-4$ |
| ＊＊かっ「K゙， | ＊＊2JK\％ | ＊3T 7 | 4113 | $6 \mathrm{~F}-\mathrm{A}$ | 714 4 | 10 T 1 | $12-7$ |
|  | 2.110 | ＊＊3TF\％ | 4111 | 6－4！ | 7［11 | ＊＊ $\left.11+1 F^{*}\right]$ | 12A10 |
| ＊＊がTF゙11 | $2.11:$ | $3 \mathrm{Al0}$ | ＊＊＋IITV「 | ＊ 134 | 7117 | 10－3 | 13－11 |
| ＊＊ $1+\mathrm{T}$ T＊： 11 | $\because 2.00$ | 3－11 |  |  | 71111 | $10-4.1$ | 13.4 |
| 117－20 | ＊ 011 F | ＊3T11 | 41110 | （i－7 | ＊＊＊TF－ | $10-41$ | 15－2 |
| billt | $\bigcirc 111$ | 3TF11 | 411］ | ＊＊ a＇tr $^{\text {a }}$ | S－313 | 10－40 | 15－4 |
| ＊ $171{ }^{\text {a }}$ | ＊－11T ！ | ＊＊：3TF13 | $5 \mathrm{~F}, 1$ | 6－8B | 8.4 | $110 .+11$ | 16－1 |
| ＊ 9611911 | ＊＊－UTF1 | 3－14 | ＊＊5イド | 16.110 | 8.110 | 10－4F | 16－3 |
| 1.110 | 3II10 | 3－16 | $5-4$ | 6－11 | ＊＊9TF＇2 | $10 \mathrm{A10}$ | 20－3 |
| ＊［TF＇10 | $\therefore 2$ | 3.120 | ＊＊5TF4 | 6－12 | （0．is | 10．11： | 20－4 |
| 1－15 | ＊ 3 何 | 3－38A | 5 ¢10 | 6－13 | 9－4 | 10－85 | $22-4$ |
| ＊ $1117{ }^{\circ}$ | ＊＊：97\％ | $3-50 \mathrm{~A}$ | 5－11 | 6．115 | 9－4． | 11－3 | 2－4－3 |
| 1 Hf | ＊＊${ }^{\text {\％}}$ TK゙ | 311－1－6 | 5－11； | 6－36 | 9－7 | 11－1 | 34－2 |
| ＊1117 | 3－1 | 3114 | 5113 | 6114 | $9-8$ | 11.110 | 35－4 |
| 11110 | ＊： 71 | ＊＊3HTF4 | ［111 | ＊＊6HTF4 |  | 11－11 | 40.6 F |
| ＊LHTF10 | ＊ 317 | 3111 | 51110 | （illis |  |  | 41－75 |
| ＊119＇f11 | ＊＊：3TF 4 | 31－05 | \％1111 | 7－4 |  |  | 55－1 |
| ＊＊1 HTF゙11 | ＊＊3rFt |  |  | ＊＊ $67 \times 4$ |  |  | 55－4 |
|  | ＊＊37FV |  |  | 7A10 |  |  |  |
|  |  |  |  | \％．11 |  |  |  |
|  |  |  |  | ＊＊ 611 TF |  |  |  |

19 A－List $\$ 10.00$
＊T denotes $T 51 / 2$ bulb－ 7 pin miniature，e．g．， $3 T 4$
＊＊TF denotes $T 6 \frac{1}{2}$ bulb－ 9 pin miniature，e．g．，3TF4．
Base Wiring：Octal， 6 and 9 pin miniature－prongs $2-7$

## ADVANTAGES

Light ．．．Compact ．．．No Moving Parts（Will withstand vibrations of 10 G min．）．．．Her－ metically Sealed（Not affected by altitude or humidity changes）．．．Can Be Changed as Easily as a Radio Tube ．．．Operates Equally Well on AC or DC ．．Inexpensive．

## CAPACITIES AVAILABLE

Current values of 60 ma ，to 5 amps ；threshold voltage 0.4 to 40 V ．Maxinum dissipation per AMPERITE 50 w per tube（ST19 bulb）．Any number of AMPERITES with the same voltage range can be operated in parallel．AMPERITES should not be used in series．

## AMBIENT EFFECTS

Variations of $-50^{\circ}$ to $+70^{\circ} \mathrm{C}$ ．will change the current of an AMPERITE approximately $\pm 2 \%$ on the regulating portion of the curve．

## LIFE EXPECTANCY

Average life 2000 hours prox．；if AMPERITE filament is operated at black temperature－ average life 5000 hours prox．，depending on use．

## AGEING

AMPERITE Ballast Tubes may change ap－ proximately up to $3 \%$ in current if aged for 4 to 8 hours，at maximum voltage．They will change very little thereafter．

## POWER SUPPLIES

We strongly recommend，for any particular application，to fill and return one of our special problem sheets（ASP 343）and permit us to recommend the most suitable AMPERITE．

| Power |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Supply | Dry Cells | 6 Volts | 12 Volts | 26 Volts | 115－Volts |
| Supply |  |  |  |  |  |
| Variation | 2．2－3．0V | 5．5－6．54 | 10．0－14．0V | 22．0－30．0V | 105.125 V |
| Iresires |  |  |  |  |  |
| on load | 1．8－2．0V | 3．4－4．15 | 6．1－6．4V | 17．5－18．5V | 90－95V |
| licquited an |  |  |  |  |  |
| AMPERITE | 0．4－1．0V | 1．6－3．4V | 3．9－7．6V | 4．5－11．5V | 15－30V |
| C＇urrent |  |  |  |  |  |
| Variation | ．29－．32a | ．20－．314 | ．29－．31a | ．29－．32a | ．29－．32a |

The above chart shows the maximum load voltage for the given supply to obtain $\pm 2 \%$ regulation on load．Better regulation is ob－ tainable by increasing the voltage across the AMPERITE．In general，the higher the percent of the supply voltage taken by the AMPERITE， the better the regulation．

## 7n Stock

## ALPHA WIRE CORPORATION

## SHIELDED MICROPHONE CABLE

STANDARD SPOOL PUT.UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.

## PLASTIC

APPLICATIONS: All high impedance microphones-Lapel, Ribbon, Velocity, Crystal, Contact. Hi -Fi interconnecting cables.

| ALPHA <br> NO. | NO. OF <br> COND. | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> CAPACITY | NOM. <br> O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1703 | 1 | 24 | $10 / 34$ | $38 \mathrm{mmf} . / \mathrm{ft}$. | $.145^{\prime \prime}$ |
| 1704 | 1 | 24 | $10 / 34$ | $25 \mathrm{mmf} . / \mathrm{ft}$. | $.200^{\prime \prime}$ |
| 1706 | 1 | 20 | $26 / 34$ | $39 \mathrm{mmf} . / \mathrm{ft}$. | $.175^{\prime \prime}$ |

COLOR CODE OF CONOUCTOR: WHITE
APPLICATIONS: All low impedance microphones-Carbon, Condenser, Dynamic.

| ALPHA <br> NO. | NO. OF <br> COND. | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> CAPACITY | NOM. <br> 0.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1710 | 2 | 22 | $16 / 34$ | $31 \mathrm{mmf} . / \mathrm{ft}$. | $.235^{\prime \prime}$ |
| 1713 | 3 | 20 | $26 / 34$ | $39 \mathrm{mmf} . / \mathrm{ft}$. | $.295^{\prime \prime}$ |
| 1715 | 4 | 20 | $26 / 34$ | $43 \mathrm{mmf} . / \mathrm{ft}$. | $.320^{\prime \prime}$ |

COLOR COOE OF CONOUCTORS: 1-WHITE, 2-BLACK, 3-RED, 4-GREEN

## RUBBER

APPLICATIONS: All high impedance microphones. Broadcast and heavy duty studio use.

| ALPHA <br> NO. | NO. OF <br> COND. | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> CAPACITY | NOM. <br> O.D. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1248 | 1 | 20 | $26 / 34$ | $40 \mathrm{mmf} . / \mathrm{ft}$. | $.175^{\prime \prime}$ |
| 1249 | 1 | 20 | $26 / 34$ | $30 \mathrm{mmf} . / \mathrm{ft}$. | $.245^{\prime \prime}$ |
| $1249 / 18$ | 1 | 18 | $41 / 34$ | $45 \mathrm{mmf} . / \mathrm{ft}$. | $.250^{\prime \prime}$ |

COLOR CODE OF CONDUCTOR: BLACK
APPLICATIONS: All low impedance microphones. Broadcast and heavy duty studio use.

| ALPHA <br> NO. | NO. OF <br> COND. | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> CAPACITY | NOM. <br> O.D. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| 1250 | 2 | 20 | $26 / 34$ | $70 \mathrm{mmf} . / \mathrm{ft}$. | $.275^{\prime \prime}$ |
| $1250 / 18$ | 2 | 18 | $41 / 34$ | $75 \mathrm{mmf} . / \mathrm{ft}$. | $.305^{\prime \prime}$ |
| 1251 | 3 | 20 | $26 / 34$ | $80 \mathrm{mmf} . / \mathrm{ft}$. | $.285^{\prime \prime}$ |
| $1251 / 18$ | 3 | 18 | $41 / 34$ | $85 \mathrm{mmf} . / \mathrm{ft}$. | $.325^{\prime \prime}$ |
| 1252 | 4 | 20 | $26 / 34$ | $90 \mathrm{mmf} . / \mathrm{ft}$. | $.305^{\prime \prime}$ |

COLOR COOE OF CONDUCTORS: 1-BLACK, 2-WHITE, 3-RED, 4--GREEN

SHIELDED MULTI-CONDUCTOR CABLE (Rubber Jacket)
STANDARD SPOOL PUT.UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT.
APPLICATIONS: Shielded electronic power cable. Control circuits. Video and audio interconnecting cable. Broadcast and heavy duty studio use

| $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | $\begin{aligned} & \text { NO. OF } \\ & \text { COND. } \end{aligned}$ | $\begin{aligned} & \hline \text { COND. } \\ & \text { SIZE } \end{aligned}$ | $\begin{aligned} & \text { COND. } \\ & \text { STRAND } \end{aligned}$ | $\begin{aligned} & \text { NOMINAL } \\ & \text { INSULATION } \end{aligned}$ | $\begin{aligned} & \hline \text { NOM. } \\ & \text { O.D. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1253 | 5 | 20 | 26/34 | .020" | . 34011 |
| 1254 | 6 | 20 | 26/34 | .020" | . 365 " |
| 1254/18 | 6 | 18 | 41/34 | .020" | .430" |
| 1255 | 7 | 20 | 26/34 | .020" | . 370 " |
| 1255/8 | 8 | 20 | 26/34 | .020" | .400" |



| OESCRIPTION: <br> Each conductor 20 AWG stranded tinned copper, cotton wrap, rubber insulation, color coded, conductors twisted, cushioned with cotton fillers, cotton wrap, tough black rubber jacket overall. It is extremely flexible and specially designed for heavy studio use. |  | UNSHIELDED MULTI-CONDUCTOR CABLE (Rubber Jacket) STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT. <br> APPLICATIONS: Inter-rack connecting cable. Recording studio and broadcast. Remote con trol circuits. Rough usage electronic power cable. P.A. systems. Multiple speaker cable. |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | $\begin{aligned} & \text { NO. OF } \\ & \text { CONO. } \end{aligned}$ | CONO. SIZE | COND. STRAND | NOMINAL INSULATION | $\begin{aligned} & \text { NOM. } \\ & 0.0 . \end{aligned}$ |
|  |  | 1244 | 2 | 20 | 26/34 | .020" | .250" |
|  |  | 1245 | 3 | 20 | 26/34 | .020" | .285" |
|  |  | 1246 | 4 | 20 | 26/34 | .020" | .300" |
|  |  | 1247 | 5 | 20 | 26/34 | .020" | . $340^{\prime \prime}$ |
|  |  | 1247/6 | 6 | 20 | 26/34 | .020" | . $370^{\prime \prime}$ |
|  |  | 1247/8 | 8 | 20 | 26/34 | .020" | .400" |
|  |  | COLOR COOE OF CONOUCTORS: 1-BLACK, 2-WHITE, 3-REO, 4-GREEN, 5-YELLOW, 6-BLUE, |  |  |  |  |  |
| OESCRIPTION: <br> Nos. 1256.7.8: Each conductor 20 AWG stranded tinned copper, rubber insulation, waxed | stramoeo conducton <br> RUBBER insulation | SHIELDED MULTIPLE CONDUCTOR CABLE <br> STANDARD SPOOL PUT.UP: 100 fT., 250 FT., 500 FT., 1000 FT. <br> $\stackrel{\rightharpoonup}{4}$ <br> APPLICATIONS: For public address and sound systems. Recording studios. Amateur radio transmitters. Paging and call systems. <br> TINNED SHIELD OVERALL |  |  |  |  |  |
| cotton braid, color coded, conductors twisted, tinned copper shield overall. |  | ALPHA NO. | NO. OF CONO. | $\begin{aligned} & \text { CONO. } \\ & \text { SIZE } \\ & \hline \end{aligned}$ | COND. STRAND | NOMINAL INSULATION | $\begin{aligned} & \text { NOM. } \\ & 0.0 . \end{aligned}$ |
| No. 1256V: Each conductor 20 |  | 1256 | 2 | 20 | 10/30 | .016" | .170" |
| AWG stranded tinned copper, plastic insulation, color coded, | - | 1256V | 2 | 20 | 10/30 | .016" | .155" |
| conductors twisted, tinned cop. |  | 1257 | 3 | 20 | 10/30 | .016" | .225" |
| per shield overall. <br> Nos. 1262-3-4: Same as Nos. |  | 1258 | 4 | 20 | 10/30 | .016" | .250" |
| 1256-7-8 plus cotton braid over shield. |  | COTTON BRAID OVER SHIELD |  |  |  |  |  |
| No. 1262V: Same as No. 1256V | -38- TIMNED | 1262 | 2 | 20 | 10/30 | .016" | .225" |
|  |  | 1262V | 2 | 20 | 10/30 | .016" | .185" |
|  |  | 1263 | 3 | 20 | 10/30 | .016" | .240" |
|  |  | 1264 | 4 | 20 | 10/30 | .016" | .275 ${ }^{\prime \prime}$ |
|  |  | Color code of conductors: 1-black, 2-RED, 3-White. 4-GREEN |  |  |  |  |  |
| OESCRIPTION: <br> No. 1265: Two conductors 18 AWG stranded tinned copper, rubber insulation, color coded, conductors twisted, paper wrap, close tinned copper |  | SHIELDED SPEAKER CABLE <br> STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT. <br> APPLICATIONS: Commercial speaker installations. Master control sound systems. Specially designéd for long runs. |  |  |  |  |  |
| shieid overall. <br> No. 1266: Same as No. 1265 except with waxed cotton braid | whap | $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | NO. OF COND. | COND. SIZE | COND. <br> STRAND | NOMINAL INSULATION | $\begin{aligned} & \text { MOM. } \\ & \text { O.D. } \end{aligned}$ |
| over shield. |  | 1265 | 2 | 18 | 16/30 | .032" | .235" |
|  | Y: TINMEO | WAXED COTTON BRAID OVER SHIELD |  |  |  |  |  |
|  |  | 1266 | 2 | 18 | 16/30 | .032" | .260" |
|  |  | COLOR GODE OF CONOUCTORS: 1-LLACK 2-WNITE |  |  |  |  |  |

## 7n Stock

## ALPHA WIRE CORPORATION

## 2 AND 3 CONDUCTOR UNSHIELDED CABLE

STANDARD SPOOL PUT.UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT
APPLICATIONS: Intercoms. Interconnecting cables. Remote control circuits. Telephones. Telemetering connecting cable. "Baby Sitter" intercom.

WITHOUT PLASTIC JACKET
SOLIO CONOUCTORS

| ALPHA <br> NO. | NO. OF <br> COND. | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> INSULATION | NOM. <br> O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 9269 | 2 | 22 Solid | 1 | $.016^{\prime \prime}$ | $.115^{\prime \prime}$ |
| 9270 | 3 | 22 Solid | 1 | $.016^{\prime \prime}$ | $.125^{\prime \prime}$ |
| 9271 | 2 | 20 Solid | 1 | $.016^{\prime \prime}$ | $.130^{\prime \prime}$ |
| 9272 | 3 | 20 Solid | 1 | $.016^{\prime \prime}$ | $.140^{\prime \prime}$ |
| 9273 | 2 | 18 Solid | 1 | $.016^{\prime \prime}$ | $.145^{\prime \prime}$ |
| 9274 | 3 | 18 Solid | 1 | $.016^{\prime \prime}$ | $.155^{\prime \prime}$ |

WITH PLASTIC JACKET
SOLID CONOUCTORS

| ALPHA <br> NO. | NO. OF <br> COND. | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> INSULATION | NOMINAL <br> JACKET | NOM. <br> O.D. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| 1793 | 2 | 22 Solid | 1 | $.010^{\prime \prime}$ | $.020^{\prime \prime}$ | $.125^{\prime \prime}$ |
| 1794 | 3 | 22 Solid | 1 | $.010^{\prime \prime}$ | $.020^{\prime \prime}$ | $.130^{\prime \prime}$ |
| 1795 | 2 | 20 Solid | 1 | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.170^{\prime \prime}$ |
| 1796 | 3 | 20 Solid | 1 | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.180^{\prime \prime}$ |
| 1797 | 2 | 18 Solid | 1 | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.185^{\prime \prime}$ |
| 1798 | 3 | 18 Solid | 1 | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.190^{\prime \prime}$ |
| STRANOED CONOUCTORS |  |  |  |  |  |  |
| 1893 | 2 | 22 | $7 / 30$ | $.010^{\prime \prime}$ | $.020^{\prime \prime}$ | $.135^{\prime \prime}$ |
| 1894 | 3 | 22 | $7 / 30$ | $.010^{\prime \prime}$ | $.020^{\prime \prime}$ | $.145^{\prime \prime}$ |
| 1895 | 2 | 20 | $10 / 30$ | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.180^{\prime \prime}$ |
| 1896 | 3 | 20 | $10 / 30$ | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.190^{\prime \prime}$ |
| 1897 | 2 | 18 | $16 / 30$ | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.200^{\prime \prime}$ |
| 1898 | 3 | 18 | $16 / 30$ | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.210^{\prime \prime}$ |



## ALPHA WIRE CORPORATION

7x Stock


## PLASTIC INTERCOMMUNICATION CABLE (Twisted Pairs)

STANDARD SPOOL PUT-UP: 50 FT., $100 \mathrm{FT} ., 250$ FT., 500 FT ., 1000 FT.
APPLICATIONS: Balanced intercom systems. Annunciators. Telephones. "Nurses call" systems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. "Alarm" systems. Guided missiles.

SOLID CONDUCTORS

| $\begin{aligned} & \text { ALPHA } \\ & \text { ND. } \end{aligned}$ | $\begin{gathered} \text { NO. Of } \\ \text { PAIRS } \end{gathered}$ | $\begin{aligned} & \text { NO. OF } \\ & \text { COND. } \end{aligned}$ | $\begin{gathered} \text { COND. } \\ \text { SIZE } \end{gathered}$ | $\begin{aligned} & \text { COND. } \\ & \text { STRAN } \end{aligned}$ | NOMINAL INSULATIDN | NOMINAL JACKET | $\begin{aligned} & \text { NOM. } \\ & \text { O.D. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1300 | 1 | 2 | 22 Solid | 1 | . $010^{\prime \prime}$ | .020" | .145" |
| 1302 | 2 | 4 | 22 Solid | 1 | . $010{ }^{\prime \prime}$ | .020" | .190" |
| 1304 | 3 | 6 | 22 Solid | 1 | . 010 " | .020" | .215" |
| 1307 | 6 | 12 | 22 Solid | 1 | . 010 " | .020" | .280" |
| 1307/9 | 9 | 18 | 22 Solid | 1 | . $010{ }^{\prime \prime}$ | . 020 " | .320" |
| 1308 | 10 | 20 | 22 Solid | 1 | . 01010 | .020" | . 345 " |
| $1308 / 11$ | 11 | 22 | 22 Solid | 1 | .010" | .020" | .355" |
| 1309 | 13 | 26 | 22 Solid | 1 | .010" | .025" | . 365 " |
| 1309/15 | 15 | 30 | 22 Solid | 1 | .010" | .025" | .385" |
| 1310 | 16 | 32 | 22 Solid | 1 | .010" | .025" | .395" |
| 1312 | 26 | 52 | 22 Solid | 1 | . 010 " | .035" | .490" |
| 1313 | 27 | 54 | 22 Solid | 1 | . $010{ }^{\prime \prime}$ | .035" | . $500{ }^{\prime \prime}$ |
| 1314 | 51 | 102 | 22 Solid | 1 | . $010{ }^{\prime \prime}$ | .035" | .650" |
| STRANDED CONDUCTORS |  |  |  |  |  |  |  |
| 1316 | 1 | 2 | 22 | 7/30 | . 010 " | .020" | .150" |
| 1317 | 2 | 4 | 22 | 7/30 | .010" | .020" | .190" |
| 1318 | 3 | 6 | 22 | 7/30 | .010" | .020" | .225" |
| 1319 | 4 | 8 | 22 | 7/30 | .010" | .020" | .235" |
| 1320 | 5 | 10 | 22 | 7/30 | .010" | .020" | .265" |
| 1322 | 6 | 12 | 22 | 7/30 | .010" | .020" | . 315 " |
| 1323 | 9 | 18 | 22 | 7/30 | .010" | .020" | .355" |
| 1327 | 15 | 30 | 22 | 7/30 | . $010^{\prime \prime}$ | .025" | .440" |
| 1329 | 27 | 54 | 22 | 7/30 | . $010^{\prime \prime}$ | .035" | .565" |

## LEAD-COVERED COMMUNICATION CABLE (Twisted Pairs)

STANDARD REEL PUT-UP: 1000 FT.
APPLICATIDNS: Balanced intercom systems. Annunciators. Telephones. "Nurses call" sys tems. Control circuit cable. Electronic computer cable. Multiple speaker cable. Signal systems. "Alarm" systems. Guided missiles. Industrial electronic cable-"explosion-proof".

| ALPHA <br> ND. | ND. OF <br> PARS | NO. DF <br> COND. | CDND. <br> SI2E | LEAD <br> SHEATH | NDM. <br> O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1 2 8 9}$ | 6 | 12 | 22 Solid | $.057^{\prime \prime}$ | $.340^{\prime \prime}$ |
| $\mathbf{1 2 9 1}$ | 10 | 20 | 22 Solid | $.057^{\prime \prime}$ | $.415^{\prime \prime}$ |
| 1293 | 16 | 32 | 22 Solid | $.057^{\prime \prime}$ | $.4855^{\prime \prime}$ |
| $\mathbf{1 2 9 5}$ | 26 | 52 | 22 Solid | $.057^{\prime \prime}$ | $.530^{\prime \prime}$ |



## DESCRIPTION:

Each conductor 22 AWG tinned copper, plastic insulation, conductors color coded, twisted into pairs, gray vinyl plastic jacket overall. Suitable for outdoor instaliations.

COLOR CODE
of Paired conductors: Pair Color No. Combination 1-8lack paired with Red 2-Black paired with white 3-Black palred with Green ${ }_{5}^{4}$-Black paired with Blue 5-Black paired with Brown 6-Black palred with Yellow 7-8lack paired with Orang 9—Red paired with White 10-Red palred with Blue 11-Red paired with Yellow 12-Red palred with Brown 13-Red paired with Orange 14 -Green paired with Blue 15-Green paired with Whlte 16-Green paired with Brown 17-Green paired with Orange 19-Green parred with Yelue 20-white palred with Brown 21-white palred with Orange 22-White paired with Yellow 23-White paired with Yellow 24-Blue palred with Orange 25-Ble paired with Yellow
26 - Brown paired with Orange 27-Brown paired with Yellow 28-Purple paired with Red 29-Purple paired with white 30-Purple paired with Green 31-Purple palred with Blue 32-Purple palred with Brown 33-Purple palred with Yellow
34-Purple paired with Orange 34-Purple paired with Orange $36-$ Purple paired with Black 37-Slate paired with Red 38-slate paired with white 39-Slate paired with Green 40-Slate paired with Blue 41-Slate paired with Brown 42-Slate paired with Yellow 43-Slate paired with Orange 44-Slate paired with Black 45-White/Black paired with Red 46-White/Black paired with Green 47-White/Black paired with Blue 48-White/Black paired with Brown
49-White/Black paired with Yellow 49-Whie/Black paired with Yellow
50-White/Black paired with Orang 51-White/Black paired with Purple

## DESCRIPTIDN:

Each conductor 22 AWG solid tinned copper, two reverse serves paraffined, color coded, conductors twisted into pairs, covered with an impregnated double paper wrap, lead sheath overall. Use where $100 \%$ shièlding is required for underground or waterproof require. ments.

## ALPHA WIRE CORPORATION 7n Stock

| DESCRIPTION: <br> Each conductor 22 AWG stranded tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor |  | MULTI-CONDUCTOR FLEXIBLE CABLE <br> STANDARD SPOOL PUT-UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 FT. <br> APPLICATIONS: Unbalanced intercom systems. Low voltage relay control cable. P.A. systems. Signal systems. Electronic computer cable. <br> PLASTIC JACKET |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | ALPHA NO. | NO. OF CDNO. | $\begin{aligned} & \text { CONO. } \\ & \text { SIZE } \end{aligned}$ | CONO. STRAND | NDMINAL INSULATION | NOMINAL JACKET | $\begin{aligned} & \text { NOM } \\ & \text { O.D. } \end{aligned}$ |
|  |  | 1172 | 2 | 22 | 7/30 | . 010 " | .020" | .150" |
| COLOR COOE OF CONDUCTORS: |  | 1173 | 3 | 22 | 7/30 | .010" | .020" | .155" |
| $\begin{aligned} & \text { 1-BLACK } \\ & 2-R E D \end{aligned}$ |  | 1174 | 4 | 22 | 7/80 | . 01010 | .020" | .185" |
| 3-WHITE |  | 1175 | 5 | 22 | 7/30 | .010" | .020" | .190" |
| 6-8LUE |  | 1176 | 6 | 22 | 7/30 | .010" | .020" | .195" |
| 8-BROWN |  | 1177 | 7 | 22 | 7/30 | .010" | .020" | .230" |
| $\begin{aligned} & \text { 9—PURPLE } \\ & \text { 10-SLATE } \end{aligned}$ |  | 1178 | 8 | 22 | 7/30 | .010" | .020" | .245" |
|  |  | 1178 | 9 | 22 | 7/30 | .010" | .020" | .250" |
|  |  | 1180 | 10 | 22 | 7/30 | .010" | .020" | .255" |
|  |  | 1181 | 12 | 22 | 7/30 | .010" | .020" | .280" |
| DESCRIPTION: <br> Each conductor 20 AWG stranded tinned copper, plastic insulation, color coded, conductors twisted, brown cotton braid overall. <br> COLOR COOE OF CONOUCTORS: |  | COTTON BRAID |  |  |  |  |  |  |
|  |  | ALPHA NO. | $\begin{aligned} & \text { NO. OF } \\ & \text { COND. } \end{aligned}$ | $\begin{aligned} & \text { COND } \\ & \text { SIZE } \end{aligned}$ |  |  | NOMINAL SULATION | $\begin{aligned} & \text { NOM. } \\ & 0 \mathrm{O} \end{aligned}$ |
|  |  | 1182 | 2 | 20 |  |  | .016" | .170" |
|  |  | 1183 | 3 | 20 |  |  | .016" | .175" |
|  |  | 1184 | 4 | 20 |  |  | .016" | .210" |
|  |  | 1185 | 5 | 20 |  |  | .016" | .230" |
|  |  | 1186 | 6 | 20 |  |  | .016" | .245" |
|  |  | 1187 | 7 | 20 |  |  | .016" | 250" |
|  |  | 1188 | 8 | 20 |  |  | .016" | .265" |
|  |  | 1189 | 9 | 20 |  |  | .016" | .295" |
|  |  | 1190 | 10 | 20 |  |  | .016" | .300" |
|  |  | 1192 | 12 | 20 |  |  | .016" | .315" |
| DESCRIPTION: <br> Each conductor 18 AWG solid tinned copper, plastic insulation, color coded, conductors twisted, gray vinyl plastic jacket overall. Suitable for outdoor installations. |  | INDUSTRIAL MULTI-CONDUCTOR CABLE (Plastic Jacket) <br> STANDARD SP00L PUT.UP: 100 FT ., 500 FT ., 1000 FT . <br> APPLICATIONS: Telephones. Intercoms. Annunciators. Remote control circuit cable. Speaker cable. "Alarm" systems. Signal systems. P.A. systems. Thermostat. |  |  |  |  |  |  |
| COLOR COOE OF CONOUCTORS: |  | ALPHA NO. | NO. COND |  | ND. | NOMINAL SULATION | $\begin{aligned} & \text { NOMINAL } \\ & \text { JACKET } \end{aligned}$ | $\begin{gathered} \text { NOM. } \\ 0.0 . \end{gathered}$ |
| 2-RED |  | 1797 | 2 |  | Solid | .016" | .020" | .185" |
| 4-GREEN 5-ORANE |  | 1798 | 3 |  | Solid | .016" | .020" | .190" |
|  |  | 1798/4 | 4 |  | Solid | .016" | .020" | .235" |
|  |  | 1798/5 | 5 |  | Solid | .016" | .020" | .240" |
|  |  | 1798 / 6 | 6 |  | Solid | .016" | .020" | .275" |

## ALPHA WIRE CORPORATION

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## SHIELDED BROADCAST AUDIO CABLE

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., 500 FT., 1000 FT.
APPLICATIONS: Broadcast studios. Public address and sound systems. Intercommunication systems. Short wave. Rack wiring.

TINNED SHIELD OVERALL

| $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | NO. OF CONO. | $\begin{aligned} & \text { CONO. } \\ & \text { SIZE } \end{aligned}$ |  | NOMINAL INSULATION | $\begin{aligned} & \text { NOM. } \\ & 0.0 . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1267 | 2 | 20 Solid |  | - | .135" |
| 1267V | 2 | 20 Solid |  | .016" | .145" |
| WAXED COTTON BRAID OVER SHIELD |  |  |  |  |  |
| 1268 | 2 | 20 Solid |  | - | .165" |
| 1268 V | 2 | 20 Solid | .016" |  | .175" |
| PLASTIC JACKET OVER SHIELD |  |  |  |  |  |
| $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | $\begin{aligned} & \text { NO. OF } \\ & \text { COND. } \end{aligned}$ | $\begin{aligned} & \hline \text { COND } \\ & \text { SIZE } \end{aligned}$ | NOMINAL INSULATION | NOMINAL JACKET | $\begin{aligned} & \text { NOM. } \\ & \text { O.D. } \end{aligned}$ |
| 1775 | 2 | 22 Solid | .016" | .020" | .150" |

$\square$

## PLASTIC INTERCOMMUNICATION CABLE

STANDARD SPOOL PUT-UP: 100 FT., 250 FT., $500 \mathrm{FT} ., 1000 \mathrm{FT}$.

## 4 CONDUCTORS (2 SHIELDED - 2 UNSHIELDEO)

APPLICATIONS: General wiring from station to station where a shielded twisted pair is essential to eliminate cross talk. Balanced master to remote intercom with remote "breakin" feature. Audio imput with control cable Low impedance cable with switch.

| ALPHA <br> NO. | NO. OF <br> CONO. | COND. <br> SIZE | COND. <br> STRANO | NOMINAL <br> INSULATION | NOMINAL <br> JACKET | NOM. <br> $0 . D$. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $1243 / 4$ | 4 | 22 | $7 / 30$ | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.315^{\prime \prime}$ |

## 3 CDNDUCTORS (1 SHIELDED - 2 UNSHIELOEO)

APPLICATIONS: General wiring from station to station where a shielded single conductor is essential to eliminate cross talk. Unbalanced master to remote intercom with remote "break-in" feature.

| ALPHA <br> NO. | NO. OF <br> CONO. | COND. <br> SIZE | CONO. <br> STRANO | NOMINAL <br> INSULATION | NOMINAL <br> JACKET | NOM. <br> O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1243 | 3 | 22 | $7 / 30$ | $.016^{\prime \prime}$ | $.020^{\prime \prime}$ | $.215^{\prime \prime}$ |



## DESCRIPTION:

No. 1267-Two conductors 20 AWG solid tinned enameled cop. per, cotton insulation, color coded, conductors twisted. close copper shield overall.
No. 1267V-Two conductors 20 AWG solid tinned copper, plastic insulation, color coded, conductors twisted, close tinned copper shield overall.
No. 1268_Same as No. 1267 plus waxed cotton braid over shield.
No. 1268V-Same as No. 1267 V plus waxed cotton braid over shield.
No. 1775-Two conductors 22 AWG solid tinned copper, plastic insulation, color coded, conductors twisted, 22 AWG solid tinned copper ground wire under braided copper shield. gray vinyl plastic jacket overall.
COLOR CODE OF CONOUCTORS:
1-8LACK
2-RED

## DESCRIPTION:

No. 1243/4-Four conductors 22 AWG stranded tinned copper, vinyl plastic insulation, color coded. tinned copper shield over two conductors (paired), two conductors (paired) unshielded, gray vinyl plastic jacket overall.
COLOR CODE OF CONDUCTORS: SHIELDED PAIR-BLACK \& WHITE, UNSHIELDED PAIR-BLACK \& RED

No. 1243-Same as No. 1243 /4 except three conductors, tinned copper shield over only one conductor, two conductors unshielded, gray vinyl plastic jacket overall.

COLOR CODE OF CONOUCTORS:
UNSHIELDED-BLACK, RED.
SHIELDED-WHITE

OESCRIPTION:
Two conductors parallel, 18 AWG stranded tinned copper. rubber insulation, color coded, lacquered cotton braid, galvanized steel armor overall.

# ALPHA WIRE CORPORATION <br> 7w Stock 



## 7x Stock

## ALPHA WIRE CORPORATION .

## PLASTIC HOOK-UP-WIRE-SPECIFICATION MIL-W.76A

## (superseding JAN-C-76)

STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT.
TYPE MW (MEDIUM WALL)-superseding SRIR STRANDED

| ALPHA NO. | MIL-W.76A TYPE DESIGNA. | $\begin{gathered} \mathrm{CONO} \\ \text { SIZE } \end{gathered}$ | CONO. STRANO | $\begin{aligned} & \text { NOM. } \\ & \text { JNSUL. } \end{aligned}$ | VOLT. RATE. | $\begin{aligned} & \text { NOM. } \\ & 0.0 . \end{aligned}$ | $\begin{array}{\|c\|} \hline \text { STANO. } \\ \text { P.U. } \end{array}$ | $\begin{aligned} & \text { *STOCK } \\ & \text { COLORS } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1550 | MW-C 24( 7)U | 24 | 7/32 | .016" | 1000 | .059" | 1000' | 1 thru 22 |
| 1550Q | MW-C 24(7)U | 24 | 7/32 | .016" | 1000 | .059" | $100^{\circ}$ | 1 thiru 22 |
| 1551 | MW-C 22( 7)U | 22 | 7/30 | .016" | 1000 | .064" | 1000' | 1 thru 30 |
| 1552 | MW-C 22( 7)U | 22 | 7/30 | .016" | 1000 | .064" | 100' | 1 thru 30 |
| 1553 | MW-C 20(10)U | 20 | 10/30 | .016" | 1000 | .073" | $1000^{\circ}$ | 1 thru 30 |
| 1554 | MW-C 20(10)U | 20 | 10/30 | .016" | 1000 | .073' | $100^{\circ}$ | 1 thru 30 |
| 1555 | MW-C 18(16)U | 18 | 16/30 | .016" | 1000 | .084" | 1000' | 1 thru 22 |
| 1556 | MW-C 18(16)U | 18 | 16/30 | .016 ${ }^{\prime \prime}$ | 1000 | .084" | $100^{\circ}$ | 1 thru 22 |
| 1557 | MW-C 16(26)U | 16 | 26/30 | .016" | 1000 | .095" | 1000' | 1 thru 22 |
| 1558 | MW-C 16(26)U | 16 | 26/30 | .016" | 1000 | .095" | 100' | 1 thru 22 |
| 1559 | MW-C 14(41)U | 14 | 41/30 | .016" | 1000 | .110" | 1000' | 1 thru 22 |
| 15599 | MW-C 14(41)U | 14 | 41/30 | .016" | 1000 | .110" | 100' | 1 thru 22 |
| 1560 | MW-C 12(65)U | 12 | 65/30 | .016" | 1000 | .125" | 1000' | 1 thru 22 |
| 15600 | MW-C 12(65)U | , 12 | 65/30 | .016" | 1000 | .125" | $100^{\circ}$ | 1 thru 22 |

## SOLID

| 1561 | MW-C 22( 1)U | 22 | 1 | $.016^{\prime \prime}$ | 1000 | $.060^{\prime \prime}$ | $1000^{\prime}$ | 1 thru 22 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1562 | MW-C 22( 1)U | 22 | 1 | $.016^{\prime \prime}$ | 1000 | $.060^{\prime \prime}$ | $100^{\prime}$ | 1 thru 22 |
| 1563 | MW-C 20( 1)U | 20 | 1 | $.016^{\prime \prime}$ | 1000 | $.066^{\prime \prime}$ | $1000^{\prime}$ | 1 thru 22 |
| 1564 | MW-C 20( 1)U | 20 | 1 | $.016^{\prime \prime}$ | 1000 | $.066^{\prime \prime}$ | $100^{\prime}$ | 1 thru 22 |
| 1565 | MW-C 18( 1)U | 18 | 1 | $.016^{\prime \prime}$ | 1000 | $.074^{\prime \prime}$ | $1000^{\prime}$ | 1 thru 10 |
| 1566 | MW-C 18( 1)U | 18 | 1 | $.016^{\prime \prime}$ | 1000 | $.074^{\prime \prime}$ | $100^{\prime}$ | 1 thru 10 |



OESCRIPTION:
Single conductor stranded or solid tinned copper, thermoplastic insulation.
(11) TAN
12) PINK
(13) DARK elUE
(14) WHITE / BLACK
(15) WHITE / RED
(16) WHITE / GREEN
(17) WHITE / YELLOW
(18) WHITE BROW
(20) WHITE / ORANGE
(21) WHITE / GRAY
(22) WHITE / VIOLET
(23) WHITE/BLACK/REO
(24) WHITE / BLACK / GREEN
(26) WHITE /BLACK / BLLE
(27) WHITE/BLACK / BROWN
(27) WHITE/BLACK / BROWN
(29) WHITE/BLACK / GRAY
(30) WHITE / BLACK / VIOLET

## 0

| DESCRIPTION: <br> Single conductor stranded tinned copper, light wall thermoplastic insulation. <br> *STOCK COLORS <br> (1) WHITE <br> 3) RED <br> 4) GREEN <br> 5) YELLOW <br> ) LIGHT BLUE |  | PLASTIC HOOK.UP WIRE—SPECIFICATION MIL.W.76A <br> (superseding JAN-C-76) <br> STANDARD SPOOL PUT-UP: 100 FT., 500 FT ., 1000 FT. <br> TYPE LW (LIGHT WALL) |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | $\begin{gathered} \text { MIL-W.76A } \\ \text { TYPE DESIGNA. } \end{gathered}$ | $\begin{gathered} \text { COND } \\ \text { SIZE } \end{gathered}$ | $\begin{aligned} & \text { COND. } \\ & \text { STRAND } \end{aligned}$ | NOMM. | VOLT. RATE. | $\begin{aligned} & \text { NOM. } \\ & \text { O.D. } \end{aligned}$ | $\begin{aligned} & \text { stand. } \\ & \text { P.U. } \end{aligned}$ | *stock COLORS |  |
|  |  | 1685 | LW.C 30( 7) U | 30 | 7/38 | . 010 | 300 | .033" | $100{ }^{\prime}$ | 1 thru | 6 |
|  |  | 1685a | LW.C 30( 7)U | 30 | 7/38 | . $010^{\prime \prime}$ | 300 | .033" | 100' | 1 thru | 6 |
|  |  | 1686 | LW-C 28( 7)U | 28 | 7/36 | . 010 | 300 | . $035^{\prime \prime}$ | $1000^{\prime}$ | 1 thru | 6 |
|  |  | 1686a | LW-C 28( 7)U | 28 | 7/36 | . $010^{\prime \prime}$ | 300 | .035" | 100' | 1 thru | 6 |
|  |  | 1687 | LW.C 26( 7) U | 26 | 7/34 | . 01010 | 300 | .039" | $100{ }^{\prime}$ | 1 thru | 6 |
|  |  | 1687a | LW-C 26( 7)U | 26 | 7/34 | .010" | 300 | .039" | 100' | 1 thru | 6 |
| DESCRIPTION: <br> Single conductor stranded tinned copper, heavy wall thermoplastic insulation. |  | TYPE HW (HEAVY WALL)-superseding SRHV |  |  |  |  |  |  |  |  |  |
|  |  | 1571 | HW-C 22( 7)U | 22 | 7/30 | .032" | 2500 | .103" | $1000^{\prime}$ | 1 thru 10 |  |
|  |  | 15710 | HW-C 22( 7)U | 22 | 7/30 | .032" | 2500 | .103" | 100' | 1 thru 10 |  |
|  |  | 1573 | HW.C 20( 10)U | 20 | 10/30 | . 032 " | 2500 | .108" | $100{ }^{\prime}$ | 1 thru 10 |  |
|  |  | 1573a | HW-C 20( 10)U | 20 | 10/30 | . $032^{\prime \prime}$ | 2500 | .108" | 100' | 1 thru 10 |  |
|  |  | 1575 | HW.C 18( 16)U | 18 | 16/30 | .032" | 2500 | .120" | $1000^{\circ}$ | 1 thru 10 |  |
|  |  | 1575a | HW.C 18( 16)U | 18 | 16/30 | .032" | 2500 | .120" | $100^{\prime}$ | 1 thru 10 |  |
|  |  | 1577 | HW-C 16( 26)U | 16 | 26/30 | .032"1 | 2500 | .134" | $1000^{\circ}$ | 1 thru |  |
|  |  | 1577a | HW-C 16( 26)U | 16 | 26/30 | .032" | 2500 | .134" | $100^{\circ}$ | 1 thru 3 |  |
|  |  | 1579 | HW-C 14( 41)U | 14 | 41/30 | .045" | 2500 | .170" | 1000' | 1 thru 3 |  |
|  |  | 1579a | HW-C 14( 41)U | 14 | 41/30 | .045" | 2500 | .170" | 100' | 1 thru | 3 |
|  |  | 1651 | HW-C 12( 65)U | 12 | 65/30 | .045" | 2500 | .190" | 1000' | 1 thru 3 |  |
|  |  | 16510 | HW-C 12( 65)U | 12 | 65/30 | .045" | 2500 | .190" | 100' | 1 thru 3 |  |
|  |  | 1653 | HWW-C 10(105)U | 10 | 105/30 | .045" | 600 | .215" | 1000' | 1 thru 3 |  |
|  |  | 1653a' | HW-C 10(105)U | 10 | 105/30 | .045" | 600 | .215" | 100 | 1 thru 3 |  |
|  |  | 1655 | HW-C 8(133)U | 8 | 133/29 | .045" | 600 | .265" | 1000' | 1 thru 3 |  |
|  |  | 16550 ${ }^{1}$ | HW-C 8(133)U | $8{ }^{-1}$ | 133/29 | .045" | 600 | .265" | $100^{\prime}$ | 1 thru 3 |  |
|  |  | 1657 | HW-C 6(133)U | 6 | 133/27 | .045" | 600 | .310" | 1000 ${ }^{\circ}$ | 1 thru 3 |  |
|  |  | 1657a | HW.C 6(133)U | 6 | 133/27 | .045" | 600 | . $310^{\prime \prime}$ | $100^{\prime}$ | 1 thru 3 |  |

## 7n Stock

## ALPHA WIRE CORPORATION

## PLASTIC HOOK-UP WIRE—GLASS BRAID SPECIFICATION MIL-W-76A (superseding Jan.c.76)

STANDARD SPOOL PUT.UP: 100 FT., 500 FT.. 1000 FT.

TYPE MW (MEDIUM WALL)-GLASS BRAIB (superseding SRIR and WL Glass Braid)

| $\begin{aligned} & \text { PHA } \\ & \text { NO. } \end{aligned}$ | $\left[\begin{array}{c} \text { OLD ALPHA } \\ \text { WL } \end{array}\right.$ | $\underset{\text { TYPE DESIGNA. }}{\text { MIL-W. }} \text { SAA }$ | $\operatorname{COND}$ | COND | NOM: | $\begin{aligned} & \text { volt. } \\ & \text { Rate. } \end{aligned}$ | $\begin{gathered} \text { NOM. } \\ \text { O.D. } \end{gathered}$ | $\begin{gathered} \text { Stand. } \\ \text { P.U. } \end{gathered}$ | $\begin{aligned} & \text { "STOCK } \\ & \text { COLORS } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1580 | 1480 | MW-C 22( 7) B | 22 | 7/30 | .016" | 1000 | 080" | $1000^{\circ}$ | thru 19 |
| 15900 | 14800 | MW-C 22( 7) B | 22 | 7/30 | 016" | 1000 | .080 ${ }^{\prime \prime}$ | $100^{\circ}$ | 1 thru 19 |
| 1581 | 1481 | MW-C 20( 10) B | 20 | 10/30 | .016" | 000 | .090' | 1000 | thru 19 |
| 15818 | 14810 | MWW-C 20( 10) B | 20 | 10/30 | .016" | 1000 | .090" | $100^{\circ}$ | thru 19 |
| 1592 | 1482 | MW.C 18( 16)B | 18 | 16/30 | 016" | 1000 | $100{ }^{\prime \prime}$ | $1000^{\circ}$ | thru 19 |
| 15920 | 1492a | MW-C 18( 16)B | 18 | 16/30 | 016" | 1000 | . 100 | $100^{\circ}$ | 1 thru 19 |
| 1593 | 1493 | MW-C 16( 26)B | 16 | 26/30 | 016" | 1000 | .115" | 1000' | 1 thru 19 |
| 15930 | 1493@ | MW-C 16( 26)B | 16 | 26/30 | 016" | 1000 | .115 | $100^{\prime}$ | thru 19 |
| 1594 | 1494 | MW.C 14( 41)B | 14 | 41/30 | . $016{ }^{\prime \prime}$ | 1000 | 125" | 1000 | 1 thru 10 |
| 15949 ${ }^{\prime}$ | 14840 | MW.C 14( 41)B | 14 | 41/30 | 016" | 1000 | 125" | $100^{\prime}$ | 1 thru 10 |
| 1595 | 1495 | MW.C 12( 65)B | 12 | 65/30 | .016" | 1000 | 140" | 1000 | 1 thru 10 |
| 15959 | 14830 | MW-C 12( 65)B | 12 | 65/30 | 016" | 1000 | 140" | $100^{\circ}$ | 1 thru 10 |

TYPE HW (HEAVY WALL)-GLASS BRAID
(superseding SRHV-Glass Braid)

|  | 14 | HW.C | 105)B | 10 | 105/30 | . 045 | 600 | .235" | 1000' | 1 thru | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 80 | 14 | HW-C | 10(105)B | 10 | 105/30 | .045" | 600 | . 235 | 100 | 1 thru |  |
| 99 |  | HW-C | 133 |  | 133/29 | . 0 | 600 | .290" | 1000' | 1 thru |  |
| 15989 |  | W-C | (133) |  | 133/29. | . 045 | 600 | . 290 | 100 | 1 thru | 3 |
| 1889 / |  | W.C | (133) |  | 133/27 | .045" | 600 | .340" | 1000' | 1 thru |  |
| 159\%\% |  | HW | 6(133) B |  | 133/27 | 04 | 00 | .340" | 100' | 1 thru |  |

SHIELDED HOOK-UP WIRE-SPECIFICATION MIL-W-76A glass braid over plastic insulation
(superseding JAN-C.76) STANDARD SPOOL PUT-UP: 100 FT., 500 FT., 1000 FT. TYPE MW (MEDIUM WALL)-GLASS BRAID, SHIELDED

| ALPHA <br> NO. | MIL-W-76A <br> TYPE DESIGNA. | COND. <br> SIZE | CONO. <br> STRAND | NOM. <br> INSUL. | VOLT. <br> RATE. | NOM. <br> 0.0. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1361 | MW-C 22( 7)BS | 22 | $7 / 30$ | $.016^{\prime \prime}$ | 1000 | $.095^{\prime \prime}$ |
| 1362 | MW-C 20( 10)BS | 20 | $10 / 30$ | $.016^{\prime \prime}$ | 1000 | $.108^{\prime \prime}$ |
| 1363 | MW-C 18( 16)BS | 18 | $16 / 30$ | $.016^{\prime \prime}$ | 1000 | $.124^{\prime \prime}$ |
| 1364 | MW-C 16( 26)BS | 16 | $26 / 30$ | $.016^{\prime \prime}$ | 1000 | $.133^{\prime \prime}$ |
| 1365 | MW-C 14( 41)BS | 14 | $41 / 30$ | $.016^{\prime \prime}$ | 1000 | $.144^{\prime \prime}$ |
| 1366 | MW-C 12( 65)BS | 12 | $65 / 30$ | $.016^{\prime \prime}$ | 1000 | $.168^{\prime \prime}$ |
| 1367 | HW-C 10(105)BS | 10 | $105 / 30$ | $.045^{\prime \prime}$ | 600 | $.265^{\prime \prime}$ |

## ALPHA WIRE CORPORATION

| DESCRIPTION: <br> Single conductor stranded tin ned copper, thermoplastic insu- lation, nylon jacket overall. <br> - STOCK COLORS: |  | PLASTIC HOOK.UP WIRE - NYLON JACKET SPECIFICATION MIL-W.76A (superseding JaN.C.76) STANDARD SPOOL PUT.UP: 100 FT., 500 FT., 1000 FT. <br> TYPE MW (MEDIUM WALL)-NYLON JACKET (superseding WL-Nylon Jacket) |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { ALPHA } \\ & \text { No. } \end{aligned}$ | MIL-W. $76 A$ YPE DESIGNA | $\left.\left\lvert\, \begin{array}{c} \text { Cono. } \\ \text { sil2e } \end{array}\right.\right]$ | Cono | $\left\|\begin{array}{c} \text { NoM. } \\ \text { insul. } \end{array}\right\|$ | $\begin{array}{\|c\|} \hline \text { volt. } \\ \text { RATE. } \\ \hline \end{array}$ | $\begin{array}{\|c} \mathrm{NOM} . \\ 0.0 . \end{array}$ | $\left\|\begin{array}{c} \text { stano. } \\ \text { P.U. } \end{array}\right\|$ | "STOCK colons |
|  |  | 1504 | MW.C 22( 7) | 22 | 7/30 | .016" | 1000 | .075" | 1000' | 1 thru 19 |
|  |  | 15040 | MW.C 22( 7) | 22 | 7/30 | .016" | 1000 | . 075 " | $100^{\prime}$ | 1 thru 19 |
|  |  | 1505 | MW.C 20(10) | 20 | 10/30. | .016" | 1000 | . 0901 | 1000' | 1 thru 19 |
|  |  | 1505a | MW.C 20(10) | 20 | 10/30 | . 016 | 1000 | . 0901 | $100^{\circ}$ | 1 thru 19 |
|  |  | 1506 | MW.C 18(16)] | 18 | 16/30 | .016" | 1000 | .103" | 1000' | 1 thru 19 |
|  |  | 15068 | MW-C 18(16) | 18 | 16/30 | .016" | 1000 | .103" | $100^{\prime}$ | 1 thru 19 |
|  |  | 1507 | MW.C 16(26)J | 16 | 26/30 | . $016^{\prime \prime}$ " | 1000 | .115" | 1000' | 1 thru 19 |
|  |  | 15079 | MW.C 16(26)] | 16 | 26/30 | .016" | 1000 | .115" | 100. | 1 thru 19 |
|  |  | 1508 | MW.C 14(41) | 14 | 41/30 | .016" | 1000 | .125" | 1000' | 1 thru 6 |
|  |  | 1508a | MW.C 14(41) | 14 | 41/30 | .016" | 1000 | .125" | 100' | 1 thru 6 |
|  |  | 1509 | MW.C 12(65) | 12 | 65/30. | . $016^{\prime \prime}$ | 1000 | .140" | 1000' | 1 thru 3 |
|  |  | 1509a | MW.C $12(65)$ ] | 12 | 65/30 | . 016 " | 1000 | .140" | $100^{\prime}$ | 1 thru 3 |
| DESCRIPTION: <br> Single conductor stranded tinned copper, thermoplastic insuoverall. |  | SHIELDED PLASTIC HOOK.UP WIRE SPECIFICATION MIL-W-76A (superseding JAN.C.76) STANDARD SPOOL PUT.UP: 100 FT., 500 FT., 1000 FT. <br> TYPE MW (MEDIUM WALL) SHIELDED |  |  |  |  |  |  |  |  |
|  |  | $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | $\begin{aligned} & \text { MIL-W-76A } \\ & \text { TYPE DESIGNA. } \end{aligned}$ |  | $\begin{aligned} & \text { OND. } \\ & \text { S12E } \end{aligned}$ | $\begin{aligned} & \text { COND } \\ & \text { STRANT } \end{aligned}$ | NOM. INSUL. |  | $\begin{aligned} & \text { volt. } \\ & \text { RATE. } \end{aligned}$ | NOM. <br> 0.D. |
|  |  | 1350 | MW-C 24( 7) S |  | 24 | 7/32 |  |  | 1000 | . 075 " |
|  |  | 1351 | MW-C 22( 7)S |  | 22 | 7/30 | . $016^{\prime \prime}$ |  | 1000 | . $085{ }^{\prime \prime}$ |
|  |  | 1352 | MW-C 20(10)S |  | 20 | 10/30 | . $016^{\prime \prime}$ |  | 1000 | . $095{ }^{\prime \prime}$ |
|  |  | 1353 | MW.C 18(16)S |  | 18 | 16/30 | . $016{ }^{\prime \prime}$ |  | 1000 | .105" |
|  |  | 1354 | MW.C 16(26)S |  | 16 | 26/30 | . $016{ }^{\prime \prime}$ |  | 1000 | .120" |
|  |  | 1355 | MW.C 14(41)S |  | 14 | 41/30 | $\begin{aligned} & .016^{\prime \prime} \\ & .016^{\prime \prime} \end{aligned}$ |  | 1000 | .135" |
|  |  | 1356 | MW-C 12(65)S |  | 12 | 65/30 |  |  | 1000 | .155" |
|  |  |  |  |  |  |  |  |  |  |  |

## ALPHA WIRE CORPORATION

## .

HIGH TEMPERATURE PLASTIC HOOK-UP WIRE SPECIFICATION MIL-W-16878A
STANDARD SPOOL PUT.UP: 100 FT., $500 \mathrm{FT} ., 1000 \mathrm{FT}$.
APPLICATIONS: For miniature and sub-miniature hig7 temperature hook-ups.

| ALPHA <br> NO. | MIL TYPE <br> DESIGNATION | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> INSULATION | VOLTAGE <br> RATING | NOM. <br> O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1 8 5 1}$ | B-30 | 30 | $7 / 38$ | $.010^{\prime \prime}$ | 600 | $.032^{\prime \prime}$ |
| $\mathbf{1 8 5 2}$ | B-28 | 28 | $7 / 36$ | $.010^{\prime \prime}$ | 600 | $.035^{\prime \prime}$ |
| $\mathbf{1 8 5 3}$ | $8-26$ | 26 | $7 / 34$ | $.010^{\prime \prime}$ | 600 | $.038^{\prime \prime}$ |
| $\mathbf{1 8 5 4}$ | B-24 | 24 | $7 / 32$ | $.010^{\prime \prime}$ | 600 | $.043^{\prime \prime}$ |
| $\mathbf{1 8 5 5}$ | B-22 | 22 | $7 / 30$ | $.010^{\prime \prime}$ | 600 | $.049^{\prime \prime}$ |

———

STANDARD SP00L PUT.UP: 100 FT ., 500 FT ., 1000 FT .

APPLICATIONS: Use wherever a single conductor, 600 volt insulated, aircraft electrical wire is needed. Resistant to: abrasion, moisture. cold, heat, flame, fungus, oil, salt water.

UNSHIELDED (MIL-W-5086)

| $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | MIL TYPE DESIGNATION | $\begin{aligned} & \text { COND. } \\ & \text { SIZE } \end{aligned}$ | $\begin{aligned} & \text { COND. } \\ & \text { STRAND } \end{aligned}$ | VOLTAGE RATING | $\begin{gathered} \text { NOM. } \\ 0.0 \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1381 | AN-22 | 22 | 19/34 | 600 | .080" |
| 1382 | AN. 20 | 20 | 19/32 | 600 | .090" |
| 1383 | AN-18 | 18 | 19/30 | 600 | .105" |
| 1384 | AN. 16 | 16 | 19/29 | 600 | .120" |
| 1385 | AN. 14 | 14 | 19/27 | 600 | .138" |
| 1386 | AN. 12 | 12 | 19/25 | 600 | .157" |
| SHIELDED (MIL-E.7078) |  |  |  |  |  |
| 1391 | AN. 22 | 22 | 19/34 | 600 | .100" |
| 1392 | AN- 20 | 20 | 19/32 | 600 | .110" |
| 1393 | AN. 18 | 18 | 19/30 | 600 | .125" |
| 1394 | AN-16 | 16 | 19/29 | 600 | .140" |
| 1395 | AN-14 | 14 | 19/27 | 600 | .160" |
| 1396 | AN. 12 | 12 | 19/25 | 600 | .178" |

DESCRIPTION:
MIL-W-5086 - Single conductor stranded tinned copper, white plastic insulation, nylon jacket overall. Superseding AN-J-C.48A MIL-C. 7078 - Single conductor stranded tinned copper, white plastic insulation, nylon jacket, braided tinned copper shield overall. Superseding AN.C. 168

## 7n Stock <br> ALPHA WIRE CORPORATION



## ALPHA WIRE CORPORATION <br> 7n Stock

COMMERCIAL "CL" PUSHBACK WIRE - COTTON BRAID STANDARD SPOOL PUT.UP: 100 FT., 500 FT., 1000 iT STRANDED

| $\begin{aligned} & \text { ALPHA } \\ & \text { NO. } \end{aligned}$ | $\begin{aligned} & \text { COND. } \\ & \text { SIZE } \end{aligned}$ | $\begin{aligned} & \text { COND. } \\ & \text { STRAND } \end{aligned}$ | VOLT. BREAKDOWN (60 CYCLES) | $\begin{aligned} & \text { NOM. } \\ & \text { O.O. } \end{aligned}$ | $\underset{\substack{\text { STANDARD } \\ \text { PUT.UP }}}{ }$ | $\begin{aligned} & \text { +STOCK } \\ & \text { COLORS } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1460 | 22 | 7/30 | 1000 | . 065 " | $100{ }^{\prime}$ | 1 thru 8 |
| 14600 | 22 | 7/30 | 1000 | .065" | $100{ }^{\prime}$ | 1 thru 8 |
| 1461 | 20 | 10/30 | 1000 | .070" | $100{ }^{\prime}$ | 1 thru 8 |
| 14610 | 20 | 10/30 | 1000 | .070" | $100{ }^{\prime}$ | 1 thru 8 |
| 1462 | 18 | 16/30 | 1000 | .082" | $1000^{\prime}$ | 1 thru 8 |
| 14620 | 18 | 16/30 | 1000 | .082" | 100 | 1 thru 8 |
| 1463 | 16 | 26/30 | 1000 | .093" | $100{ }^{\prime}$ | 1 and 2 |
| 14630 | 16 | 26/30 | 1000 | .093" | 100 | 1 and 2 |
| 1464 | 14 | 41/30 | 1000 | .105" | $1000^{\prime}$ | 1 and 2 |
| 14640 | 14 | 41/30 | 1000 | .105" | 100 | 1 and 2 |
| SOLIO |  |  |  |  |  |  |
| 1465 | 22 Solid | 1 | 1000 | . $060^{\prime \prime}$ | $1000^{\prime}$ | 1 thru 8 |
| 14650 | 22 Solid | 1 | 1000 | .060" | $100{ }^{\prime}$ | 1 thru 8 |
| 1466 | 20 Solid | 1 | 1000 | .065" | $1000^{\prime}$ | 1 thru 8 |
| 14660 | 20 Solid | 1 | 1000 | .065" | $100^{\prime}$ | 1 thru 8 |
| 1467 | 18 Solid | 1 | 1000 | . $075^{\prime \prime}$ | $1000^{\prime}$ | 1 thru 8 |
| 14670 | 18 Solid | 1 | 1000 | .075" | $10{ }^{\prime}$ | 1 thru 8 |
| 1468 | 16 Solid | 1 | 1000 | .085" | $1000^{\prime}$ | 1 and 2 |
| 1468Q | 16 Solid | 1 | 1000 | .085" | $100^{\circ}$ | 1 and 2 |
| 1469 | 14 Solid | 1 | 1000 | .095" | $1000^{\circ}$ | 1 and 2 |
| 14690 | 14 Solid | 1 | 1000 | .095" | $100^{\prime}$ | 1 and 2 |

TINNED COPPER SHIELDING
STANDARD SPOOL PUT.UP: 50 FT., $100 \mathrm{FT} ., 250$ FT., $500 \mathrm{FT} ., 1000 \mathrm{FT}$.

| ALPHA <br> NO. | SIZES OF <br> WIRES | APPROX. <br> I.D. |
| :---: | :---: | :---: |
| 1221 | 36 AWG | $.025^{\prime \prime}$ |
| 1222 | 36 AWG | $.035^{\prime \prime}$ |
| 1223 | 36 AWG | $3 / 64^{\prime \prime}$ |
| $\mathbf{1 2 2 4}$ | 36 AWG | $3 / 32^{\prime \prime}$ |
| 2229 | 36 AWG | $7 / 64^{\prime \prime}$ |
| 1229 | 36 AWG | $1 / 8^{\prime \prime}$ |
| 1230 | 36 AWG | $3 / 16^{\prime \prime}$ |
| 1231 | 36 AWG | $1 / 4^{\prime \prime}$ |
| 1232 | 36 AWG | $3 / 8^{\prime \prime}$ |
| $1233 / 2$ | 36 AWG | $1 / 2^{\prime \prime}$ |
| 1233 | 36 AWG | $5 / 8^{\prime \prime}$ |
| 1234 | 36 AWG | $3 / 4^{\prime \prime}$ |
| 2234 | 36 AWG | $25 / 32^{\prime \prime}$ |
| 1235 | 36 AWG | $1^{\prime \prime}$ |
| 1239 | 36 AWG | $1.3 / 8^{\prime \prime}$ |

[^52]DESCRIPTION:
Very fine soft annealed tinned copper wires braided and rolled flat.

# 1 <br> ALPHA WIRE CORPORATION <br> Stock 

| DESCRIPTION: <br> Single or multi-conductor stranded tinned copper, $105^{\circ} \mathrm{C}$ high temperature vinyl thermoplastic insulation. <br> When jacketed, a clear vinyl thermoplastic jacket is over cabled conductors. |  | SUB-MINIATURE WIRE AND CABLE - HIGH TEMP. $105^{\circ} \mathrm{C}$ <br> STANDARD SPOOL PUT.UP: 100 FT., 250 FT., 500 FT., 1000 FT. <br> APPLICATIONS: Wherever a fine hook-up wire is required for: instrumentation projects, electro-medical apparatus, computers, transistor circuits, photo-electric cell circuits, subminiaturization programs, strain gauges,, slip ring assemblies <br> UNSHIELDED <br> SINGLE CONDUCTOR |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{gathered} \text { ALPHA } \\ \text { NO. } \end{gathered}$ | $\begin{aligned} & \text { NO. OF } \\ & \text { COND. } \end{aligned}$ | $\begin{aligned} & \text { COND. } \\ & \text { SIZE } \end{aligned}$ | COND. STRAND | NOMINAL INSULATION | NOMINAL JACKET | $\begin{aligned} & \text { NOM. } \\ & \text { O.D. } \end{aligned}$ |
|  |  | 1606 | 1 | 30 | 7/38 | . 01010 | - | . 032 " |
|  |  | 1607 | 1 | 28 | 7/36 | .010" | - | .035" |
|  |  | 1609 | 1 | 26 | 7/34 | . 01010 | - | . $038{ }^{\prime \prime}$ |
|  |  | 1610 | 1 | 24 | 16/36 | . $016^{\prime \prime}$ | - | .056" |
|  |  |  |  |  |  |  |  |  |
|  |  | 2606 | 2 | 30 | 7/38 | . $010{ }^{\prime \prime}$ | - | . $061{ }^{\prime \prime}$ |
|  |  | 3606 | 3 | 30 | 7/38 | . 01010 | - | .067" |
|  |  | 4606 | 4 | 30 | 7/38 | .010" | - | .075" |
|  |  | COLOR CODE OF CONDUCTORS: 1-BLACK 2-RED 3-WHITE 4-GREEN MULTI-CONDUCTOR (plastic jacket overall) |  |  |  |  |  |  |
|  |  | 2607 | 2 | 28 | 7/36 | . $010^{\prime \prime}$ | . $010^{\prime \prime}$ | . $081{ }^{\prime \prime}$ |
|  |  | 3607 | 3 | 28 | 7/36 | . 010 " | . 010 " | .088" |
|  |  | 4607 | 4 | 28 | 7/36 | . $010^{\prime \prime}$ | .010" | .097" |
|  |  | COLOR CODE Of COMDUCTORS: 1-black, 2-RED, 3-White, 4-green |  |  |  |  |  |  |
| DESCRIPTION: <br> Single or multi-conductor stranded tinned copper, $105^{\circ} \mathrm{C}$ high temperature vinyl thermoplastic insulation, tinned copper shield. <br> When jacketed, a clear vinyl thermoplastic jacket is over tinned copper shield. |  | SHIELDEDSINGLE CONDUCTOR (no jacket overall) |  |  |  |  |  |  |
|  |  | $\begin{gathered} \hline \text { ALPHA } \\ \text { NO. } \end{gathered}$ | $\begin{aligned} & \text { NO. OF } \\ & \text { COND. } \end{aligned}$ | $\begin{gathered} \hline \text { COND. } \\ \text { SIZE } \end{gathered}$ | $\begin{aligned} & \text { COND } \\ & \text { STRAN } \end{aligned}$ | NOMINAL INSULATION | $\begin{aligned} & \hline \text { NOMINAL } \\ & \text { JACKET } \end{aligned}$ | $\begin{aligned} & \hline \text { NOM. } \\ & \text { O.D. } \end{aligned}$ |
|  |  | 1332 | 1 | 30 | 7/38 | .010" | - | .055" |
|  |  | 1334 | 1 | 28 | 7/36 | .010" | - | .059" |
|  |  | 1336 | 1 | 26 | 7/34 | . 01010 | - | .063" |
|  |  | 1337 | 1 | 24 | 16/36 | .016" | - | .075" |
|  |  | MULTI-CONDUCTOR (no jacket overall) |  |  |  |  |  |  |
|  |  | 2337 | 2 | 24 | 16/36 | . $016^{\prime \prime}$ | - | .118" |
|  |  | 3337 | 3 | 24 | 16/36 | . $016^{\prime \prime}$ | - | .125" |
|  |  | 4337 | 4 | 24 | 16/36 | . $016^{\prime \prime}$ | - | .145" |
|  |  | COLOR CDDE OF CONDUCTORS: 1-black, 2-RED, 3-white, 4-GREEN MULTI-CONDUCTOR (plastic jacket overall) |  |  |  |  |  |  |
|  |  | 2334 | 2 | 28 | 7/36 | . 010 " | . 010 " | .138" |
|  |  | 3334 | 3 | 28 | 7/36 | . 01010 | . 010 " | .146" |
|  |  | 4334 | 4 | 28 | 7/36 | . 01011 | .010" | .165" |

## 7n Stock <br> ALPHA WIRE CORPORATION

## KINKLESS TEST LEAD WIRE

STANDARD SPOOL PUT UP: 25 FT., 50 FT., 100 FT., 250 FT., 500 FT., 1000 fT.
APPLICATIONS: As test leads in analyzers, oscillators, multi-meters, and all other types of testing apparatus or wherever an Extra Flexible insulated wire is required. Heavy Duty type designed for television, therapeutic equipment, analyzers, oscillators, etc.

STANDARD TYPE

| ALPHA <br> NO. | CONO. <br> SIZE | COND. <br> STRAND | NOMINAL <br> INSULATION | VOLTAGE <br> BREAKDWDN <br> 6DD CYCLES) | NOM. <br> O.D. | STANDARD <br> PUT-UP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $9635 Q$ | 20 | $41 / 36$ | $.044^{\prime \prime}$ | 8,500 | $.135^{\prime \prime}$ | $100^{\prime}$ |
| 9635 | 20 | $41 / 36$ | $.044^{\prime \prime}$ | 8,500 | $.135^{\prime \prime}$ | $500^{\prime}$ |
| 1633 | 20 | $41 / 36$ | $.047^{\prime \prime}$ | 10,000 | $.140^{\prime \prime}$ | $100^{\prime}$ |
| 1635 | 20 | $41 / 36$ | $.047^{\prime \prime}$ | 10,000 | $.140^{\prime \prime}$ | $500^{\prime}$ |
| 16360 | 18 | $65 / 36$ | $.047^{\prime \prime}$ | 12,000 | $.150^{\prime \prime}$ | $100^{\prime}$ |
| 1636 | 18 | $65 / 36$ | $.047^{\prime \prime}$ | 12,000 | $.150^{\prime \prime}$ | $500^{\prime}$ |

heavy duty type

| 1637 | 18 | $65 / 36$ | $.109^{\prime \prime}$ | 22,000 | $.245^{\prime \prime}$ | $100^{\prime}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1638 | 18 | $65 / 36$ | $.109^{\prime \prime}$ | 22,000 | $.245^{\prime \prime}$ | $500^{\prime}$ |

## HIIVOLTAGE \& CATHODE RAY WIRE

STANDARD SPOOL PUT.UP: 25 fT., 50 FT., 100 FT., 250 fT., 500 FT., 1000 FT.
APPLICATIONS: Designed for high-voltage leads for all applications, especially for cathode ray tubes in television receivers and oscilloscopes. Shielded type used to minimize RF radiation in transmitters, X-ray and diathermy equipment. CHARACTERISTICS: High dielectric strength. Resistant to heat, flame and moisture.

UNSHIELDED

| A1.PHA <br> NO. | COND. <br> SI2E | COND. <br> STRAND | NOMINAL <br> INSULATION | VDLTAGE <br> RATING | NOM. <br> 0.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1641 | 20 | $10 / 30$ | $.047^{\prime \prime}$ | 10,000 | $.125^{\prime \prime}$ |
| 1642 | 20 | $10 / 30$ | $.063^{\prime \prime}$ | 20,000 | $.170^{\prime \prime}$ |
| 1645 | 18 | $16 / 30$ | $.095^{\prime \prime}$ | 40,000 | $.230^{\prime \prime}$ |
| SHIELDED |  |  |  |  |  |
| 1649 | 18 | $16 / 30$ | $.095^{\prime \prime}$ | 40,000 | $.260^{\prime \prime}$ |

## 7 MM LaCQUERED CABLE

STANDARD SPOOL PUT.UP: 100 FT., 250 FT., 500 FT ., 1000 FT.
APPLICATIONS: For high voltage leads in television receivers, cathode-ray tubes, oscillo. scopes, automotive. Shielded type designed for automotive and aircraft ignition systems requiring grounding to overcome interference.

UNSHIELDED

| ALPHA <br> NO. | COND. <br> SIZE | COND. <br> STRAND | NOMINAL <br> INSULATION | NOM. <br> 0.D. |
| :--- | :---: | :---: | :---: | :---: |
| 1981 | 16 | $19 / 29$ | $.094^{\prime \prime}$ | $.265^{\prime \prime}$ |
| SHIELDED |  |  |  |  |
| 1193 | 16 | $19 / 29$ | $.094^{\prime \prime}$ | $.300^{\prime \prime}$ |



## 7n Stock

## ALPHA WIRE CORPORATION

DESCRIPTION:
Pure electrolytic solid or stran. ded copper properly annealed and tinned for quick soldering.


RUBBER SHEATHED SERVICE CORD (underwriters approven)
STANDARD PUT.UP: 25 FT., , 50 FT., $100 \mathrm{FI} ., 250 \mathrm{FT}$.
APPLICATIONS: For amplifiers, sound systems, speakers, waidum cleaners, electric tools, washing machines, refrigerators, appliances, trouble lighte, garage lamps or wherever a rough usage power line is required.

| ALPHA NO. | NO. OF COND. | COND. SIZE | $\begin{aligned} & \text { U/L } \\ & \text { TYPE } \end{aligned}$ | CURRENT CARRYING CAPACITY | voltage RATING | $\begin{aligned} & \text { NOM. } \\ & \text { O.D. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1951 | 2 | 18 | SV | 5 amps | 300 | .250" |
| 1952 | 2 | 18 | SJ | 5 amos | 300 | . $310^{\prime \prime}$ |
| 1952 / 3 | 3 | 18 | SJ | 5 amps | 300 | .345" |
| 1953 | 2 | 16 | SJ | 7 amps | 300 | . 34010 |
| 1953 / 3 | 3 | 16 | SJ | 7 ames | 300 | .375" |
| 1954 | 2 | 18 | S | 5 arips | 600 | .390" |
| 1954/3 | 3 | 18 | S | 三amps | 600 | 405" |
| 1955 | 2 | 16 | S | 7 amps | 600 | .410" |
| 1955/3 | 3 | 16 | S | ' amps | 600 | .430' |
| 1956 | 2 | 14 | S | :5amps | 600 | .540" |
| 1956/3 | 3 | 14 | S | is amifs | 600 | .560" |
| 1957 | 2 | 12 | S | 20 amps | 600 | .605" |
| 1957/3 | 3 | 12 | S | 20 amps | 600 | 635" |
| 1958 | 2 | 10 | S | 25 amps | 600 | .640" |
| 1958 / 3 | 3 | 10 | S | 25 amos | 600 | .690" |

## E-Z STRIP LAMP CORD (UNoerwriters approved)

STANDARD SPOOL PUT.UP: $25 \mathrm{FT} ., 50 \mathrm{FT} ., 100 \mathrm{FT} ., 250 \mathrm{FT}$., $500 \mathrm{FT} ., 2000 \mathrm{fT}$.
APPLICATIONS: For line cord on radios, lamps, electric c'ocks. food mixers and other small instruments and appliances.

| ALPHA <br> NO. | NO. OF <br> COND | COND. <br> SIZE | COND. <br> STRAND | INSULATION <br> TYPE | U/L <br> TYPE | NOM. <br> 0.0 | *STOCK <br> COLORS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1967 | 2 | 18 | $41 / 34$ | Rubber | SP-I (POS $)$ | $.235^{\prime \prime} \times .130^{\prime \prime}$ | 1 thru 3 |
| 1977 | 2 | 18 | $41 / 34$ | Plastic | SPT.1'POT) | $.235^{\prime \prime} \times .130^{\prime \prime}$ | 1 thru 8 |


|  | 夏 |
| :--- | :--- |

## RG-COAXIAL CABLE

STANDARD SPOOL PUT-UP: $100 \mathrm{FT} ., 250 \mathrm{fr} ., 500 \mathrm{FT} . \mathrm{CCO} \mathrm{FT}$.
APPLICATIONS: For radio frequency applications whereve: a iow caracitance shielded cable is required.

| ALPHA <br> NO. | RG <br> TYPE | COND. <br> SIZE | CONDUCTOR <br> STRAND \& TYPE | NOMINAL <br> IMPEDANCE | CAPACITANCE <br> PER FT. | NOM. <br> O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{1 8 0 3}$ | RG-8/U | 13 | $7 / 21$ Bare Coppet | 52.0 ohms | 29.5 mmf. | $.405^{\prime \prime}$ |
| $\mathbf{1 8 0 6}$ | RG-11/U | 18 | $7 / 26$ Tinned Coppel | 75.0 ohms | 20.5 mmf. | $.405^{\prime \prime}$ |
| $\mathbf{1 8 2 5}$ | RG-58/U | 20 | Solid Bare Copper | 53.50 hms | 28.5 mmf. | $.195^{\prime \prime}$ |
| $\mathbf{1 8 2 7}$ | RG-59/U | .22 | Solid Copperweld | 73.0 ohms | 21.0 mmf. | $.242^{\prime \prime}$ |

## ALPHLEX PVC-105 (Plastic Tubing):

Made of especially compounded resins to offer an extraordinary combination of excellent qualities including high dielectric strength, flexibility, non-flammability, abrasion resistance, oil and chemical resistance, heat stability and resistance to aging. It is specifically recommended for applications involving higer than normal operating temperatures and is approved by the Underwriters' Laboratories for $105^{\circ} \mathrm{C}$ applications. It is compounded with non-migratory resinous type plasticizers and exhibits exceptional oil resistance characteristics. Conforms to the performance requirements of specifications MIL-1-631B. ASTM. D876, ASTM-D922.

## ALPHLEX PIF- 130 (Plastic Impregnated Fiberglass Tubing):

Class $B$ insulation combining the advantages of an inorganic fiberglass base sleeving with the most desirable characteristics of a heat-resistant, very flexible plastic insulation. The plastic compound is formulated to provide the maximum in electrical characteristics, heat stability ( $130^{\circ} \mathrm{C}$ ) flexibility and toughness. This tubing and sleeving conforms to the performance requirements of Specifications MIL-I-3190, NEMA VS1, ASTM D372.

OTHER TYPES OF AVAILABLE ALPHLEX TUBING \& SLEEVING SRF-200 - Silicone Rubber Coated Fiberglass Tubing. SFS-400 - Silicone Impreg. nated fiberglass Sleeving. HTF. 1200 - High Temperature Fiberglass Sleeving. PVC-60 - Low Temperature Plastic Tubing. PLE. 70 - Polyethylene Tubing. VTS. 135 - Varnish Impreg. nated Tubing and Sleeving.

For Full Specifications of Complete Insulating Tubing \& Sleeving Items Write for ALPhlex catalog.


# TV Lead-in Cables by Federal 

## Transmission Lines for Every Television Application - by America's Leading Manufacturer of Solid Dielectric HF Cables

## TV-1182 "Silver" Heavy-duty TV Line - 300 ohms

 With go mil. web, Insulated with Felerals "silser" potyethylenethe resoluthonary develogment that provithes epeatet resistance to
 atcristics asmire loms, tronble-free service. Romarkably low lime lows in fringe areas. silveredored insulation blenls with any color scheme.


## TV-1184 - 300-ohm TV Line

 hese in atreas withomt masmal ronitions. ('inhamom-hown entor is hishlı̆ resistint to ultra-violet.


K-111 Shielded 300-Ohm TV Lead-In

 simal strmeth, high mise level arras.


#### Abstract

 RG-8/U Coaxial 52-Ohm TV Lead-In Cable Chamerteristics and quatity proved in every installation where this yru low-luss calhe is indicaled. bor special applications and experiin+intal work.


$$
\text { boatbe-shielded and domble-jackeled. Where madiation caists, } \mathrm{K}-\mathrm{IO} \mathrm{C}
$$


$\qquad$

| RG <br> Type |  : H17e <br> (HIms <br> 74 | Capacitalme fied ft. Niswo-Mieros Fartuls |  |  |  |  | $\begin{aligned} & \text { Jalcket } \\ & \text { O.1). Mils } \end{aligned}$ | Wiviaht per Mit. (l.18s.) | Inmes fomductor |  | List Price per ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | So Me | 1011 Mc | $\underline{200 ~ M c}$ | 400 He |  |  | Mat. | Stratuls |  |
| 6/U | 74 | 20 | 1.x | 2.9 | 4.3 | 6, 5 | 339 | 74 | ('uW) | 1 | \$0.34 |
| 17/U | 5-2 | 3!. ${ }^{\text {a }}$ | *i) | .13\% | 1.5 | 2.4 | s8i | 446 | Cit | 1 | 1.01 |
| 58A/U | :33. 5 | $\because$ - 5 | 4.1 | 14.2 | 9.9 | 14.4 | $\because 00$ | $\because 4$ | (11) | 1 | . 11 |
| 63/U | 125 | 111.0 | 1.4 | $\because .1$ | $\because .9$ | 4.1 | 415 | 78 | $(\mathrm{nW}$ | 1 | . 20 |
| 71/U | (1) ${ }^{\text {a }}$ | 13.5 | 1.4 | 2.7 | 3.9 | 5.3 | 233 | 37 | CuW | 1 | . 21 |

> Intelin* H-F Cables, manufactured by Federal Telephone and Radio Company, are available in a complete line for all electronic requirements.
> Consulf your local Federal Disfribufor or wrife to Federal direct
*'Trade Maık

## Belden

## ELECTRONIC WIRES \＆CABLES

## microphone cables plastic microphone cable



## microphone cables

## rubber microphone cable



Tiade
Number
8410


8412
$15^{\prime}$ Coiled \＆cartoned $25^{\circ}$ Coiled \＆cartoned $50^{\prime}$ Coiled \＆cartoned 100＇Spool 500＇Spool
20 A．W．G．
Eix：it stranded timmend

## 

Citlint way
linblur insulatint
2 conduct or cabled with fillers：lilach aml White latyon braid Timbed ralpue lamial shield
（ Cltl th wrap）
Silver Gray ruhbura
farchet
－ Sa $^{\prime \prime}$ Xum．Diam
 rase combluctor ifnil remaining cunduetur emmeeted to shield

For all low impedance microphones．

15＇Coiled \＆cartoned 25＇Coiled \＆cartoned $50^{\prime}$ Coiled \＆cartoned 100＇Spool $500^{\prime}$ Spool

25 A．W．G．
 rapper cuatenl ster stranded timave（win－ ditelom
－Mulose barn hraill denhter insulation
linym lazaid limmell rupher luatil shield
Rityon wraly
Silver Gray whbler
，birk
Fum rame mana ：$: 3 \mathrm{mmf} / \mathrm{ft}$ ．
For crystal，ribbon，and other high impedance microphones．


8414
$50^{\circ}$ Coiled \＆cartoned $500^{\prime}$ Spool
20 A．W．G．
2lix：＇ 1 Stranded timmerl

－itthell urat
Lithlati insulat jom
2 conductors cabled
with fillers：Hach
aml White
Spirabols strandelt t imerd

（cmulurtive textil）
suttel shield
Silver Gray rulhlere
jarkry



8428
$15^{\prime}$ Coiled \＆cartoned 25 ${ }^{\circ}$ Coiled \＆cartoned $50^{\circ}$ Coiled \＆cartoned 50 Coiled \＆cartoned $500^{\prime}$ Spool

18 A．W．G．
HA：Bt stranded timmel （＂upher condtietif Culton wrap Rubher insulation 2 conductor cabled with fillers：liat

## allid White

Tiumed coppur liraid shield cottori wral Silver Gray ruhlur Jitckit！
gint

Sum．Cumaritamere
Nom．Bimaritabere－
$80 \mathrm{mmp} / \mathrm{ft}$ ．hatween
one conductor and Pup comblactor ant praiming combuctu
eary－duty studio
cable．


8423
15＇Coiled \＆cartoned
$55^{\prime}$ Coiled \＆cartoned $50^{\prime}$ Coiled \＆cartoned 100＇Spool $500^{\prime}$ Snool 1000＇Spool

20 A．W．G．
－2ix：； 1 stranded finmel


（100＂）whater insulat int
3 conductor cabled：
Dilack．Rent，White
Ltilson liraid

shield
shield
Cintlinl wral）
Silver Gray rubher jacket
$\therefore \because 0^{\prime \prime}$ Xum．niam．
天ぃm，capalditame
Aum．Catpildithee－
$8.5 \mathrm{mmf} / \mathrm{ft}$ ．hetuen
ume mindi．bertuedr remainisus conductur culnuctiol to stin」

For all low impedance microphones．

$15^{\prime}$ Coiled \＆cartomed $50^{\prime}$ Coiled \＆cartoned 100＇Spool
250 Sp100
$500^{\prime}$ Spool
$1000^{\prime}$ Splool
20 A．W．G．
－tix：it stranded fiment
（Gottonl wrap
（1）20＂rubler insulationt
4 conductors cabled：
libath．fimpin．lime
White
Riabul healal
Timmil rallper htial
shield
（＂uttull wap）
Silver Gray rmber jiark＋1
．airk＂Num，Hiam
Fom．Calpatitam
！－5 miff ft．Wet ween
une combletor ani remaining rondmetors rumeretel to shield

For all low impedance

## BELDEN ELECTRONIC WIRES \& CABLES

multiple conductor cables
rubber-jocketed partable card

For other U.L. Approved Portable Cord see Belden Catalog on Portable Cords.

Belden shieldet and mashielded multiple cometurtor rahle provide repontable serwice as puwar supply colls, interpmerting cahles an elertronie eynipment, romute contral cirenits, sperial pross - to - talk mierophone rirenits, and a multitude of electromic appliations. These cahles atre thesigned for long survice life, exerelhat murnandal ant elec* fisal ehatacteristies, and aniform purality.

multiple conductor cables


## intercommunicating-sound system cables

## unshielded

lielhon luterom Cable's are ontstanding ith 1heir performane and memomblaility. Designet fur muximum uffiotucy berfolmather and ease of instatlaltion
Sperial allprated rinyl compounts assure high msulation resistame and best electrical ami physical promerties. Precision slart lay cabling matutains comonetor balance, providing guiet rirouit free from erusstalk. The outer, fre uripping phrome rinyl jacket is uateryrouf. weather resistant, ant is ideal for all tyms in industrial. lume and offiee installations. Quick termination, pusitire color corling, and small hiameter effect economies in any instal lation.

[^53]

Trade

## BELDEN ELECTRONIC WIRES \＆CABLES

intercommunicating－sound system cables
unshielded


## intercommunicating－sound system sables

## unshielded


intercommunicating－sound system cables unshielded

Trade

| $8749$ | 8750 |
| :---: | :---: |
| 100＇Spool | Putup：To customers speci－ |
| 500＇Spool | fied length．Lengths to |
| 1000＇Returilable Reel | $400^{\circ}$ on Spools：401＇to |
| 22 A．W．G． | 1500＇Returnable Reels． |
|  | ． |
| ixiso stranded timeel cup－ <br> pel cumblactar | 22 A．W．G． |
| ．010＂vinst natatio insula－ | ix：3 stranded limend con－ par cundurtor |
| 15 pair cabled （30 cmuluctors） | ． 010 ＂ringl plastio insulat－ <br> tim |
| Color coded： | 27 pair cabled |
| 1 through 15 （Sise list－ ing page ？ | （is rondments） <br> Color coded： |
| （0）5＂thbed chrome rinsl plastic iackot |  ing l＇age is） |
| ． $4600^{\prime \prime}$ Nom．Diam． | 0．2．＂tulnell chrome vimsl plastic jatket ．ォーテ＂Num．biam． |

## shielded




15＇Coilled \＆cartoned $50^{\prime}$ Coiled \＆cartoned $100^{\prime}$ Spaol
500＇Spool
1000＇Spool
22 A．W．G．
T：：：
ne comblutur
Mi＂bins！Mastir insula－
1 liner
3 conductors cabled：


 plastic juchet
. N！＂Som．Diam．

 bility and fast．Gasy striphimg．
BELDEN ELECTRONIC WIRES \& CABLES



intercommunicating-sound system cable


8449
$15^{\prime}$ Coiled \& cartoned
100' Spool
$500^{\prime}$ Spool
$1000^{\prime}$ Spool
22 A.W.G.
ix30 stranded 1 imnod eropper rond. $010^{\prime \prime}$ vinsl plastic insulation 18 A.W.G
lix:30 stranded tinned eopper cond.
. $018^{\prime \prime}$ vinyl plastif insulation
9 conductors cabled
-22 A.W.G.: Blue, Broun. Gireen, Orange, Purple,
White, Yellow
2-18 A.W.f.: Black, Recl $.020^{\prime \prime}$ tuhed chrome vinyl plastio jacket
945" $\because 1 \mathrm{~mm}$. Diam

## p.a. and sound system cables



8789
100' Spool
$500^{\prime}$ Spool
18 A.W.G.
$7 \times 2 i$ stranded timmed ropper consluctor
nen" rinyl plastir insulation
2 conductors cabled:
Black and White .20:" Sum. Jian

$100^{\prime}$ Spool
500 ' Spool
1000' Spool
18 A.W.G.

- xed stranded tinned roppler comduator
. $020^{\prime \prime}$ rinyl plastic insulation
2 conductors cabled:
Red and White
Tinnetl eopper spiral wrapyed shield
$.025^{\prime \prime}$ tubed chrome tinyl plastic jackict
.225" $\mathbf{N o m}$. Diam
For puhlic addess and intereommunicating systems in schools. hospitals and institutions


## BELDEN ELECTRONIC WIRES \& CABLES

## p.a. and sound system cables






p.a. and sound system cables

p.a. and sound system cables


## BELDEN ELECTRONIC WIRES \& CABLES

## broadcast audio cables

Belden Broadeast Andio C'ahles are designed tu meet the most exacting reyuirements of the industry for trouble-free, dependahle serrice. High insulation resistance, precision eabling of the conductors. and a high percentage of shielding assure : luw nuise circuit, free from erosstalk. Spiral wrap ropper shiele plus drain wire plus shiedd ismation eliminate current lonps su often formd tronblesume in this service. Free stripping jacket: and fast shield termination redhere instithatim time and posts f1) a minimum.

$$
\begin{aligned}
& 8137 \text { merete CBS sureifiontions. }
\end{aligned}
$$


$100^{\prime}$ Spool
$500^{\prime}$ Spool

## 1000' Spool

20 A.W.G.
Tinned enpper pomdurfor, solid Fanameleal
cotton wrap
(outon braid waxel
2 conductors cabled:
filue and Real
rinned ampler loraid shield
Tinned copple
cottont wrald black plast ic janket 21s" Nım. ロiant


8436
$100^{\prime}$ Spool
$500^{\prime}$ Spool
$1000^{\prime}$ Spool
22 A.W.G.
Tinned ropper rondurtir. solid Heavy cellulase acetate yarn wran Heavy cellulose acetatb yarn Cellulose acetate yarn liraisl
2 conductors cab
conductors cabled:
Black and lawi
Blattk alld ker
limaed capper spiral wrapheel shield
 parathel to twisted pair mulde shipld
(18:0" tubed black plastic jircket 180" Sim. Jiam

## broadcast audio cables



## antenna rotor cables



## BELDEN ELECTRONIC WIRES \& CABLES

Jransmission line cables

## WELDOHM

Trade
Number

## 8230 (Weldohm (1)

$50^{\prime}$ Pancake Coils
$75^{\prime}$ Pancake Coils
$100^{\prime}$ Pancake Coils
$500^{\prime}$ Spool
1000' Spool
20 A.W.G.
$7 \times 28$ stranded "Wednamion" ambealed comper ruated sted wire
2 conductors parallel
Brown mellsethelene plastic insulation
$07: 2 \times 21010^{\prime \prime}$ Sinm, Ham
Cim. Attenuation-
1.1 did 1900 ft at 190 mm

1. T dh/ 1010 f1 at 201 mc


Num. Impedance-: $: 106$ bums:

Som. Capacitance $4.4 \mathrm{mmf} / \mathrm{ft}$
Greater service life in TV installations requiring long runs from receiving antennas. Has over $21 / 2$ breaking strength of the equivalent in copper.

## 300 OHM

8225
$50^{\prime}$ Pancake Coils
$75^{\circ}$ Pancake Coils
$100^{\prime}$ Pancake Coils
$500^{\prime}$ Spool
$1000^{\prime}$ Spool
20 A.W.G.
Tx:S stranded hate enpher conducter
2 conductors parallel
Brown bubs chay lene phavic insulation
!15:"x. $1611^{\prime \prime}$ Xim. Itiam
inn. Ateenuation-
1.1 dh/ 1011 ft at 100 mc
1.7 dh/ 1010 ft at 2016 me
$2.2,1 \mathrm{~h} / 100 \mathrm{ft}$ at 3100 mm
Sim. Impedance athe mie
Ni. mpedance sinm ulums
Num. Velocity of wropasation- $\mathbf{N}$ oc/
Cum. Capacitance- $4.4 \mathrm{mmf} / \mathrm{tt}$
For use with television and FM receiving antemna. Expecially low losses at high frequencies.

## 8222

100' Spooled \& cartoned
$500^{\prime}$ Spool
20 A.W.G.
Fx:S stranded bare copper comluctor
2 conductors paralle!
Brown mulyethylene plastic insulation $065^{\prime \prime} \mathrm{x} .12 \mathrm{~s}^{\prime \prime}$ Num. [iam
Vom. Attenuation-
$7.8 \mathrm{db} / 100 \mathrm{ft}$ at 100 mc
$11.0 \mathrm{dh} / 100 \mathrm{ft}$ at 200 me
13.6 th/ 100 ft at 3010 me

Cum.
Sum. Impedance 72 ohms
Cim. Velocity of propasation- $8 \mathrm{~m} 9 \mathrm{C} /$
Nim. Capacitance-2 $0.3 \mathrm{mmf} / \mathrm{ft}$
For use with receiving antenna at high frequencies.

| tra line | $\qquad$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Trade Number | 8224 | 8235 | 8275 | 8227 |
|  | $\begin{aligned} & 100^{\prime} \text { Spool } \\ & 500^{\prime} \text { Spooul } \end{aligned}$ | $100^{\circ}$ Spool $500^{\circ}$ Spool | (CELLULINE $\overline{\mathrm{k}}$ ) <br> $50^{\circ}$ Coils in counter dispenser | 100' Spool <br> 250 Spool |
|  | 20 A.W.G. | 20 A.W.G. | $75^{\circ}$ Coils ill counter dispeliser | $500^{\circ}$ Spool |
|  |  | ix2s stranded "Wriluhmin" conl- | $100^{\prime}$ Coils in counter dispenser $500^{\circ}$ Spools | 20 A.W.G. |
|  | ductar <br> 2 conductors parallel | pur coated steed wire 2 conductors parallel | $1000^{\prime}$ Sprools | ixes stranded - 1 hane- 1 timed mentr condurtor |
|  | Brown indyethyelle ulatic insula- | Brown milyethylenc mastic insul. <br>  | $20 \text { A.W.G. }$ | Prath lane ulastic insulation |
|  | . 075 "x. $182^{\prime \prime}$ Num. Hiam <br> Xim. Attenuation- | Simn. Attenuation- <br> 1.1 flo/100 ft at 100 mc | nealod enpper-ruated steel wite 2 conductors parallel | Pound hyldene plastic iawhet Tinnell rupper hraid shietd |
|  | $38 \mathrm{ch} / 1010$ ft at 100 mc |  | Brown tulyethylene , bast ic jacket | Black rinyl plastic jarket |
|  |  |  | with ineot gas fillem micellular puilyethy leme mats | Xin, Attenuation- |
|  | Si. 1 (1ly/100) ft at 100 mm | 3.18 (1)/109) f1 at 5001 mm | .3nti" Sum. Diam rumul | 4.1 (th/ 100 ft at 1000 max |
|  | Num. Impedance - 150 ontms <br> Xum Velocity uf uruagation- |  |  | 6. $\frac{1}{6}$ dh/ 100 fi at 2010 me <br>  |
|  | - $6 \% \%$ | Som. Impedance--300 uhms: | Num. Attenuation- | 110.2 , 1b/ 1110 ft at 100 mic |
|  | Num. Capacitance- $9.01 \mathrm{mmf} / \mathrm{ft}$ | Num. Velocity of propasatimb | 1.0.) dh/ 1061 ft at 1016 mc | Som. Impedance - lin uldms |
|  | For use with receiving antema. matching transformer, and ex- | Nom. Capacitance - $5.0 \mathrm{mmi} / \mathrm{ft}$ |  <br>  | Sum. Velocity uf puparation620 \% |
|  | perimental applications at liigh frequencies. | Greater service life in TV installations requiring long runs from |  4.3 dh/ 1110 ft at :910 me | Xum, Capacitance- $15.5 \mathrm{I} \mathrm{mmf} / \mathrm{ft}$ hetwerll comdurtons: |
|  |  | receiving antennas, Has over $11 / 2$ times the breaking strength of the equivalent in copper. | Nom. Impedance-:;00 ohms <br> Sum. Velocity uf propragationR $1 \mathrm{~m} /$ | For use with television and FM antemna in extremely noisy locations. |

## transmission line cables



8282
$50^{\prime}$ Spool
$100^{\prime}$ Spool
$500^{\prime}$ Spool
13 conductor TV on eye cable
9 conductors 22 A.W.G
ix 30 timnerl stranded copper conductor $010^{\prime \prime}$ rinyl plastic insulation Mack, Imhe, Brawn, Mireen, Irange, I'urple. hed, White. hellim
2 conductors 18 A.W.G
$16 \times 30$ timeed stranded copper conductor
$0,18^{\prime \prime}$ rinyl plastic insulation
2 conductors paired Black and Red
1 conductor RG 58A/U cahle (Relden 8259)
1 conductor RG 59/U type cable
(0.40" tulled gray rinyl plastic jacket
$470^{\prime \prime} \mathrm{Nom}$, liam


## 8280



21 Cunducturs 2. A.W.I. Fexible Ilastic Insulaterl Wires Cahled in 3 cirmus if $\boldsymbol{i}$ Wires baclo.
Eath cinmil (obur compol.

solid aluminum
tv grounding wire


## 8018

$50^{\circ}$ Coils in counter dispenser
$500^{\circ}$ Spool
1000' Spool
8 A.W.G.
$1 \pm 8^{\prime \prime}$ Num. Hiam
Aluminum wire, soft ammealed * $10-50 \mathrm{Ft}$. coils in cmunter disspenser. Coils are commeted and may he cut for any 50 ft . multiple -up to 500 ft .
$500^{\circ}$ and $1000^{\circ}$ spools are marked at $100^{\prime}$ intervals for easy measuring.

## BELDEN ELECTRONIC WIRES \& CABLES

RGU transmission line cables


## RGU transmission line cables

| RG |  |  |  | RG-55/U |
| :---: | :---: | :---: | :---: | :---: |
| Trade Number | 8260 | 8244 | 8239 | 8245 |
|  | $\begin{aligned} & 100^{\prime} \text { Spool } \\ & 500^{\prime} \text { Spool } \end{aligned}$ | $\begin{aligned} & 100^{\prime} \text { Spool } \\ & 500^{\prime} \end{aligned}$ | $100^{\prime} \text { Spool }$ $1000^{\prime} \text { Spool }$ | $100^{\prime}$ Spool $500^{\prime}$ Spool $1000^{\prime}$ Spool |
|  | $1000^{\prime}$ Returnable Reel | $20 \text { A.W.G. }$ | 18 A.W.G. | 20 A.W.G. |
|  |  | Bare cenpler emmurtur, solid | Tx.0152" mare corymi combuctor | Bare comper cunductur, solid |
|  | poolsethylene plastic insulation | Pulsethylene plastic insulation | stranded | Polseths letne plastie insulatiun |
|  | 2 conductors cabled | Tirned romper lotaid shield Clear mucthebure phastic jallat | Probethyeme pasthe invilatom Timmell copper loraid shield | Clear pulyethylene plastic jacket |
|  | core jarket pulselhytene plastie Timmed conper dumble hraild shield | Clear ", Num. Dinam. | Clear puly + thy lne mastic jacket | -206" Max Diami. |
|  | Gray uon-emaminating plastir jacket | Sun, Attenuation- | E.50" Max. Diam. | Sum. Atteruation- $4.10 \mathrm{db} / 100 \mathrm{ft}$ at 100 mm |
|  | . $420^{\prime \prime}$ Num, liam, | 4. $10 \mathrm{dh} / 100$ ft at. 100 mc | 3,10 (ll/ $/ 1 \mathrm{ll} \mathrm{fl}^{\mathrm{ft}}$ at 100 me | $6.20 \mathrm{db} / 100 \mathrm{ft}$ at 2 mm me |
|  | Nom. Attenuation- 100 mm |  |  | 0.50 cll $/ 100 \mathrm{ft}$ at 400 me |
|  |  |  |  |  |
|  | - $8.50 \mathrm{dh} / 10 \mathrm{flt} \mathrm{ft}$ at 400 me | Nim. Velocity of prumgatiun- | Xum. Impedance-5x whms | Som. Velocity of (melagatmo $66 \%$ |
|  | $\begin{aligned} & \text { Sum. Impedance- } 95 \text { whms } \\ & \text { Som. Velocity of proparation- } t j i!\% \end{aligned}$ | $166 \%$ <br> Nitu. Capacitance-28.5 mmi/ $1 \uparrow$ |  | Sumr. Capacitance-es.s.) nimi/ft |

RGU transmission line cables

| RG | RG-58A/U |  | RG-59/U | RG-62/U |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Trade Number | 8259 | 8240 | 8241 | 8254 | 8257 |
|  | $100^{\prime}$ Spool $500^{\prime}$ Spool | 100' Spool | 100' Spool | $\begin{aligned} & 100^{\prime} \text { Spool } \\ & 500^{\prime} \text { Spool } \end{aligned}$ $1000^{\prime} \text { Spool }$ | $\begin{aligned} & 100^{\prime} \text { Spool } \\ & 500^{\prime} \text { Spool } \\ & 1000^{\prime} \text { Spool } \end{aligned}$ |
|  | 1000 'Spool | $1000^{\prime}$ Spool 20 A.W.G. | $\begin{aligned} & 1000^{\prime} \text { Spool } \\ & 22 \text { A.W.G. } \end{aligned}$ | 1000'Spool <br> 22 A.W.G. | $22 \text { A.W.G. }$ |
|  | 19x.0071" timetl (uplort counductor stranded | Bare enpper conductu. solid | bare "(copperweld" condurtur, solid | bare "Copperwelli' conduetirs, solid | Bare "Copperwelii" comiductor, solid ami-sold polsethylane |
|  | Polyethylene plastic insulatim | l'olvetlylene plastic insulation | Polsethylene plastic insulation | Semi-solid palyethylene plastie insulation - | Semi-silid polstimyane plastic' insulat lon <br> Tinned empuer, dumble brate |
|  | Tinned ropper hraid shield | Tinned copliar lirata shield | Bare copper hraid shield Black vinsl plastic jacket | Bare copper braid shield Black rinsl plastie jacket | Tinimet emper, woubic mand shield |
|  | Black vinyl plastic jacket .195" Kom. Diam. | Black Mingl plastic jacket $.195^{\prime \prime}$ Nom. Diam. | 242" Sum. Itiam. | 242" Sum. Diam. | Clear pulyethylene juastic jarket |
|  | Som. Attenuation- | Nom. Atteraation- | Nom. Attenuation$3.75 \mathrm{db} / 100$ ft at 100 mc |  | .250" Max. Diamı. |
|  | $5.30 \mathrm{db} / 100 \mathrm{ft}$ at 100 mc $8.20 \mathrm{dh} / 100 \mathrm{ft}$ at 200 mc | $4.10 \mathrm{db} / 109 \mathrm{ft}$ at 100 mc $6.20 \mathrm{dh} / 100 \mathrm{ft}$ at 200 mc | $3.75 \mathrm{dh} / 100 \mathrm{ft}$ at 100 mc <br> $5.60 \mathrm{dly} / 100 \mathrm{ft}$ at 200 me | $3.10 \mathrm{dh} / 100 \mathrm{ft}$ at 100 mc | Som. Attenuation- |
|  | $12.60 \mathrm{db} / 100 \mathrm{ft} \mathrm{at} 400 \mathrm{mc}$ | $9.50 \mathrm{dh} / 16 \mathrm{ft} \mathrm{fl}^{\text {d }} 400 \mathrm{mc}$ | $8.30 \mathrm{dh} / 100 \mathrm{ft}$ at 400 me | 6.30 dh/ 100 ft at 400 mc | $3.10 \mathrm{dh} / 100 \mathrm{ft}$ at 100 me $4.40 \mathrm{db} / 100 \mathrm{ft}$ at 200 me |
|  | Som. Impedance - 50 ohnıs | Som. Imperance- | Nom. Impedance-73 ohms | Nom. Velocity of propaga- | $6.30 \mathrm{db} / 100 \mathrm{ft}$ at 400 me |
|  | Nom. Velocity nf propaga-tion-66\% | 53.5 ohns <br> Nom. Velocity uf propuga- | Son. Velocity of propaga- | tion-84\% | Nom. Impedance-93 ohms |
|  | Nom. Capacitance- $.09 \mathrm{~mm} / \mathrm{ft}$ | tion-6er <br> Nom. Capacitance- | Nom. Capacitance- <br> $21.0 \mathrm{mmf} / \mathrm{ft}$ | Nom. Capacitance- <br> $13.5 \mathrm{~mm} / \mathrm{ft}$ | Nom. Velocity of propaga-tion-84r |
|  | $29 \mathrm{mm/} / \mathrm{ft}$ | Nom. Capacitance- <br> $28.5 \mathrm{mmi} / \mathrm{ft}$ |  |  | Nom. Capacitance- <br> $13.5 \mathrm{mmi}^{1} / \mathrm{ft}$ |

## BELDEN ELECTRONIC WIRES \＆CABLES

solid tinned copper（bus bar）wires


## tv power supply （cheater）cord

Trade Number
$6^{\prime}$ Cord－Cartomert
 18 A．W．G．
Brown Type SP－1
 with Pethlon melded－on all－ribler ronmertur and Ibelolen maldend plast ip phes
 Television Power Supply Connector Cord Urininal ergipment on mast telerision sits

NOTE

Request the Belden 1700 series．＂Household Electrical Cords＇＊catalog，for complete list． ing of replacement and extension cord sets．
hook－up and lead wires





## hook－up and lead wires

 cellulose braid lacquered（used on p．f circuits where low－loss properties are required）

| Trade Number |  | $8$ |  |  | If | $\frac{8}{3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 8947 | 8945 | 8943 | 8942 | 8941 | 8938 |
|  | $25^{\circ}$ Coiled \＆cartoned $100^{\circ}$ Spooled \＆ cartoned $1000^{\circ}$ Spool | $25^{\circ}$ Coiled \＆cartoned $100^{\prime}$ Spooled \＆ cartoned 1000＇Spool | $25^{\prime}$ Coiled \＆cartoned $100^{\prime}$ Spooted \＆ cartoned 1000＇Spool | $\begin{aligned} & 100^{\prime} \text { Spooled \& } \\ & \text { cartoned } \\ & 1000^{\prime} \text { Spool } \end{aligned}$ | 25＇Coiled \＆cartoment $100^{\prime}$ Spooled \＆ cartoned 1000＇Spoos | $100^{\prime}$ Spooled \＆ cartoned 500＇Spool |
|  | 18 A．W．G． | 18 A．W．G． | 20 A．W．G． | －3x：30 stranded tinnol | 20 A．W．G． |  |
|  | 1 bx：3） 1 immel rupper cmadurfur stranded | Timued fuphor condur tor，solid |  cumplatit stranded | ropper comblator <br> Heary collmane ardiate |  tirr．solid | Hx：in stranded timmen copper exominetrix Heary melluluse atrotate |
|  | Jeary erllalose aretanc <br> Sath writy <br> （c）londese arotate yan Iraid | ```H6ary celluluse aterate yam wlap (cllulose a"meata saln! \|yalil``` | Heary etthlose aredate ram wrat <br> （＇ellalose aretate yam fratid！ | Yarn wrap <br> C＇clunlose atretate yam <br> mraid <br> Fungus and flante for | Heans colluhbse anerate yal！wrat） <br> foblaluse antate yarat bratiol | 3 atm Wraj <br> Cellulnese aretat sam lotaid |
|  | Fomplis anil flamer ra－ sistant laromer conat－ ink | Fungls and flathe ar－ sistatit liternary mat－ BHg | Fimins and flame rom－ ，sistimt licrouer ruat－ i॥！ |  | Fimstis and flamer re－ sistant licculet［mat－ ing | sistamt lamiter emat－ ing： <br> （＂川ns：Black，Red |
|  | （＇olors：Black，Blue， Green，Red，White， Yellow | Colurs：Black．Bitue． Green，Ren，White， Yellow | （rulons：Black．Blue， Brown，Green，Orange， Red，White，Yellow | $\begin{aligned} & \text { Red } \\ & \text { non" Num, Diam, } \\ & \text { Num. } \end{aligned}$ | （＇ulors：Black．Blue， Brown，Green． Orange，Red，White， | $\begin{aligned} & 115^{\prime \prime} \text { Xum, Iliam. } \\ & \text { Som, *1-f Ins. Jies. } \\ & 200 \text { megohms/it } \end{aligned}$ |
|  | ＂1887 Nomm，Jiam． | $.080^{\prime \prime}$ Sunn．Hiam． | ．076＂Nom．Diam． | 200 megohmes／ft | Yellow | 人mm．＊＊lreaklown |
|  | Num，＊lec Ins．Res． pur ft－ 2000 mey whims： | Sim．＊il－a Ins．In＇s． prr ft－－2not mig chms | Kum．＊d－e las．Res． per ft — 200 meg－ fhoms | $\begin{aligned} & \text { Sum. **hreakdown } \\ & \text { rintage- } 1000 \text { valts } \end{aligned}$ |  | roltage－1000 wilts |
|  | Nim．＊Fhreakthown voltage -1000 rolts | Nom．＊$⿻$ 中 reakdown voltage－1000 volts | Num．中 hreakdown coltagn－ 1000 rolts |  | ohmis <br> Nom，＊＊breakiluwn <br> bultage－ 1000 valts |  |

 1015 fur et hours．


## BELDEN ELECTRONIC WIRES \& CABLES

hook-up and lead wires
rubber insulated push-back

General-use lank-up with and leads for transfurmers. speatiors, and controls in audio and power circuits.
Trade Number

$100^{\prime}$ Spooled \& cartoned $1000^{\prime}$ Spool
20 A.W.G.
Tinned rapper condurtur, solid contons wrap
$.010^{\prime \prime}$ unvultanizesl rubher insul. iellulose aretate yam braill Fungus and flame resistant lacquer roating
Combrs: B
Yellow
$00^{-5}$ "Xom. ISiam
Nom. *il-e Ins Hes
Com **hralatumn $-2(1) \mathrm{meg} / \mathrm{ft}$

$100^{\circ}$ Spooled \& cartoned $1000^{\prime}$ Spool
20 A.W.G.
 "ot tom wrap
O[日" unrulranized rubler insula1іяз
cellulose acetate farn braid
bungus and flame resistance lacquer roating
Yurs: Black, Blue, Green, Red, , (ellow
Nunt Nom. Iliam.


$100^{\prime}$ Spoof
$1000^{\prime}$ Spool
$16 \times 301$ stranded timmel rupper enmul.
031"s rabher insulation
Cellulose acctate yam braid
Fungus and flame resistant laequer roating
Colurs: Black. Blue, Green, Red, Yellow
$125^{\prime \prime}$ Sum, Itiam.
Nom, \#d-c lus. lien.-- 10.000 mag ulims/ft
Nom. **lireaknown voltage-
thermaplastic
insulated

## 8918

$250^{\prime}$ Spool
$000^{\prime}$ Spool
18 A.W.G.
$16 \times 30$ stranded timbed cop-
per condurtor
$031^{\prime \prime}$ vins thermuplastic insulation
Colurs: Black, Blue, Green, Red, Yellow
112" Nom. Diam.
Nom. *il-c Ins. Res.-
5000 megntims/ft
Num. * lirraikdown voltage
r-f push-back wire
cellulase acetate braid waxed

Used on r-f circuits where low-loss preperties are required.

## Trade Number

8841 童
$100^{\prime}$ Spooled \& cartoned
$100^{\prime}$ Spooled
$1000^{\prime}$ Spool 1000 S.W.G.
Tinned copper conductor, solid
Two celluluse acetate yarn
braids waxed
Colors: Black, Blue, Green, Red, all with White Tracer
067" Nom. Jiant.
Num, *d-e Ins. Res. 1000 megohms/ft
Nom. ${ }^{*}$ Wreaklown roltage
-1000 volts

$100^{\circ}$ Spooled \& cartoned 1000' Spool
20 A.W.G.
$10 \times 30$ stranded timnted cenper conductor
Twa cellulose acetate yam hraids waxed
Colors: Black, Blue, Green, Red, all with White Tracer
$.072^{\prime \prime}$ Nom. Diam.
Nom. *id-c Ins. Res. -
1000 megohms/ft
Nom. ** brakdown voltage
-1000 volts

## and lead wires

type MW hook-up and lead
General purpose hook-up wire for applications at 1000 volts RMS or less. High dielectric strength, ligh temperature stability, flexibility at low temperatures, low moisture absurption, flame resistant, fungus resistant, resistant to most solvents.
Trade Number

Other Milit MIL- or JAK
Wires quoted? request.
8524
MW-C-22-(7)-U-†
$25^{\prime}$ Coifed \& cartoned
$100^{\prime}$ Spooled \& cartoned
$1000^{\prime}$ Spool
22 A.W.G.
$7 \times 30$ stranded tinned cop-
per conductor
$.017^{\prime \prime}$ vinyl thermoplastic
insulation
.064" Num, Inam,
Colirs: Black, Brown, Red,
Orange, Yellow, Green,
Blue, Violet, Gray, White


MW-C.20-(7)-U
$25^{\prime}$ Coiled \& $100^{\prime}$ Spooled \& cartoned $1000^{\circ}$ Spool 20 A.W.G
$10 \times 30$ stranded tinned enp per conductor
$.017^{\prime \prime}$ rinyl thermoplastic insulatian
.079" Nom. Diam
Colors: Black, Brown, Red, Orange. Yellow, Green, Blue, Violet, Gray, White

## type MW hook-up and lead wires

## 

MW-C-22-(1)-U-*
$25^{\prime}$ Coiled \& cartoned
$100^{\prime}$ Spooled \& cartoned
$1000^{\prime}$ Spool
22 A.W.G.
Tinned copper conductor, solid
$01 \pi^{\prime \prime}$ Finsl thermoplastic jusulation
05! '1" Nom. Diam.
Colors: Black, Brown, Red, Orange. Yellow, Green Blue, Violet, Gray, Whit

MW-C-20-(1)-U-* 25' Coiled \& cartoned $100^{\prime}$ Spooled \& cartoned 1000' Spool
20 A.W.G.
Tinned copper conductor, solid $.017^{\prime \prime}$ rinyl thermoplastic insulation $.066^{\prime \prime}$ Nom. Liam.
Culors: Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Gray. White

## test prod wire

MW-C-18-(16)-U-† $25^{\prime}$ Coiled \& cartoned $100^{\circ}$ Spooled \& cartoned $1000^{\prime}$ Spool 18 A.W.G.
16x30 stranded tinned cup-
per conductor
$017^{\prime \prime}$ vinyl thermoplastic insuliation
$.081^{\prime \prime}$ Nom. Diam.
Culors: Black, Brown, Red,
Orange, Yellow, Green.
Blue. Violet, Gray, White


Migh-roltage lead wire for use with portable testing equipment, instruments, and other radio units where excellent dielectric properties of the insulation and extreme flexibility limpress of the cabil are essential considerations.


10.1899
 5.000 volts
$10^{\prime}$ Coiled \& cartoned $25^{\prime}$ Coiled \& cartoned 100' Spool $500^{\prime}$ Spool
18 A.W. G
$65 \times 36$ stranded timed copper conductor
Cotton wrap
. $088^{\prime \prime}$ rubiber insulation
Colors: Black, Red
. $230^{\prime \prime}$ Nem. Diam.
Puncture Voltage 29,000 bolts
Suggested Working Voltage
$\dagger$ TYPE DESIGNATION-Gov. Spec. Hook-up Wire will he showil as follows: Government Specification Hook-up Wire will be shown as follows:

| $\begin{gathered} \text { MW } \\ \text { Type } \end{gathered}$ | C Conduet ar Cipper |  | (7) <br> Ninimem Strinds | U | 00 <br> Color Cude <br> First digit is lmaly culor and second rligit indicates tracer enlor |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Finish |  |  |
|  |  |  |  | Covering over |  |  |
|  |  |  |  | Insulation None |  |  |
| Colors: | 0 Itark | 3 Orange 6 |  | Blue |  | 9 White |
|  | 1 Prown | $\pm$ Yel | - 7 | Violet (purple) <br> (iray (slate) |  |  |
|  | 2 Red | 5 Gro |  |  |  |  |

[^54]** Measurements for insulation breakdown were made on specimens in mercury by application of gradualty increasing 60-cycle a-t lotential.
midity and

## BELDEN ELECTRONIC WIRES \& CABLES

hook-up and lead wires

| shielded hook-up |  |
| :---: | :---: |
| Trade Number | 8885 |
|  | $15^{\circ}$ Coiled \& cartoned $25^{\prime}$ Coiled \& cartoned 100' Spooled \& cartoned 500' Spool |
|  | 20 A.W.G. |
|  | 10x30 stranded timued erop per condurtur . $015^{\prime \prime}$ rublur insulation ('elluluse acetate yarn braid foughs and flante resistant lateduet coating |
|  | Tinmed ropmer liraid shield <br> 117" Xom. Viam. <br> Kom, *d-r Ins. Res. <br> SouO( megathms/ft |
|  | Som. **hreakduwn rollage -4000 valts |
|  | Used in circuits where shielded grid return is required and to shield a circuit conductor from stray fields. |


$25^{\prime}$ Coiled \& cartoned
$100^{\prime}$ Spool
20 A.W.G.
Txes stranded thmed empluer ranductor . O3:" flamber retardant latan palyethyl.me plast ik insulation Cilur: White
105" Nom. liam.
Puncture woltage-3.0.0001 volts
Temperature rating- $1010^{\circ} \mathrm{C}$
Sugrested Howking Foltapr
10.000 volts

25' Coiled \& cartoned $100^{\prime}$ Spool
20 A.W.G.
$7 \times 28$ stranded timber (0)t.5" flame retar, ilt killan bulyetly
lene plastic inked Stripe
["olur: White wit'

Tumperature .ins- 1 (m $^{\circ} 0^{\prime}$
Surgested Wing Voltagu
$20.000^{\text {Its }}$
aerial wire
indoor aerial wire (extra flexibie)


8014
25' Packajed on card
( 5 cards in cartoin) $500^{\prime}$ Spooled \& cartoned 25 A.W.G.
13x:36 stranded tillinel anp
per conductur
nin" chrome uins blatio
insulation
a4.4" Xum. Diam.

or dic insulation resistance macte with a mesohm bringe at 300 volts on sperimens in mercury after subjection to $90 \%$ relative humbility and
10 inrs.
$100 \mathrm{~F}^{\text {, }}$ for insulation breakdown were made on sperimens in mercury by application os gradually increasing $60-\mathrm{cyc}$ 位e a-c potential.

> High-roltage leads to ratbude-raly tabes in anision pertireps, "scilloseroms and in power smpplies and other ajplicatic where a high-raltage cable is reguired. Iligh dinlectric strength, torome eablance and minimm surfare leakage are rery important features of the calle

## BELDEN ELECTRONIC WIRES \& CABLES

 aircraft, marine and auto radio wires

Belden supplies a complete line of auto radio wires and sltielding to haude trery wire requirement in installation and serricing. In installations of this type. the use of the correct urire is baricularly important. Applieations are indicated in the listings ahore.
shielding and bonding cable braided tinned copper


## magnet wire

Nyelad magnet wire cumbines the must desirathe features of Formvar with the well-known toughness and sulvent resistance of Nylon enamel.
For difficult and exacting windings, these plus ralues may represent the difference hetween low and hight rejections.
Syelad will out-perform all other A.I.E.E... Class A.
film-coated wires with respect tu: (1) allility tu
withstand winding abotse and forming meratoms (2) resistance to the solvent artion of insulatink rarmishes and all types of thimmers: (3) resistance to softening at flerated temperatures: (t) solromt crazing: (5) indability.
other trues of Delden Matgnet Wires atrallahle are Beldenamel, simgle cotenamel, and Single Notexenamel.


SINGLE COTENAMEL (EC)

Size
14
16
16
14
14
30
243
44
24
96
48
30
32
34
36

| Turns per Linear Inch | Turns per Square Inch | Approx. Lgth. in Feet |  |
| :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & 1 / 4-L b \\ & \text { Spool } \end{aligned}$ | $\begin{aligned} & 1 / 2-L b \\ & \text { Spool } \end{aligned}$ |
| 14.1 | 199 | **r | 39 |
| 17.4 | 30.3 | +.t... | 62 |
| 19.3 | 37: | ...... |  |
| 21.4 | 458 | ...... | 9x |
| 23.6 | 557 | -t... |  |
| $\pm 6.1$ | 681 | $\ldots$ | 154 |
| 31.9 | 1018 | $\ldots$ | 242 |
| 38.6 | 1490 | ...... | 375 |
| 42.3 | 1789 |  |  |
| 46.4 | 2153 | 205 | 590 |
| 55.1 | 3036 | 458 | 920 |
| 64.7 | 4186 | 710 | 1.110 |
| 74.6 | 5565 | 1090 | 2150 |
| 86.6 | 7500 | 1585 | ...... |
| 97.6 | 9526 | 2235 |  |

BELDEN• Price List

| Belden Trade Number |  | Sugpested List Price Each | Belden Trade Number | Unit Package Length: | Suggested List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1701B |  | \$.91 | 8019 | 100 | 1.55 |
| 1701K |  | 1.01 | 8020 | $100{ }^{\prime}$ | 1.40 |
| 17028 |  | 1.08 | 8021** | 100 | 1.23 |
| 1702K |  | 1.23 | 8127 | $10^{\prime}$ | . 38 |
| 1704 |  | 9.70 | 8200 | $100^{\prime}$ | 2.33 |
| 1705B |  | . 80 | 8200 | $50{ }^{\prime}$ | . $02{ }^{\prime}$ |
| 1705K |  | . 90 | 8200 | $1000^{\prime}$ | .02' |
| 1707 |  | 3.02 | 8204 | 25' | 1.88 |
| 1708 |  | 2.64 | 8204 | $100{ }^{\prime}$ | 5.75 |
| 17168 |  | . 97 | 8204 | $500^{\prime}$ | .075' |
| 1716K |  | 1.10 | 8204 | $1000^{\circ}$ | . $075^{\prime}$ |
| 17178 |  | . 94 | 8205 | $25^{\prime}$ | 1.45 |
| 1717K |  | 1.05 | 8205 | $100^{\prime}$ | 4.50 |
| 1725K |  | . 57 | 8205 | $500^{\prime}$ | .06' |
| 17288 |  | . 76 | 8205 | $1000^{\prime}$ | . $06{ }^{\prime}$ |
| 1728K |  | . 87 | 8206 | $15^{\prime}$ | 1.18 |
| 1735K |  | . 71 | 8206 | $50^{\prime}$ | 3.03 |
| 1736B |  | . 91 | 8206 | 100' | 5.45 |
| 1736K |  | 1.01 | 8206 | 250 ' | .06' |
| 1737B |  | . 76 | 8208 | $15^{\prime}$ | 1.88 |
| 1737K |  | . 87 | 8208 | $50^{\prime}$ | 5.25 |
| 1738B |  | . 77 | 8208 | 100' | 9.75 |
| 1738K |  | . 91 | 8208 | $500{ }^{\prime}$ | .105' |
| 17398 |  | . 66 | 8208 | $1000{ }^{\prime}$ | .105' |
| 1739K |  | . 76 | 8209 | $15^{\prime}$ | 1.75 |
| 17498 |  | . 58 | 8209 | $50^{\prime}$ | 4.88 |
| 1749K |  | . 68 | 8209 | $100^{\prime}$ | 9.13 |
| 1750B |  | . 97 | 8209 | $500^{\prime}$ | . $10^{\prime}$ |
| 1750K |  | 1.15 | 8209 | $1000{ }^{\prime}$ | .10' |
| 1751K |  | 1.87 | 8222 | $100^{\prime}$ | 2.50 |
| 1752K |  | 1.48 | 8222 | $500^{\prime}$ | .025' |
| 1754B |  | . 71 | 8224 | $100^{\prime}$ | 3.38 |
| 7754B |  | . 87 | 8224 | $500^{\prime}$ | .035' |
| 1756K |  | 1.54 | $8225 §$ | $50^{\prime}$ | 1.85 |
| 17658 |  | . 37 | 8225 § | 75 | 2.55 |
| 1766B |  | 1.11 | 8225 § | $100^{\prime}$ | 3.20 |
| 1767K |  | 1.62 | 8225 | 500 | .035' |
| 1774 |  | 3.90 | 8225 | 1000' | .035' |
| 1776 |  | 4.72 | 8227 | $100^{\prime}$ | 16.25 |
| 1777K |  | . 83 | 8227 | $250{ }^{\prime}$ | .16' |
| 1784 |  | 3.38 | 8227 * | $50{ }^{\prime}$ | . $16^{\prime}$ |
| 1786 |  | 4.05 | ع230§ | $50^{\prime}$ | 1.88 |
| 1790K |  | 7.68 | 8230 § | $75^{\prime}$ | 2.70 |
| 1791K |  | 5.56 | 8230§ | $10{ }^{\prime}$ | 3.41 |
| 1792K |  | 9.35 | 8230 | $500^{\prime}$ | .035' |
| 1793 |  | 2.57 | 8230 | 1000' | .035' |
| 1794 |  | 3.12 | 8235 | $100{ }^{\prime}$ | 7.17 |
| 1795K |  | 4.67 | 8235 | $50{ }^{\prime}$ | . $07{ }^{\prime}$ |
| 8000 | 50' | 1.30 | 8237 | $100{ }^{\prime}$ | 20.25 |
| 8000 | $75^{\prime}$ | 1.83 | 8237 | $500^{\prime}$ | .20' |
| 8000 | $100{ }^{\prime}$ | 2.33 | 8237 | $1000^{\prime}$ | .20' |
| 8000 | $1000{ }^{\prime}$ | .025 ${ }^{\prime}$ | 8238 | $100^{\prime}$ | 19.00 |
| 8002 | $50^{\prime}$ | . 95 | 8238 | $500^{\prime}$ | .19' |
| 8002 | $75^{\prime}$ | 1.30 | 8238 | $1000^{\circ}$ | .19' |
| 8002 | $100{ }^{\prime}$ | 1.65 | 8239 | $100^{\prime}$ | 12.25 |
| 8002 | $1000^{\prime}$ | . $02{ }^{\prime}$ | 8239 | $500^{\circ}$ | .12' |
| 8008 | 100 | 3.53 | 8239 | $1000^{\circ}$ | .12' |
| 8008 | $200{ }^{\circ}$ | 6.70 | 8240 | $100{ }^{\circ}$ | 8.75 |
| 8008 | $500^{\prime}$ | .035 ${ }^{\circ}$ | 8240 | $500^{\prime}$ | .09 |
| 8009 | $100^{\prime}$ | 2.43 | 8240 | $1000^{\prime}$ | .09' |
| 8009 | $500^{\prime}$ | .025 ${ }^{\prime}$ | 8241 | $100^{\prime}$ | 10.00 |
| 8011 | $100^{\prime}$ | 3.25 | 8241 | 500 | .10' |
| 8012 | $100^{\prime}$ | 2.38 | 8241 | $1000^{\prime}$ | .10' |
| 8013 | $100{ }^{\prime}$ | 1.75 | 8242 | 100' | 43.75 |
| 8014 | 25' | . 40 | 8242 | $500^{\circ}$ | . $44^{\prime}$ |
| 8014 | $500^{\circ}$ | . $015{ }^{\prime}$ | 8242 | 1000' | . $44^{\prime}$ |
| 8018 § | $50^{\circ}$ | 1.03 | 8244 | $100{ }^{\prime}$ | 8.75 |
| 8018 | $500^{\prime}$ | .02' | 8244 | $50{ }^{\prime}$ | .085' |
| 8018 | 1000' | .02' | 8244 | $1000{ }^{\prime}$ | .085 ${ }^{\prime}$ |

†Specify Color. All prices subject to change without notice. AFurnished on returnable reels to customers specified length.
*New Item. . Please indicate length desired, immediately following trade number, when more than one length is listed under same trade number. "New Item. " "Please indicate length desired, immediately following trade number, when more than one length is listed under same trade number.
$\S 10 ' 100^{\prime}$ coils in a counter dispenser.

tSpecify Color. All prices subject to change without notice. AFurnished on roturnable reels to customers specified length. New put-up. *New Item. "Please indicate length desired, immediately following trade number, when more than one length is listed under same trade number. $\$ 10^{\prime}-100^{\prime}$ colts in a counter dispenser.

## Birnbach

## JAN-C-76 (MIL-W-1 2410 ) MIL-W-76A-Type MW-C


 ture stahility, Jow tomperature flexibilits, low moistare alsorpition, hiph flame amd uil resistance. resish-


STRANDED


## SOLID




## Type SRHV-HOOK-UP WIRE 2500V. JAN-C-76 (MIL-W-76A) Type HW-C

## TIINAACH

SPEC. JAN-C-76

Similar in construction to Type sikIk but has a larger wall of primary Thermoplastic insulation to take 2500 FMS voltage rating.


Available from stock sizes $10,8,6$ HW-C per MIt-W-тнi,

| COLORS: Black Brown Red | Orange | Yellow | Green | Blue Purple Gray | White |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



# JAN-C-76 - MIL-W-76A - Type MW(B) GLASS BRAID - 1000 VOLTS 



COLORS: (Underneath Shield) Black. White, Red, Yellow, Brown, Green, Blue, Gray

## Birnbach

## PLASTIC MICROPHONE CABLE

losigned to stand ub under physical abuse and is resistant to moistur and aming for lomp lite. These cables have low eapacitance. hiow insulation resistance amel low attemuation at andio frequencius. \#1840 is used for high imperlance lapel microphones.
\#1841 is used for crystal, rihbon and other imperlance misruphous

## PLASTIC - ONE-CONDUCTOR MICROPHONE CABLE

 DESCRIPTION:Single Conductor Stranded
\$ stramis \#33 copped timmea, amb 4
Nos. 1840, 1841
atrinits \#33 steel-timed, cedlulus.
(an'jurt shithled braid, yarn lirawl, Polyethylene insulation, tha
with chome vinyl plastic jacket overall.

| Cat. No. | Spool | Cond. | Size No. Awg. | Stranding | Nom. Cap./Ft. | Nom. O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1840 | $500{ }^{\prime}$ | 1 | 25 | 7/33* | . 34 MMF | $144^{\prime \prime}$ |
| 1841 | . $5100^{\prime}$ | 1 | 25 | 7/33* | - 5 MMF | $\because \square^{\prime \prime}$ |
|  | 33 Cor | 4 X | Nitcel ( | tinned) |  |  |
| For longer lenaths and alternate put-ups-sucify. |  |  |  |  |  |  |

## PLASTIC - TWO-CONDUCTOR MICROPHONE CABLE

 DESCRIPTION:Two Conductors-Twisted-
 \#34 cxtra flexillo timed coppele con-
 color N. 1842
coltal, rayon wrap, tinnall enpler braided shield, with chronte vinyl Mastic jacket cwerall
 abll all low impulamon microphones.

| Cat. <br> No. | Spool | Cond. | Size No. <br> Awg. | Stranding | Nom. <br> Cap./Ft. | Nom. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |



## SHIELDED MULTI-CONDUCTOR CABLE

Itsed intowrs for bermanont or prortahle work to prevent introternen


## TINNED COPPER SHIELD OVERALL

DESCRIPTION:
Each Conductor \#20 10/30 Stranded Tinned
Copper, $1 / 64^{\prime \prime}$ ruluher wall, wasil cottor (-mper shield overall.

| Cat. No. | Spool | Conds. | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Insut. | Cap/Ft. Bet. Cond. \& Shield | Cap/Ft. Bet. Conds. | $\begin{aligned} & \text { Nom. } \\ & \text { D.D. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 912. | $100{ }^{\prime}$ | 2 | $2)$ | 1 |  | f.) M | 43 Mm | 915' |
| 973. | $100^{\prime}$ | 3 | 20 | 10/30 | 1/64 | .68 Mmf | . 5.5 Mmf | 296" |
| 974 | $100^{\prime}$ |  | 20 | 10/30 | .1/64. | 69 Mmi | . 57 Mmf | 2501 |
| 975 | $100^{\prime}$ | [) | 20 | 10/30 | .1/64 | 70 Mmf | 5\% Mmf | .280" |
| 976 | $100^{\prime}$ | 1 | 20 | 10/30 | . $1 / 14$ | 71 Mmf | fit Imf | 2901 |
| 977 | $100^{\prime}$ | 7 | 20 | 10/30 | .1/64 | 72 Mmf | . $i \because$ Mmf | . 31.1 |
| 978 | 1100 | 8 | 20 | 10/30 | . $1 / 6$ | . 74 Mmf | dif Sminf | . 3 5\% |

## COTTON BRAID OVER SHIELD

| DESC <br> sume <br> antlon | IPTIO 'mastl | $N:$ <br> (-1ion wer sh | $\begin{aligned} & \text { at } \\ & i(\cdot 16 l . \end{aligned}$ | "x | wit | $\cdots \text { —n }$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Spool | Conds. | Size AWG | Strand | misul. | Cap/Ft. Bet. Cond. \& Shield | Cap/Ft. Bet. Conds. | $\begin{aligned} & \text { Nom. } \\ & \text { D.D. } \end{aligned}$ |
| 1972 | $1110^{\circ}$ | 2 | 20 | 10 :30 | 1/1:4 | (f) Mmf. | 48 Mm | -32:" |
| 1973 | $100^{\circ}$ | 3 | 20 | 1030 | 1/64 | 68 Mmf | 55 Mmi | 2301 |
| 1974. | $100{ }^{\prime}$ | 1 | $\because 0$ | 10/30 | 1/64 | 69 Mmf | 57 Mmf | 20\%" |
| 1975 | $100^{\prime}$ | 5 | 91) | 10/30 | 1/64 | 70 Mmf | 58 Mmf | 290" |
| 1976 | 100. | (i | $\because 0$ | 10/30 | 1/144 | . 71 Mmf | 60 Mmf | .301" |
| COLOR CODE CHART |  |  |  |  |  |  |  |  |
|  | 1-B | lack | 3-White 5- |  |  | rown 7-Blue |  |  |
|  | 2-R |  | 4-Green 6- |  |  | llow 8-Orange |  |  |
|  | For | louger | leng | anll | ernat | put-ups- | Specify. |  |

## RUBBER MICROPHONE CABLE

## RUBBER CRYSTAL MICROPHONE CABLE

Inesjermen for lomer etrvice lift and low loss. Dise with erystal, ribhnit Innamic and velocity microphones and photoelectric cells. 1sirnbach $\pm 1876$ is used widely for lapel microphones and phono pick ups DESCRIPTION:
Single Conductor, 26 Strands
\#34 extra flexilile tinned copper, spe cial low lose rubler combuind, tinned eoffer braid shielt, cotton wrat, fothe dack rulbur jacket everall.


## RUBBER MICROPHONE CABLE

DESCRIPTION:
Each Conductor, $\cdot x$ xtit flexible stranded
tintel enfler. insulated with a .02:"

watl Eluecial low sapacity rubber, color
Nos. 772 to 778 wothon wrad, timed conper hrailed shielf, cotton wrap with tomsh wathorpront blark ruhher jacket overall.
 hun!


For loncer lengths and alternate but-ups-sipecify
MICROPHONE CABLE COLOR CODE CHART

$$
\begin{array}{llll}
\text { 1-Black } & \text { 3-Red } & \text { 5-Yellow } & \text { 7-Brown } \\
\text { 2-White } & \text { 4-Green } & \text { 6-Blue } & \text { 8-Orange }
\end{array}
$$

THERMOPLASTIC INSULATION TINNED SHIELD OVERALL
DESCRIPTION:
Each Conductor \#20 10/30 Stranded Tinned Cop-
 timbed (oppher shie-ld overall


| Cat. No. | Spool | Conds. | $\begin{gathered} \text { Size } \\ \text { AWG } \end{gathered}$ | Strand | Insul. | Cap/Ft. Bet. Cond. \& Shield | Cap/Ft. Bet. Conds. | $\begin{aligned} & \text { Nom. } \\ & \text { O.D. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 972 S. | 506 | $\pm$ | 20 | 10/30. | .1/64. | 50 | . 38 | . $176^{\prime \prime}$ |
| 973 S | 500 | * | 911 | 10/30. | 1/ti4 | \% 5 | 43 | .1:9" |

972B
WAXED COTTON BRAID OVER SHIELD

COLOR CODE: 1—Black 2-Red 3-White For longer lengths and alternate put-ups-sperifs.

# PLASTIC INTERCOMMUNICATING CABLES 

## TWISTED PAIRS-SOLID CONDUCTORS

| DESCRIPTION: |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Each Conductor \#22 Solid Copper Tinned, $010^{\prime \prime}$ Watl $\mathrm{V}^{\prime} \mathrm{invil}$ Pastice In. sulation, fomblurlors colur comed. twisted pairs cabled, tubed eray Vinvl nlastic jacket overall. |  |  |  |  |  |
|  |  |  |  |  |  |
| Cat. No. |  | No. 4701 to 4727 |  |  |  |
|  | Spool | Pairs | Cond. | Size No. AWC | O.D. |
|  |  |  |  |  |  |
| 4702 | 500 | 2 | 4 | 22 Nolid | 20:-" |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| 4727 | $500^{\prime}$ | $\stackrel{7}{7}$ | 54 | $\because 2$ solid | $105^{\prime \prime}$ |

For lonmer longths and altumato put-mus-simedity.

## TWISTED PAIRS—STRANDED CONDUCTORS

## DESCRIPTION:

Each Conductor \#22 7/30 Stranded insulation, twist al pairs cabled, con. ducturs color coded, tuhed may Vinyl plastic jacket overall.

No. 4731 to 4747

| Cat. No. | Spool | Pairs | Cond, | Size No. AWG | Strand | $\begin{aligned} & \text { Nom. } \\ & \text { O.D. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4731 | $500^{\prime}$ | 1 | 2 | 22 | 7/30 | $145^{\prime \prime}$ |
| 4732 | $500{ }^{\prime}$ | 2 | 4 | 22 | 7/30 | $210^{\prime \prime}$ |
| 4733 | $500^{\prime}$ | 3 | 6 | 22 | 7/30 | $225^{\prime \prime}$ |
| 4734 | . $500^{\prime}$ | 4 | 8 | 22 | 7/30 | 2350 |
| 4735 | . $500{ }^{\prime}$ | 5 | 10 | 22 | 7/30 | $245^{\prime \prime}$ |
| 4736 | .500' | 6 | 12 | 22 | 7/30 | $270^{n}$ |
| 4739 | $500^{\circ}$ | 9 | 18 | 22 | 7/30 | $325^{\prime \prime}$ |
| 4745 | . $500^{\circ}$ | 15. | 30 | 22 | 7/30 | $455^{\prime}$ |
| 4747 | . $500^{\prime}$ | 27. | 54. | 22 | 7/30. | $570^{\prime \prime}$ |

For longer lengths and alternate put-ups-Specify.
COLOR CODE CHART FOR PAIRED INTERCOMMUNICATING

$$
\begin{aligned}
& \text { Pair No. Color } \\
& \text { 1—Black with Red } \\
& \text { 2—Black with White } \\
& \text { 3-Black with Green } \\
& \text { 4—Black with Blue } \\
& \text { 5—Black with Brown } \\
& \text { 6-Black with Yellow } \\
& \text { 7—Black with Orange } \\
& \text { 8-Red with Green } \\
& \text { 9—Red with White } \\
& \text { 10—Red with Blue } \\
& 11 \text {-Red with Yellow } \\
& 12 \text {-Red with Brown } \\
& 13 \text {-Red with Orange } \\
& 14 \text {-Green with Blue }
\end{aligned}
$$

## CABLES

Pair No. Color
15-Green with White
16-Green with Brown
17-Green with Orange
18-Green with Yellow
19-White with Blue 20-White with Brown 21-White with Orange 22-White with Yellow 23-Blue with Brown 24-Blue with Orange
25-Blue with Yellow
26-Brown with Orange
27-Brown with Yellow

## ARMORED SPEAKER CABLE

Ised for ' '.A. systems on speaker extensions, oil hurner installations, uto wiring, ete
Two Conductors Parallel \#18 16/30 Stranded Tinned Copper, rubber insulation, laequermi cotem lraid colom coded, spiral cralsanized stecel armon overall


| Cat. No. | Spool | Size AWG | Strand |  | .D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1111 | $250{ }^{\prime}$ | 18 | 16/30. | $155^{\prime \prime}$ | $\times .240^{\prime \prime}$ |
| 1112 | $500^{\prime}$ | 18 | 1f/30 | 155" | X . $240{ }^{\prime \prime}$ |
| 1113 | $1000^{\prime}$ | 18 | 16/30. | $155^{\prime \prime}$ | X .240" |

## Birubach

## SHIELDED - MULTI - TWO WIRE SPEAKER CABLE TWISTED PAIR CABLES

SHIELDED TWO WIRE SPEAKER CABLE
 cirruits, I'A. syistoms. ut"
\#972A-2 Cond. \#18.16/30 Tinned Copper





TINNED SHIELD OVERALL

| Cat. No . | Spool | Cond. | Size AWG | Strand | Insul. | Cap/Ft. Bet. Cond. \& Shield | Cap/Ft. Bet. Conds. | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 972A | Sor' | $\because$ | $1 \lambda$ | 11: ${ }^{1} 1$ | 132 | 6.7 | 4.3 | . $5^{60}$ |

## WAXED COTTON BRAID OVER SHIELD

1972A
COLOR CODE: Black and Red
For lomer lengths aml alti-matr fut-mps-*inefit

## SHIELDED TWISTED PAIR CABLE

Used where sumall diameter is netwesary in phone pickups, sonthd
 DESCRIPTION:
Two Conductors \#24 - $16 / 36$
Extra Flexible Tinned Copper:
twistud, flexible intinned colserder

shisld overall.
No. 826

| Cat. No. | Spool | Conds. | $\begin{gathered} \text { Size } \\ \text { AWG } \end{gathered}$ | Strand | Ins. | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 826 | $1000{ }^{\prime}$ | 2 | 1 | 1-36. | (115" | $11 \%^{\prime \prime}$ |

COLOR CODE: Black and Red
For lomper lengths and alturnate dut-ung-sucify.

## INTER-COMMUNICATION CABLE

## WAXED COTTON BRAID OVERALL-INTERIOR USE

DESCRIPTION
\#18 Solid Bare Copper Wire: Thermoplastic i sulation; color coderl; twisted conductors: waxicotton braid overall.
 lised for commerting Inter-Com sistems. tharmostat conditioners. oil burners, gas hurners, fete. Insulationorols of air sistance to watar, nil, cliemicals, ete.

| Cat. No. | Spool | Conds. | $\begin{array}{r} \text { Size } \\ \text { AWG } \end{array}$ | $\begin{aligned} & \text { Nom. } \\ & \text { O.D. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 4752 | $500{ }^{\prime}$ | 2 | 18 Solirl | .150" |
| 4753 | $500^{\prime}$ | 3 | 18 solid. | . $165^{\prime \prime}$ |
| 4754 | $500^{\prime}$ | 4 | 18 solid. | $180{ }^{\prime \prime}$ |
| 4755 | $500^{\prime}$ | 5 | Is sulid. | 200" |
| 4756 | $500^{\prime}$ | 6 | 18 Solid. | $\because 20 "$ |
| For lommer lammths and alternate put-ins-Sperify. |  |  |  |  |

TWISTED PAIR TRANSMISSION CABLE WEATHERPROOF BRAID

## DESCRIPTION:

No. 952-Two Conductors, $\# 22-7 / 30$ Tinned
 Copper Stranded, spurcial low loss ruhture int sulation. color corlent, twistud emmentors, ront-
No. 919, 920-Two Conductors, $\# 18-16 / 30$ Tinned Copper Stranded, same construction as alone.
Insed for low loss transmission compline betwen antema and pectivel as doubly twisted lead-in wire for intereom. setul.

| Cat. <br> No. | Spool | Size <br> AWG | Strand | Insul. | $\begin{aligned} & \text { Nom. } \\ & \text { O.D. } \\ & \hline \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 952 | $500{ }^{\circ}$ | 2 | 7/32 | 1/32" | $180^{\prime \prime}$ |
| 919 | 500) | 15 | $16 / 30$ | 1/32" | 195" |
| 920 | $1000{ }^{\prime}$ | 18. | 16/30. | 1/32" | .195" |
| longer lengths and alternate put-ups-s.s. |  |  |  |  |  |

## MULTI-CONDUCTOR FLEXIBLE CABLE

RUBBER INSULATED - Cotton Broid Overall DESCRIPTION:
Each Conductor, \#20 - 10/30 Tinned Copper wame ,

 hrewn conton l-raill ine rall.


| Cat. No. | Spool | Conds. | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Ins. | Nom. O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 172 | $100{ }^{\prime}$ | $\because$ | 20 | 10/30 | $1^{\prime \prime} 1^{\prime \prime}$ | $\therefore$ |
| 173 | $1100^{\prime}$ | 3 | 20 | 10/30 | .1/6:4' | . |
| 174. | $100{ }^{\prime}$ | 4 | 20 | 10/30 | 1/164" | $2{ }^{3}$ |
| 175. | $100^{\prime}$ | 5 | 20 | 10/30 | .1/14" | 2! 0 |
| 176. | $100^{\prime}$ | 6 | 21 | 10/30 | 1/64" | 310 |
| 177. | 1100 | 7 | 21 | $10 / 30$ | 1/6it" |  |
| 178 | $100^{\prime}$ | 8 | 20 | 10/30 | 1/154" | . 31 |
| 179 | $100{ }^{\text {, }}$ | 9 | 20 | 10/30 | .1/it" | . 3 |
| 180 | $100^{\circ}$ | 10 | 20 | 10/30 | 1/61" | .425" |
| 182 | $100^{\prime}$ | 12 | 20 | 11/30 | 1/61" | $4+10$ |
| COLOR CODE: |  |  |  |  |  |  |
| $\begin{aligned} & \text { 1—Black } \\ & \text { 2-White } \end{aligned}$ |  | 5-Orange |  | 9-White/Black Tracer |  |  |
|  |  | 10-Red/Black Tracer |
|  | ed |  |  | 7-Brown |  | 11-Green/Black Tracer |  |  |

THERMO.PLASTIC INSULATED - Cotton Braid Overall
Each Conductor \#22 - 7/30 Tinned Copper Stranded, $1 / 154^{\prime \prime}$ Thermoplastic insulation, color conded, confuctors twist ed, closely wown hown $\qquad$ cotton braid overall.

| Cat. No. | Spool | Conds. | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Ins. | Nom. O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 263 | $100^{\circ}$ | 3 | 22 | 7/30 | 1/¢4" | 161" |
| 264 | $100^{\prime}$ | 1 | 22 | 7/30. | 1/64" | .171" |
| 265 | $1110{ }^{\prime}$ | 5 | 22 | 7/30 | 1/44" | .19\%" |
| 266 | $100^{\prime}$ | 6 | 22 | 7/30. | 1/4i $1^{\prime \prime}$ | -11" |
| 267 | $100^{\prime}$ | 7 | 22 | 7/30 | 1/4i4" | .230" |
| 268 | $100^{\prime}$ | 8 | 29 | 7/30 | 1/64" | .245" |
| 269 | $100^{\prime}$ | 9 | 22 | 5/30 | 1/tit" | -1610 |
| 270 | $1100^{\prime}$ | 10 | 22 | 7/30. | 1/4i+" | . 2959 |
| 272 | 100 | 12 | 20 | 7/30. | 1/fit" | .32\%" |
| For longer lengthe and alternate put-nps--sweify. |  |  |  |  |  |  |
|  |  | COLOR CODE: |  |  |  |  |
|  | 1-Black | 5-Orange |  |  | 9-Purple |  |
|  | 2-White |  |  |  |  |  |
|  | 3-Red | 7-Brown |  |  | $\begin{aligned} & \text { 11—Gray } \\ & \text { 12-Dk. Blue } \end{aligned}$ |  |
|  | 4-Green | 8-Yellow |  |  |  |  |

## PLASTIC P.A. AND INTERCOMMUNICATION CABLE

Widely used for ennecting sound and inter-com systems, andio hookusp, indoor and outdoors.

## FOR INDOOR USE

DESCRIPTION (For Indoor Use):
Nos. 935, 931, 933-Solid Tinned
Copper Conductors. Vinyl plastic insulation. emlor coded, conductors twistel

| Cat. No. | Spool | Conds. | $\begin{array}{r} \text { Size } \\ \text { AWG } \end{array}$ |  | Nom. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 935 | 1000' | 2 | 24 | solid. | .110" |
| 931 | $1000^{\prime}$ | 2 |  | Solisl | .115" |
| 933 | $1000^{\prime}$ | 3 | $\because 2$ | Solid. | .125" |

## FOR OUTDOOR USE

DESCRIPTION (For Outdoor Use):
Nos. 936, 932, 934 -Solid Tinned Copper Conductors, lillyl plastic insulation, color coderl. conductors wisterd with weatherproof wast ic jacket overall


## RUBBER JACKETED MULTI－CONDUCTOR CABLE （NOT SHIELDED）

I sed for permanent or portable I＇．．．systrms，soum recording，indon or outhloor speakers．intercommecting cable for all eleatronic use DESCRIPTION： tach conductor，exima flexible strabled
1inned copper，insulated with a． $022^{\prime \prime}$ wall
special low calpacits rublect．color conled． spectal dow capacits roblsen．color conled． rombuctors twisted．jute filler．cotton wrap with tourh weatherprom back rubtur jacket nuerall．

| $\begin{aligned} & \text { 1-Black } \\ & 2-W h i t e \end{aligned}$ |  | COLOR CODE CHART  <br> 3－Red 5 －Yellow <br> 4 －Green $6-$ Blue |  |  |  | 7－Brown 8－Orange |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat． <br> No． | Spool | Cond． | Size No． AWG | Strand |  | Bet． ond． thers | $\begin{aligned} & \text { Nom. } \\ & 0 . \mathrm{D} \end{aligned}$ |
| 788 | $100{ }^{\prime}$ | 2 | 20 | $26 / 34$ | 10 | Mnit | －づ＂ |
| 789 | 250 | 2 | 20 | $21 / 34$ | $+0$ | Mmif | 275＂ |
| 790. | $100^{\prime}$ | 3 | 20 | 26／34 | 50 | Mm？ | ．285＂ |
| 791 | 250 | 3 | 20 | 20／34 | 50 | ． 1 mf | ．285＂ |
| 792 | $100^{\prime}$ | 4 | 20 | $26 / 34$ | 53 | Mmf． | ． 30 \％＂ |
| 793. | $20^{\prime}$ | 4 | $24)$ | 21／3 ${ }^{\text {a }}$ | 53 | Mmi． | ．310\％＂ |
| 794 | $100^{\prime}$ | 5 | 20 | 26／34 | 56 | Mmf | ． $335^{\prime \prime}$ |
| 795 | 2.50 | 5 | 20 | $213 / 34$ | 515 | Mmf | ． $335^{\prime \prime}$ |
| 796 | $100^{\prime}$ | 6 | $\bigcirc 0$ | 2ti／3 | 58 | ． 1 nmf ． | ． 355 |
| 797 | $250{ }^{\prime}$ | 6 | 20 | $2 \mathrm{ti}^{1 / 3}$ ； | 5\％ | Mmit | 35.7 |
| 798 | ．100＇ | 7 | 20 | 26／34 | （i） | Imf． | ． 370 |
| 749. | $.100^{\prime}$ | 8 | 20 | 2か／34 | （i3） | Mni | ． 395 |
|  | For 1 | 1 lon | hs and | （frnate | 1 ＇ | sur |  |

## RUBBER SERVICE CORD （HEAVY DUTY）－UL APPROVED

 amplifiers，summel svstems，speakers．vacuum cheannrs．Washinir mat chines，truble lishts，refrimerators，etc．Color coded．Inderwriters ：prroved．

| DESCRIPTION： <br> Each Conductor Stranded Bare Cop per，cotion serere，rubler insulation color cobled．combluciors twistent jute fillars，cotton wrap，tough ril |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat． <br> No． | Str． <br> Put－Up | Size No． Conds，$A W G$ ． | Type | Strand | Amp． Rating | Volt． Rating | Nom． $0 . \mathrm{D}$ | Std． Plus． |
| 701. | 250 | 2．．．．．．．．18．．． | SV | 41／31 | ．．．． 7 ．．． | 300 | 2501 | 2 Spmers |
| 574. | ご1） | 2．．．．．．．1々．．． | S．I | 4131 | ． 7 | 3（1）． | $300{ }^{\prime \prime}$ | $\because$ Spmols |
| 575. | 2．90＇ | 3．．．．．．．18．．． | S．I | ．．． $41^{\prime} 31$ | ． 7 | ． 300 | 345＂ | 1 Sjual |
| 578. | 250 | 2．．．．．．．16．．． | S． 1 | ．．65 31 | ．．10． | ． 300 | 325＂ | 2 Sporls |
| 702. | 250 ． | 2．．．．．．．18．．． | S | ．． 4134 | ． 7 | ．．．6i00． | 390＂ | 2 Coils |
| 703. | 2.10 | 2．．．．．．．1t．．． | S | ． 6.7 ，31 | ． 10 | ．．．i（1） | $110^{\prime \prime}$ | 2 Coils |
| 704. | 2.10 | 2．．．．．．．14．． | S | ．．． 4130 | ． 1.5 | ． 6.600 | ． $100^{\prime}$ | Cuil |
| 705. | 250 | 2．．．．．．．12．． | N | ． 6.15130 | ． 20 | ．．．fi00 | 405．＂ | 1 Coll |
| 706 | 2500 | 2．．．．．．．10．．． | N | ．．．．113＇31） | ． 35. | ．．．．600．． | ．6．40＂ | 1 Coil |
| A Moitional conviuctore Ivailable |  |  |  |  |  |  |  |  |

## RIP－STRIP LAMP CORD TYPE SP－1（POSJ．64）－UL APPROVED

An all purpose approved very fipxible rublier covered patallal cord ＂hich is aasily separateal be split in ：ackat
DESCRIPTION：

| Cat． <br> No． | Spool | Cond． | Size No． AWG | Strand | Nom． $0.0$ | Std． Pkge． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 570 | $100^{\prime}$ | 2 | 15 | 41／34 | ．130＂$\times .235^{\prime \prime}$ | 10 Spmols |
| 572 | $250{ }^{\prime}$ | 2 | 15 | 41／31 | ． $130^{\prime \prime} \times 235^{\prime \prime}$ | ＋Spmols |
| 573 | 500 | $\mathrm{CO}$ | LORS | $\begin{aligned} & 11 / 3+ \\ & \text { own. } 8 \text { l } \end{aligned}$ | $130^{\prime \prime} \times 235^{\prime \prime}$ <br> k，Ivory | ＋Spmols |

## SERVICE LINE CORDS （UNDERWRITERS APPROVED）

An all purpose approved power supply cord for radios，record players lamps，and smal！appliances DESCRIPTION：
Two Conductors Rubber Parallel SP－1（POSJ） with Molded－on Male Plug，double brass blades． conductor end stripped and tinned，hanked． No：alable in liack and brown

| Cat． No． | Lgth．Ft | Conds | Size No． AWG | Strand | Nom．$0.0$ |  |  | Std． Pkge． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 816 | 6 | 2 | 18 | ．11／31 | $130^{\prime \prime}$ | x | ． $235{ }^{\prime \prime}$ | 100 |
| 817 | $71 / 2$ | 2 | 18 | 41／34 | $130^{\prime \prime}$ | x | ．235＂ | 100 |
| 819 | 10 | 2 | 18 | $41 / 34$ | $130^{\prime \prime}$ | x | ．235＂ | 50 |

## HI－VOLTAGE \＆CATHODE RAY LEAD CABLE

 Ras＇lube in＇TV recenvers，oseillasentes and other edectronie devires thas helectric constant me 2.0 athl at purer factor of .002 DESCRIPTION：
One Conductor strambed copper timmel linlan（thame retardine two lonloth

| No． | Spool | Size | Strand | Nom． <br> Wall | Max．DC <br> Voltage | $\begin{aligned} & \text { Nom. } \\ & 0 . \mathrm{D} . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7402 | 11000＇ | 20 | 10／30 | （146＂． | 10.000 | ． 12.5 |
| 7402－1 | $100{ }^{\prime}$ | 20 | 10／30 | ． 040 （ $0^{\prime \prime}$ | 10，000 | ． $125^{\prime \prime}$ |
| 7412 | $1000^{\prime}$ | 20 | 111／30 | ．06s＂． | 20,000 | ． 16.9 |
| 7412.1 | $100{ }^{\prime}$ | 20 | $111 / 30$ | ．06x＂． | 20.000 | ．169＂ |
| 7418 | $1000{ }^{\prime}$ | 18. | ． $16 / 380$ | ．047＂ | 10，000 | 135＂ |
| 7418－1 | $160{ }^{\prime}$ | 18． | 15130 | $.04{ }^{\prime \prime}$ | 10，000 | $135^{\prime \prime}$ |
| 7428 | 1000 | 18 | 111／30 | ． $066!^{\prime \prime}$ | 20,000 | 179＂ |
| 7428－1 | $100^{\prime}$ | 18 | ． $16 / 30$ | ． $069^{\prime \prime}$ ． | 20.000 | 179 ＇ |
| 7448 | $1000{ }^{\prime}$ | 1s． | $11 / 30$ | ． $0955^{\prime \prime}$ | 40，600 | ．231＂ |
| 7448－1 | $100^{\prime}$ | 18 | 11／30 | ． $1045 \%$ | 10,000 | ．231＂ |

## ANTENNA CONTROL ROTOR CABLE

## DESCRIPTION：

\＃1874－4 Conductors ilat parallel pols ＂thylene wastic insulation－One ente conductor timned，labance bare coppor． －1875－ 5 Conductors twistev！，colen comerl．Vinyl plastic jacker owerall． $=1878-8$ Conductors wistal


| Cat． No． | Spool | Corid． | Size AWG | Strand | $\begin{gathered} \text { Nom } \\ 0.0 . \end{gathered}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1874 | $1100{ }^{\prime}$ | ！ | 21 | 「「ご | ，17？＂ | $x$ | ．390＂ |
| 1874 A | ．110＇ | 1 | 20 | 7／24 | 107：＂ | $x$ | ． 3 ！10＂ |
| 1875 | 10190 | \％ | 20 | －124 | $.180 "$ |  |  |
| 1875A | 50） $0^{\prime}$ | i | 20 | 7／2x | ． $180{ }^{\prime \prime}$ |  |  |
| 1878 | 10001 | 8 | $2 \geqslant$ | $7 / 30$ | $205^{\prime \prime}$ |  |  |
| 1878 A | $500^{\circ}$ | 8 | 22 | $7 / 30$ | 205＂ |  |  |

COLOR CODE CHART FOR \＃1875．\＃1878
$\begin{array}{llll}\text { 1－Black } & \text { 3－－Red } & \text { 5－Yellow } & \text { 7－Brown } \\ \text { 2－White } & 4-G r e e n ~ & 6-B l u e & 8-0 r a n g e ~\end{array}$
RG／U COAXIAL TRANSMISSION CABLE DESCRIPTION：
One Conductor，Polvepliybate mastic
insulation，coppor brail shichl．plas． fic Jacket werrall


## TELEVISION TWIN LEAD CABLE 300 OHM



## DIATHERMY CABLE

Csed as leads on electrotherapy apparatus，charsing cahle hatrory lead，underground cable，etc．fsed where extreme flexilibits abl long lite is required．Has tourh ruber jacket． DESCRIPTION
Cne Conductor \＃14．104／34 Stranded Bare Copper，
 ber insulation．douhle cotton braid，extremel flexible special grade tourh live rubber jacket．

| Cat． <br> No． | Spool | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Ins． | Nom $0.0$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 756. | $100^{\prime}$ | 14 | ． $104 / 34$ | $3^{\prime} 64{ }^{\prime \prime}$ | 3010 |
| 757. | 1000 | 14 | 104／34 | 3／14＂ | ．300＇ |

## Birnbach

 PHONO PICKUP WIRE - SERVICE and POWER CORDS
## KINKLESS TEST LEAD WIRE

fred with portable tost equipment: as tested, leats in amalyzers, ascillaturs, instruments; wherewer extreme flexibility and limpmess is recuired. Has excellant divlevtric properties. DESCRIPTION:
 thexible ammated tiamed enper, COLORS: Red. Black
 stranded; raper Rerve; $3 / 64^{\prime \prime}$ sperial low capacity rublier, wax finish.
Cat. Spool Size Suncture Nom.

| Cat. No. | Spool | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Ins. | Puncture Voltage | $\begin{gathered} \text { Nom. } \\ \text { O.D. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 61. | $100^{\prime}$ | 20 | 41/36. | /64" | ,0t10 Vo | .137 |


| 61. | 100 | 20 | 41/36 | $3 /$ | 0 | $V$ |  | $7^{+}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 62 | -0 | 20 | 41/36 | 3/64" | 20,000 | Volts. |  | $137^{\prime \prime}$ |
| 66 | $100^{\prime}$ | 18 | 05/36 | 3/64" | 22,000 | Volte. |  | $145^{\prime \prime}$ |
| 67 | 500' | 18 | 65/36 | $3 / 64^{\prime \prime}$ | 22,000 | Volts. |  | $145^{\prime \prime}$ |

heavy dury hi-volrage type
DESCRIPTION:
Nos. 68, 69- \#18- $455 / 36$ extra
flexible annoaled tinned copper;
 tranded; jajer serve; 5/64 special low capacity rubher, wat
Thisht. for oscillatory, analyzers, TV, therapeutic instruments, etc.; wherever an extremely flexible high voltage lead is indicated.

| Cat. No. | Spool | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Ins. | Puncture Voltage | Nom. $0 . D$. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 68 | $100^{\prime}$ | 18 | 65/36. | 5/64 | ,000 V | $210^{\prime \prime}$ |
| 69 | 500 | 18. | 65/36 | 1/64" | 9,000 Vol | $.210^{\prime \prime}$ |
|  | For lonmer lengths and alternate jut-ups-Specify. |  |  |  |  |  |

## SHIELDED PHONO WIRE

ked where small diameter. limymess and extreme flexibility is Hetestiry as for jhono jickup arms and frid wire DESCRIPTION:
\#1822-Single Conductor \#22-7/30 Tinned
Copper Strands, Vinyl plastic insulation, close
inned copper shield hraided owerall.
\#1824 Single Conductor \#24-16/36 Extremely Flexible Tinned Copper Strands, *preial plastio insulation, close timned copper shield hraided overall.
$\# 1825--a \eta t-$.

## TINNED COPPER SHIELD OVERALL



## SHIELDED GRID LEAD WIRE

Thed to renluce loss in crid load use. also to reduce interference cansent DESCRIPTION
\#820-Single Conductor \#20-10/30, \#818-
16/30 Stranded Tinned Copper, low luss rulhwr Mx. $\longrightarrow$ mendation, enton braid lacquered, closely woven
inned copper shiolfl owerall

| Cat. No. | Spool | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Ins. Under Shield | $\begin{aligned} & \text { Cap./Ft. } \\ & \text { Mmf. } \end{aligned}$ | Nom. O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 820 | $100^{\prime}$ | 20 | 10/30 | . 085 | 70 | .140" |
| 818 | $100^{\prime}$ | 18 | 16/30 | .0K5" | 75 | $.150 /$ |
| For lonfer lengths and alternate put-ups--spectis |  |  |  |  |  |  |

## FILAMENT WIRE - (HI-AMPERAGE)

Esed where high amperage and high voltage is indicated. DESCRIPTION
No. 786-\#14-26/28, No. 787-\#12- $\$ 1 / 28$. Annealed Stranded Tinned Copper, cotton serves apecial rade of non-cracking live colored rabher compound


| Cat. No. | Spool | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Ins. | Current Carying Cap. Amps. | Punct. Volt. 60 Cys. AC | $\begin{aligned} & \text { Nom. } \\ & 0 . \mathrm{D} . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | . $500{ }^{\prime}$ | 14 | 26/28 | 1/32" | 15 | 8,500. | .145" |
|  | . $500{ }^{\prime}$ | 12 | 41/28 | 3/64" | 20 | 12,000 | . $190^{\prime \prime}$ |
|  | For | onifer | encths COLO | alter Red | nate 1ut-up <br> d. Black | -S-Specify |  |

## TINNED COPPER SHIELDING

Used for shielding and bonding on aireraft, marine and atuto riadio wires and cables. shielus spuaker leads, lead-ing, amplifier wires. DESCRIPTION:
No. 853 to 856 (ompusend af ixtremely flexibly fine soft annealed conber tinned Flat.
No. 860 Composed of extremely flexilule fine soft annealed conpler wires closely vowen, liraided and Rolled Flat


For longer lencths and alternate put-ups-Specify

## SHIELDED HOOK-UP \& LEAD-IN WIRE

Esed to prevent and remluce interference caused by motors, hittension cables, X-ray machines and various units radiating alectrical impulses. seful in prid circuits.

## TINNED COPPER SHIELD OVER RUBBER INSULATION

## DESCRIPTION

Single Conductor, Tinned Copper Stranded, low ws\% loss rabiner insuly
shishl overall.

| Cat. No. | Spool | Size AWG | Strand | Ins. | Cap./Ft. Mmf. | Nom. O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 810 | 500 | 20 | $10 / 30$ | . 015 | 105 | .0! $5^{\prime \prime}$ |
| 803 | 250 | 18 | $16 / 30$ | $.015{ }^{\prime \prime}$ | 125 | . 125 " |
| 802 | 250 | 16 | $26 / 30$ | .031" | 90 | . 1 + |

TINNED COPPER SHIELD OVER LACQUERED BRAID
DESCRIPTION:
Single Conductor, Tinned Copper Stranded,
low lins linyl insulation. hiwhy hecrurred hrath. closely: wown tinned moper shieht


| Cat. | Spool | Size AWG | Strand | $\begin{gathered} \text { Nom. } \\ \text { O.D. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 831 | 1000 | 22 | 7/30. | . $10.0{ }^{\prime \prime}$ |
| 832 | $1000^{\circ}$ | 20 | 10/30 | . $110^{\prime \prime}$ |
| 833 | 1000 | 18 | .16/30. | .145 |
| 834 | 1000 | 16 | $26 / 30$ | . $160^{\prime \prime \prime}$ |
| 835 | 1000 | 14 | $41 / 30$ | . 1 |

HEAVY DUTY SERVICE CORD (UNDERWRITERS APPROVED)
Gevd fur heaw duty reblacoment on refriwerators, washing machines, machinery touls and elactrunit her re DESCRIPTION:
Two Conductors, Stranded Bare Copper, cotton serve, rubher insulation. jute filler, rotton wraj. oush rubher jacket owerall. molded rubler plut one ent, free ene strilped and tinmed for easy attachnent-Manked.

| Cat. No. | Length Ft. | Conds. | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Type | Strand | O.D. | Std. <br> Pkg. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 348 | $\ldots$.... $\times$. | $\stackrel{\square}{2}$ | 1 i | S.J. | 65/34. | . $325{ }^{\prime \prime}$ | 2; |
| 309 | 9 | 2 | 18 | S.V. | $41 / 34$ | .250" | 25 |
| 312 | 12 | 2 | 18 | S.V. | 41/34 | $.250^{\prime \prime}$ | 25 | Size

AWG

## TELEVISION POWER SUPPLY CORD

(UNDERWRITERS APPROVED)
Used extensivaly as raplacament of damated or worn out TV corres DESCRIPTION:
Six Foot Rip Strip TV U.L. Approved Safety Cord. 2 -cond. No. 18 SP-1 ( I'Os's) brown rubber cord vith molded male plut and 1 nolded.on connector on other end Cat. No.

$\qquad$

## AIRCRAFT - HI-VOLTAGE - KEL-F - HI-TEMP. $105^{\circ} \mathrm{C}$. - MINIATURIZATION - LACQUERED HOOK-UP WIRE

## AIRCRAFT WIRE - MIL-W-5086 \& MIL-C-7078 CABLE

(sed where a single conductor, 600 volt insulated wire is required. This aireraft electrical wirt is resistant to the. effeet of salt water,

MIL-W-5086-UNSHIELDED-(Supersedes AN-J-C-48A) DESCRIPTION
One conductor stranded timed copper, Polsjacket "wrill. जvalalle in white. No. 7351

| Cat. <br> No. | Spool | Size AWG | Type Designation | Strand | Nom. Wall | Nom. O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |


| No. | Spool | AWG | Designation | Strand | Wall | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7351 | 1000 | 22 | AN-2.3 | 19/34 | .11.5" | 15 |
| 7353 | 1000 | 20 | AN-20 | 19/32 | . 015 | . 109 |
| 7355 | $1000^{\circ}$ | 18 | AN-15. | 19/31) | . 1515 | . 10 |
| 7357 | $1000^{\circ}$ | 16 | AN-16 | 1!1/3! | . 016 " | . 11 |
| 7359 | $1000^{\circ}$ | 14. | AN-14 | 13/27 | . $111 \times$ | . 130 |
| 7361 | 1006 | 12 | 1N-12 | 1!9/2.t | .118 | . 15 |

MIL-C-7078-SHIELDED-(Supersedes AN-C-168)
DESCRIPTION:
One conluctor same construction als alwe,

| wrerall. |  |  |  |  | No. 7371 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Spool | $\begin{gathered} \text { Size } \\ \text { AWG } \end{gathered}$ | Type Designation | Strand | Nom. Wall | Nom. $0.0$ |
| 7371 | $1 \mathrm{l}^{\text {a }}$ (1) | 22 | Aが- ${ }^{\text {a }}$ | 19/34. | . $1115^{\prime \prime}$ | $110^{\prime \prime}$ |
| 7372 | $1000{ }^{\prime}$ | 20 | AN-20 | 19/32. | . 11150 | 12 |
| 7373 | 1000 ' | 18. | AN-18. | 19/34) | . $015 \%$ | $129^{\prime \prime}$ |
| 7374 | $1000^{\prime}$ | 16 | AN-14. | . $19 / 29$ | 01 f" | $13!$ |

## hi Voltage lacquered Wire

L"sed as Irimary wiring as for automohiles, tail, dashhoard, horn, etc. Instrument lads, himh voltage and primary voltame requirmments. DESCRIPTION:
One Conductor tinned copper annealed stranderf,
rubher insulation, highly lacuuered liraju, ujl,
 heat, and moisture resistant.

| Cat. No. | Spool | Size AWG | Strand | Ins. | Puncture V. | Nom. $0.0$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2818 | $100{ }^{\prime}$ | 18. | 16/30. | (1)3-3" | . 9500 | .117" |
| 2816 | $1100^{\prime}$ | 16. | 19/29 | 02 0 " | . 9500 | .127" |
| 2814 | $100^{\prime}$ | 14 | 19/27. | .02 ${ }^{\prime \prime}$ | .9500 | . $148^{\prime \prime}$ |
| 2812 | $100^{\prime}$ | 12. | 19/25 | .037" | 9500 | .171" |
| 2810 | $100{ }^{\prime}$ | 10 | 19/23 | .031" | . 9509 | . $20{ }^{(0)}$ |
|  |  |  |  |  |  |  |

## LACQUERED HOOK-UP WIRE

['seal in transformers, amplifiers, hook-ups, learls, eff. Strips easil DESCRIPTIO
No. 3462- 2 -10/30 Single Conductor strantad timned colver. low loss free stripuinge rubher insulation. eotton loraid himbly lamemem.
No. 3600 - $5-16 / 30$ Single Conductor simamed tinned eomper 1/30" has las free stripping rubbur insulation, rason braid hirhly

| Cat. No. | Spool | Size AWG | Strand | Insul. | Punct. Volt. | DC Ins. Res. /Ft. Mej. | $\begin{aligned} & \text { Nom. } \\ & 0 . \mathrm{D} . \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3461 | $11^{\prime \prime}$ | . 30 | 1(1/30) | 1/8i4" | - 1110 | 3!19 | .090" |
| 3462 | , $100{ }^{\prime}$ | 120 | $10 / 30$ | 1/6 $\mathrm{f}^{\prime \prime}$ | . 7000 | 390 | .090" |
| 3460 | $160^{\prime}$ | 18 | 16/30 | 1/39" | 10000 | 4 (in | .195" |
| 3600. | 500\% | 18 | 16/30 | 1/30" | \%OOU | 410. | . $125^{\prime \prime}$ |

## 7MM HIGH TENSION CABLE UNSHIELDED

1 "sod as hi voltare teads in electronic* endtipmont and instruments,



I'sed for aluto and aireraft ifnition sustems where grounding is reguiral fom elimination of interferencer
DESCRIPTION:
\#781-siame construction as \#tfinn

| $\begin{aligned} & \text { plus a e } \\ & \text { overall. } \end{aligned}$ |  | edf |  | No. |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Spool | Size <br> AWG | Strand | Insul. | Nom. $0.0$ |
| 781 | $100^{\circ}$ | 16 |  | 3/32" |  |

For longer lengths and alternate put-uns-speeity.

## BIRFLENE* KEL-F HOOK-UP WIRE

$-125^{\circ}$ C. to $-150^{\circ}$ C. MEETS MIL-W-12349-SPEC

PERFORMANCE SPECIFICATIONS
Continuous-
Operating Voltage-lofir solt: 1RM:
Spark Test--Tin
Dielectric Strength—50ct wits.
insulation Ros DESCRIPTION:
One Conductor
ilur phated enremer stranded instiation- dontuchlomatriflumrotholente (Bir-

| $\begin{aligned} & \text { Cat } \\ & \text { No. } \end{aligned}$ | Spool | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Min. Wall Insul. | $\begin{gathered} \text { Nom. } \\ \text { O.D. } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7130 | $110119^{\prime}$ | 30 | -/3s | . $00 \mathrm{t}^{\prime \prime}$ | . 02919 |
| 7130-1 | $1{ }^{101}$ | 30 | -/38 | . 1018 | . 029 |
| 7128 | 1600 | 2 | 7/3t | .006" | . 032 |
| 7128-1 | $100 \%$ | 28 | 7/36 | . 1006 | . 03 |
| 7126 | 1000 | 24 | 7/34 | . $00 \times 1$ | . 037 |
| 7126.1 | $100{ }^{\prime}$ | 26. | 7/34 | $.008^{\prime \prime}$ | . 03 |
| 7124 | $10100{ }^{\prime}$ | 24 | 7/32 | .003" | . 04 |
| 7124-1 | $100{ }^{\circ}$ | 24 | 7/32 | .008" |  |
| 7122 | $1000{ }^{\prime}$ | 22 | 5/30 | .008" | . 050 |
| 7122-1 | $100^{\prime}$ | 22 | 7/30 | .008" | . 050 |
| 7120 | $1600^{\prime}$ | 20. | -1/28 | . 010 " | . 060 |
| 7120-1 | $1100^{\prime}$ | 20 | $7 / 28$ | . 010 "', | . 060 |
| 7118 | $1000^{\circ}$ | 18 | 10/30 | . 010 "' | . 070 |
| 7118-1 | $1100^{\prime}$ | 18 | 16/30 | .010" | . 070 |
| 7116 | $11000^{\circ}$ | 16 | $19 / 29$ | . $010^{\prime \prime}$ | 078 |
| 7116.1 | $1100^{\prime}$ | 16 | 19/29 | . 010 " | . 079 |

COLORS: White, Red, Green, Gray, Black, Orange, Dk. Blue, Lt. Blue, Brown, Yellow, Purple.
*Marle with Kull Available in Spiral Tracers

## MINIATURIZATION HOOK-UP WIRE

 HIGH TEMPERATURE $105^{\circ} \mathrm{C}$.Used in miniaturized afuipment for hook-up and lead wires for instru ments whers small sime is rofuired with higli operating temperatures DESCRIPTION:
One Conductor timbet erimer stramed hi-heat thermoplastie insulation overall


COLORS: Black. Red, Yellow. Blue. Gray, Brown, Orange, Green, Purple, White.

## SHIELDED

DESCRIPTION:
One Conductor timiend enfrur stranilend,



| Cat. No. | Spool | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Insul. | Nom. O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7535 | 11011 | - | -/3if. | 1113" | 060" |

## PLASTIC INSULATED HOOK-UP WIRE

Desirned for the elasis. suln-chatsis wirint of tadio inn televisien

| $105^{\circ} \mathrm{C} .-600$ VOLT RATING UL APPROVED |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DESCRIPTION: |  |  |  |  |  |  |  |
| One Conductor stramid anmealed copper timmen, wistie insulatinn. |  |  |  |  |  |  |  |
| Cat. <br> No. | Spool | AWG | Strandiny | Nom. <br> Wall | Volt. <br> Breakdown | DC Ins. Res. Megs/Ft. | $\begin{aligned} & \text { Max. } \\ & 0 . \mathrm{D} . \end{aligned}$ |
| 7201 | [11110. | $\cdots$ | - /:30 | 113:" | 18000 | 5000 | 1 |
| 7201.1 | 1010 | $0:$ | 7/30 | .03? | 18000 | 5000 | $100^{\prime \prime}$ |
| 7203 | 10100 | U11 | 10/30 | .1133" | 18000 | 1000 | 10 |
| 7203.1 | $1010{ }^{\circ}$ | * 1 | $111 / 30$ | . 1033 | 18000 | 5000 | 10 |
| 7205 | $10101{ }^{\prime}$ | 1 , | 16/311 | . 03.3 " | 18000 | . 0000 | 11 |
| 7205-1 | 111110 | 1 | $11 / 811$. | . 08303 | 18000 | 1000 | 11 |
| 7207 | $1006{ }^{\circ}$ | $1{ }^{\prime \prime}$ | $20 / 30$ | .1030" | 18000 | 5000 |  |
| 7207-1 | $106{ }^{\prime}$ | 1 i | $216 / 30$ | .03:3" | 18000 | 5000 | 12 |
| 7202 | $1000{ }^{\prime}$ | - | vill | . $0: 83$ | 18000 | 5000 | 09 |
| 7202-1 | $100{ }^{\circ}$ | 3 | sulid. | . 03 | 18000 | 000 |  |
| 7204 | $10000^{\circ}$ | $\because 11$ | solid. | .103: | 18000 | 5000 | -10 |
| 7204-1 | $11 \mathrm{tr}^{\circ}$ | $\because{ }^{-1}$ | colid. | .083 | 18000 | 5000 | 10 |

COLORS: Black, Red, Green, Yellow, Blue, Brown, White,
Orange, Gray, Purple.

## Birnbach

## TUBING-WIRE

## BIRACO PLASTIC TUBING

O UL Approved for $1050^{\circ} \mathrm{C}$. Operation
Meets MiL-1-631B Specs




## BIRNBACH VARNISHED TUBING

 Radio Grade (A.S.T.M., N.E.M.A. Grade A-B-1) Meets MIL-I-3190 Specs.Quatity radio and electronic varnished tuhlng. ('onstructed of high quality Fibergas or cotton brate with heavy ebatings of varmish anplied inside and out. Inslde coated for easy insertion of wires. Jas maximum dielectric per Average dielectric strength 5000 volts. Imjervious to oil. acid, water. High tensile strength, pood flexibillty, non-meeling and non-cracking nualities.


AERIAL WIRE - SOLID - STRANDED
TINNED COPPER WIRE - BUS BAR

| Cat. No. | Put. Up | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Area Circular Mils | O.D. |
| :---: | :---: | :---: | :---: | :---: |
| 1433. | $110{ }^{\text {c }}$ (oil | A 8. | .16.310 | 129" |
| 1402. | 100 Coil | 10 | 10.:88 | 103:" |
| 1403. | , 10101 Strool | 10 | $10.85 \times 11$ | $112:$ |
| 1406 | 1610) (wil | 12 | 6,5331 |  |
| 1407 | 104110' Sxal | 12 | H, $5: 311$ |  |
| 1410. | 1110 ' 'oul | 14 | 4.107 | 010 |
| 1411. | 1000' Sıom | 14 | 4,107 | (1).0. |
| 1414. | 100' 'ril | 1 1 | 2.583. |  |
| 1415. | 10111) Spmol | 16 | 2.Es:3 |  |
| 1418. | - 1391) coil | 18 | 1.621 | 11 |
| 1419. | .110018 skrol | 18 | 1.129 | 11 |
| 1422. | . 1601 ' ${ }^{\text {a }}$ | 20 | 1.022 | 11:3:3" |
| 1423. | 10911 Sprot | 20 | 了,1122 | 11.13 |
| 1434. | . 11010 n - sken | 22 | did. ${ }^{\text {d }}$ |  |
| 1424. | 1490 fr Nool | 24 | +11:19 |  |
| 1426 | . 111100 रиююl |  | 231.1 |  |
| 1428 | .1000' Sbuol |  | 154 |  |
| 1430 . | 1000' -рмо1 |  | 1011 | (1)10" |

STRANDED TINNED COPPER WIRE

| Cat. No. | Put-Up | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | O.D. |
| :---: | :---: | :---: | :---: | :---: |
| 495 | 100' (oul | 12 | $7 / 20$ | 1122" |
| 1671 | 1100 'soil | 11 | 7 -2 | 11 |
| 1638. | 1000' sumol | 14 | - 722 | .07 ${ }^{\prime \prime \prime}$ |
| 1674. | 100' 'oil | 15 | - 7/23 |  |
| 1633. | 1000 'swol |  | 7123 |  |
| 1628. | 1000' simol | 16. | 7/2: | 0 (i2゙" |

COIL LEAD, JUMPER CABLE

| No. Cat. | Put-Up | AWG Size | Strand | O.D. |
| :---: | :---: | :---: | :---: | :---: |
| 1622 | 00' Simol | 22 |  |  |
| 1620 | 10()' Sporel |  | $10 /$ | 37 |



## SILICON BRONZE AERIAL WIRE

Especialls designel for shits, alrports, short wave and transmitting antenna are innportant.

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Put-Up | $\begin{aligned} & \text { Size } \\ & \text { AWG } \end{aligned}$ | Strand | Breaking <br> Strength | O.D. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 529 | $.100^{\circ}$ | . 4 | 7/12 | 3670 ths. | .241" |
| 528. | $100{ }^{\prime}$ | 6 | 7/1d | 2140 lbs. | . 1910 |
| 527. | 1010 | 8. | 7/16 | 1600 lbs. | .150" |
| 499. | $100{ }^{\circ}$ | 10 | 7/18 | 1000 lbs. | 12 |
| 524 | 104 | 12 | . $7 / 20$ | \$50 lbs. | . 100 |
| 526. | 100 | 14 | 7/22 | 420 lbs. | 01.1 |



## PUSHBACK－HEAVY FORMVAR－MAGNET WIRE Bí PLAIN ENAMEL－DCC－DNC－SOLID TINNED

## BIRNBACH RADEX SLIPBACK HOOK－UP WIRE

 the cotton insulation to fray or bunch up when moshed hack．Has high dielectric strenuth and will withstand all climatic changes without breakionn．

COLORS：Black，Red，Blue，Yellow，Green，White，Brown，Orange．


## HEAVY FORMVAR，PLAIN ENAMEL，DOUBLE COTTON，DOUBLE NYLON，SOLID TINNED MAGNET WIRE HEAVY FORMVAR



 atree to watar and moisture．Jhas ant fail after two hours at $100^{\circ} \mathrm{G}$ Fakes up less wimdint spact

1／4 lb．SPOOL
$1 / 2 \mathrm{Ib}$. SPOOL
1lb．SPOOL


| $\begin{aligned} & \text { Size } \\ & \text { B\&S } \end{aligned}$ | Ft． | $\begin{aligned} & \text { Size } \\ & \text { B\&S } \end{aligned}$ | Ft． | $\begin{aligned} & \text { Size } \\ & \text { B\&S } \end{aligned}$ | Ft． |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 10 | 8 | 10 | $1{ }^{1}$ | 10 | 3. |
| 12 | 12 | 12 | 25 | 12 | －31 |
| 14 | 20 | 14 | 40 | 14 | 81 |
| 16 | 32 | 16 | 6.3 | 16 | 120 |
| 18 | ． 50 | 18 | 100 | 18 | 201 |
| 20 | 80 | 20 | 160 | 20 | 320 |
| 22 | 127 | 22 | 251 | 22 | 508 |
| 24 | 201 | 24 | 403 | 24 | 800 |
| 26 | 320 | 26 | 640 | 26 | 12バイ |
| 28 | 507 | 28 | 1015 | 28 | 2030 |
| 30. | 805 | 30 | 1610 | 30 | 3220 |
| 32 | 1282 | 32 | 2564 | 32 | 5198 |
| 34 | 2037 | 34 | 4075 | 34 | S150 |
| 36 | 3221 | 36 | 6443 | 36 | 12857 |
| 38 | 5132 | 38 | 10246 | 38 | ．20492 |
| 40 | ． 8143 | 40 | 14281i | 40 | 3257\％ |
| 42 | 12803 | 42 | 25605 | 42 | 51211 |
| 44 | 20455 | 44 | 40910 | 44 | ．81814 |


| 1／4 lb．SPOOL |  | DOUBLE NYLON |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $1 / 2 \mathrm{lb}$ ．SPOOL |  | 1 1b．SPOOL |  |  |
| Size B\＆S | Ft． | Size B\＆S | Ft． | Size | B\＆S | Ft． |
| 12 | $1 \stackrel{ }{2}$ | 12 | 24 | 12 |  | $4!$ |
| 14 | 19 | 14 | 39 | 14 |  | 7： |
| 16. | 31 | 16 | 6： | 16 |  | 105 |
| 18 | 49 | 18 | 99 | 18 |  | 19.4 |
| 20 | 78 | 20 | 157 | 20 |  | 311 |
| 22 | 123 | 22 | 247 | 22 |  | 49.1 |
| 24 | 195 | 24 | 390 | 24 |  | 781 |
| 26 | 303 | 26 | ． 606 | 26 |  | 131娄 |
| 28 | 478 | 28 | ． 956 | 28 |  | $1 \leq 1 \geqslant$ |
| 30 | 739 | 30 | 1479 | 30 |  | －\％＝ |
| 32 | 136 | 32 | 2272 | 32 |  | 4．74．7 |
| 34 | 712 | 34 | 3424 | 34 |  | 684＊ |
| 36 | 551 | 36 | 5109 | 36 |  | 10201 |
| 38 | 770 | 38 | 7541 | 38 |  | 1 Ela ${ }^{\text {a }}$ |
| 40 | （14） | 40 | 0080 | 40 |  | ？01＊1 |
| DOUBLE COTTON |  |  |  |  |  |  |
| 1／4 1b．SPOOL |  | $1 / 2 \mathrm{lb}$ ．SPOOL |  | $1 \mathrm{lb}$. SPOOL |  |  |
| Size B\＆S | Ft． | Size B\＆S | Ft． | Size | B\＆S | Ft． |
| 10 | ＊ | 10 | $1{ }^{\text {i }}$ | 10 |  | 31 |
| 12 | 11\％ | 12 | $\because 1$ | 12 |  | $1!$ |
| 14 | 19 | 14 | $3!1$ | 14 |  | －＇ |
| 16 | 31 | 16 | $8 \cdot$ | 16 |  | 1！： |
| 18 | 48 | 18 | 97 | 18 |  | 191 |
| 20 | 78 | 20 | 15 － | 20 |  | 311 |
| 22 | 119 | 22 | 238 | 22 |  | 47 |
| 24 | ． 134 | 24 | $26!$ | 24 |  | 53： |
| 26 | －84 | 26 | 568 | 26 |  | 113 |
| 28 | ． 435 | 28 | 871 | 28 |  | 1710 |
| 30 | ．641 | 30 | 198. | 30 |  | －5が品 |
| 32 | ．976 | 32 | 195：3 | 32 |  | 3010； |
| 34 | 1365 | 34 | 2735 | 34 |  | 14：0 |
| 36 | 1827 | 36 | 3654 | 36 |  | $730: 1$ |
| 38 | 738 | 38 | 5470 | 38 |  | $10: 5$ |
| 40 | 3405 | 40 | 6811 | 40 |  | 131038 |
| SOLID TINNED（Soft Drawn） |  |  |  |  |  |  |
| 1／4 lb．SPOOL |  | $1 / 2 \mathrm{lb}$ ．SPOOL |  | $1 \mathrm{lb}$. SPOOL |  |  |
| Size B\＆S | Ft． | Size B\＆S | Ft． | Size | B\＆S | Ft． |
| 10 | ， | 10 | 1 ； | 10 |  | $3 \times$ |
| 12 | 12 | 12 | $\because 5$ | 12 |  | S11 |
| 14. |  | 14 | 411 | 14 |  | S11 |
| 16 | 32 | 16 | $13 \%$ | 16 |  | 1哭 |
| 18 | 50 | 18 | 100 | 18 |  | －01 |
| 20 | 80 | 20 | 180 | 20 |  | 303 |
| 22 | 127 | 22 | 254 | 22 |  | 511 |
| 24 | 201 | 24 | 40：3 | 24 |  | 8118 |
| 26 | ． 320 | 26 | ．640 | 26 |  | 12814 |
| 28 | ． 507 | 28 | 1015 | 28 |  | －103 11 |
| 30 | 805 | 30 | 1610 | 30 |  | 3230 |
| 32 | 1282 | 32 | 2564 | 32 |  | 5138 |
| 34 | 037 | 34 | 4075 | 34 |  | 8150 |
| 36 | 3221 | 36 | 6443 | 36 |  | 128 |
| 38 | 132 | 38 | 0246 | 38 |  | $\bigcirc 0190$ |
| 40. | 143 | 40 | 6286 | 40. |  | 32．7： |
| BARE COPPER－SOFT DRAWN AVAILABLE FROM STOCK |  |  |  |  |  |  |



## insulated phone tips, tip jacks, test prods birnbach



SENIOR SOLDERLESS PHONE TIP
Jrass nickel mated. Fits standurd mone till jarks. Wire
 Cat. No. 409 Senior . . . . . . . . . . . .

JUNIOR SOLDERLESS PHONE TIP
Cat. No. 4 is Junior . . . . . . . . . . . . . . . . . . . . . . Std. Pkg. in


SCRULOK PHONE TIP
brass nickel mated. Fits standard thane tip jacks. tion. Molded handle.
Colors: Rect, Black, Yellow.
Cat. No. 412 . Std. Pkg. :10


NEEDLE POINT PLUG
 dates standard hathana plug molded phistia handle. Colors: Reti, Black. Cat. No. 330..Std. Pkg. .in


SCRULOK PHONE TIP fits stantaty phome tip jacks. Dhak stmass, nivkel plated. Has corblok sohlerhandle. Colors: Bet, 13laek, Yellow, Whe, (1reen. Cat. No. 419 . Std. Pkg. 50


PHONE TIP
Phugs intu stamlarid bhone it jarks. Brass niekel plated phot. -reembestates stabdard babma
 Colors: fed, Blamk. Vellow, Cirem.


HIGH VOLTAGE NYLON TIP JACK
 thick, fomplete with brass n.tol, mit.
 Fits standard pone Hips, Colors: White. Wed, Bhack. Grewn. Blue, Dranke, Yol-
Cat. No. Std. Pkg.


PHONE TIP JACK
Fin all shamard phone tibs. Bendy is brass


 Cat. No. 407 . . . . . ......... . Std. Pkg. ${ }^{0} 0$


BRASS NICKEL PLATED TIPS
loits all stamlatil phome tif jards. Cat. No. Std, Pkg.
402. .standith bhonw Til.... 100

402A Phone 'til, Larker Jiam. 100

bakelite pencil test prod
 Cat. No. haketice mantu. Cold Cat. No.

Bukelite 1 encil Test Prol.


HEAYY DUTY HI-YOLTAGE TEST PROE HANDLE
Tip is hears brass nickel plated. Bakelite fincer kuard. Arommodates IN-34 Cat. No.
559

ALLIGATOR CLIPS－TEST CLIPS－SPADE LUGS TEST LEADS


INSULATED ALLIGATOR CLIP
Mado of sterel．e：admium matid．Insulatent hamble allows uso of all banana plugs．Has small soldoring lif．Colors：Real．Blatrk．
Cat．No．Insulatal Nllistator（＇lip Std．Pkg．
310 ．


## 

INSULATED ALLIGATOR CLIP Screw Type）
Mande it stere．Catmium flated．Wrewatols matching jaws for tight erip．Has serew for soblerless camoction．Bahaba pluer fite intu reat of rliy．lusulatom hamdle． Colors：Red，Blach．
Cat．No．
310 S
310S
Insulatay \lliz：atm（lij）Std．Pkg．

## INSULATED COPPER ALLIGATOR CLIP（SCREW TYPE）－No，310C

 for seleberlass conmentions．

Colors：Red，Black
Cat．No．
310 C －｜nsulated Colors：Red，Black．


ALLIGATOR CLIP WITH PHONE TIP JACK
Handle has bur No． 31 Clif anul our No．＋ 1 － ijp jack in rear tork all stambayt phome tip





Made of ralmiam blateri stexl．Thu jaws mat l accobatrls，fromitins thetm to erip all hinds



| 31 C |
| :---: |




## ALLIGATOR CLIP COMBINATION JACK




 Fhane tizt whes and banama blase to Vllicatom （ lias．Colors：Rad，Black．

Cat．No．
Std．Pkg．
 337 －s：sme as above except with our \＃310
 sturl 1lot T＂insurl．

Cat．No．Std．Pkg， 332 A in

＊゙pada later

## BIRNBACH TEST CLIPS

 Thu teeth mush corroetly fummit



Cat．No．Length 27－トM M 28－011いこッ1 29－Me．linm $\quad 2$ 瑟 $^{2}$




BIRNBACH HEAVY DUTY HIGH VOLTAGE TEST LEADS


Oxerall lenkt 60＂．Tips art
heary solid hrass nitelict mated．Ruaked，
despendablu
 hakelite pands．
Coblur rombed lieal Color romed Real
ambl Black．I＇ses
our H1 linkless test linklass
leatl wire Cat．No．Std．Pkg． 562－lleasy buty Hish Voltane

ALLIGATOR CLIP TEST LEADS


Whack and liend kinblens thet leat
 Cat．No．Wire Length Std．Pkg．
 ABLE TO ORDER

conded Het，mach， Cat．No． Cat．No．
408－hakelite Ju null＇rsje




BIRNEACH NEEDLEPOINT TEST LEADS


Cat．No．Std．Pkg．

 422—sulderlest Ithone＇fin 423－Mesterdess sumber 1．ugs

GIANT, STANDARD, MIDGET BANANA PLUGS JACKS and PHONE TIPS

Birnbach

GIANT PLUG
No. 396
Pody is hexed brass, nickel plated. Fits all giant hamana jacks. Com plete with nickel plated screw and solicering lug Rated al 25 amps.

Cat.
No. Spring Std. Pkg
396 Phos. Brz.
3968 Beryl. Cop. 2 a


## GIANT PLUG

No. 397
Body is hexed brass. nickel plated. Fits all giant lamana jacks. Com phete with nickel matud screw and soldering hur. Heavy duty, 25 amp. rating.

Cat.
No. Spring Std. Pkg. 397 Phus. Brz. .. 25 397B Beryl. Cop. 25


## BANANA PLUG

No. 4045
Hexed brass nickel pl. Complete with hex brass n.pl. nut. Has solderless Scrulok commection. Fits all stamdard bastanat pluirs. Spring is four-leaved phonphor bronze nickel plated. Rated at 5 amps. Cat. No. Std. Pkg. 404S ............... 100


Scrulok Banana Plum

## BANANA PLUG

No. 400
Hexed brass nickel plated. Fitg all standard banana plurs. Complete with hex brass n.pl. nut and tinned copper lug. Spring is fourleaved nickel plated. Raterd at 5 amps.

No. Spring Std. Pkg. 400 Phos. Brz. ........ 100 400 B Beryl. Cop. .... 100


## SOLDERLESS PHONE TIPS

No. 23 and No. 24


Brass, nickel plated. Wire fits thru bobly of tip, tirhtened around serew with nickel plated knurled nut. Fits all stamdard phone tip jacks. Cat. No.

Std. Pkg.
23 -Jun
24-Smior Solderless Ihone Tip ..... 100

GIANT PLUG No. 392A

Bordy is hexed hras: nickel plated. Rated at 25 amps. Has larsu soldering well in threaded shank. ドits all Giant Banana Jacks.
Cat.

No. Spring Ptd.
392A Phos. 13r\% 25

$\frac{1}{1 / 3}$

Cat. No. Std. Pk
395 Giant Jack 25

## BANANA PLUG <br> No. 414

Hexed Irass, nickel plated. One-piece cmstruction. Fourleavel phosphor bronze spring complete with brass hexed nut n.pl. Rated at 5 amps. Fits all standard banana jacks.

Cat. No. Spring Std. Pkg.

$\frac{414 \text { Phos. Brz. }}{\text { BANANA PLUG }}$
No. 404 A
Hexed brass and four. leaved phosphor bronze Rated at 5 amps fits all standard hanana jacks.
Cat. No. Std. Pkg.

404A Banana Plug 100


BANANA JACK No. 403
Hexed brass n.pl., with brass n.pl. hex nut and timed cop. per lug. Mounts in $1 / /^{4}$ hole Fits standard plugs.
Cat. No.
Std. Pkg.


403 llanana Jack
PHONE TIP JACK No. 26
lrass nickel pl. bouly I oublile phosphor bronza springs, hot tinned. Fite standard phone tip plurs. Mounts in $1 / 4 "$
hold in panels up to thick. Complete with hex n.pl. hrass nut.
Cat. No.
26 ..
Phone Tip Jack
Std. Pkg.

GIANT PLUG No. 398

Honly is hexed brass, n.|l| nut and tinned roplut lat. Has large soldering well in thremand shank. [ ${ }^{\circ}$ sed in hirh annerage circuits rated at 2 a amps Fits all giant banath: jacks.
Cat. Spring Std.
398 Phos. Bry
 3988 Beryl. Cop.

- 25

GIANT JACK
No. 399
Hoxed liriss nicknl lated. ('ompleter with hex brass n.pl. nut
 lurr. Fits all ginnt banana plurs. Mounts in $1 / \mathbf{I}^{\prime \prime}$ hole in panels "p to "21" thick.
Cat. No. Std. Pkg


399 (it. Jack 9


## BANANA PLUG

No. 416
Hexed brass nickel plated. Cross slotted for positive con tact. One-piece construction Fits all standard banana jacks Complete with hexed hrass n.pl. nut.

Cat. No.
Std. Pkg.
416 Banana Plug .... 100


BANANA PLUG
No. 401
Hexed brass nickel plated One-piece four-leaved spring. Complete with hrass n.pl. sorew and tinned coppor lug. Rated at 5 amps. Fits all standard banana jacks.

Cat. No. Spring Std. Pkg.
401 Phos. Brz. ..... 100
401 B Beryl. Cop. 100


## MIDGET BANANA PLUG

 RIVET TYPE—No. 426Brass silver plated horly. One-piece four-leaved phosbhor hronze spring silviplated. I'sed in government dullirment
Cat. No.
Std. Pkg.
426
Midqet Banana Plıs IRivet TyיHe

PUSH BUTTON SWITCH MOMENTARY CONTACT

 －huw makn ansi lareak．Has＂ $1 \mathrm{fi}^{\prime \prime}$ slotted
＊ickel plated WI Bumeal．Rated at 1 mols．



Description


ELTE MOLDED＂CENTER－OFF＂SWITCHES

 Cat．No．Description Shank Length Std．Pb 6261
6263

BAKELITE MOLDED MOMENTARY CONTACT SWITCHES


 Cat．No．Description Shank Length Std．Pkg．
6240 vilnt 6240 sllt

MOMENTARY PUSH BUTTON SWITCHES

birnbach
KNIFE SWITCHES


| Cat．No． | Description | Type Base | Std．Pkg， |
| :---: | :---: | :---: | :---: |
| 6100 | － | I＇usomain | Q） |
| 6102 | －1＇1］ | 13ak．litr | 211 |
| 6103 | 川年1 | l＇arorlain | 10 |
| 6104 | いいけす | Bahelito | 10 |
| 6105 |  |  | 111 |


| Cat． No． | Description | Shank Length | Current Rating$125 \mathrm{~V} \quad 250 \mathrm{~V}$ |  | Std． Pkg． |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 6280 | sist | 15／8ゴ＂ | （i）（11115 | 3＊mus | $\cdots$ |
| 6281 | ＊リ1） | 1－1／3ご＂ | （i）：1111\％ | ：\％：1110 | － |
| 6282 | 小川＞ | 15／8＂＂ | （i）amms | ：．1mps | $\because$ |
| 6283 | いいい | 17／3：${ }^{\prime \prime}$ | （i）ambe | $\therefore$ almo | $\because$ |

SLIDE LEVER SWITCHES

 sisk
siploy
alioy
MP＇st

| Cat．No． | Description | Std．Pkg |
| :---: | :---: | :---: |
| 6245 | slest | 2S |
| 6246 | －10］ | 25 |
| 6247 | H1－NT | 2． |
| 6248 | ロР口1 | 2.5 |



POWER SWITCHES
HEAVY DUTY MOMENTARY SWITCHES


 transmit
made liv



| $\begin{gathered} \text { Cat. } \\ \text { No. } \\ 6227 \\ 6228 \\ 6229 \end{gathered}$ | Description \＆Size H＇IT ＊は小＂ ぞィシ 11口＂ |  | Power Rating |  |  | Std． <br> Pkg． <br>  <br> 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ROTARY SWITCHES |  |  |  |  |  |  |
|  |  |  <br>  <br>  |  |  |  |  |
| Cat． |  | Shank | Shaft incl． | Curre | Rating | Std． |
| No． | Description | Length | Shark | 125 V | 250 V | Pkg． |
| 6210 | \＄1＞0＇l | ： | 1 ${ }^{\prime}$ ， | fi）：17リン | $\because$ ：171s | ？． |
| 6211 | －ド「10 | $1^{\prime \prime}$ | $\because 1$. | （5：1711） | 3 atmos | 0. |
| 6212 | s］＇r |  | 11 | $\therefore$ ： 1 M！ | 1 ：1m1 | 0. |
| 6213 | ＊1年 | 1 | $\because 1$. | ： 8.1140 | 1 ：mmb | \％ |
| 6214 | H－sT |  | 11. | ：amps | 1 ： $1 \mathrm{H} \mathrm{\prime}$ | － |
| 6215 | 1）心\％ | ， | $\because$ |  | 1 ：1mi | 3. |
| 6216 | いいいT | ＂＊＂ | $11 \%$ | 3 31710 | 1 aml | － |
| 6217 | 1）Plot | $1 "$ | $\because 1$＂ |  | 1 ＂${ }^{\text {a }}$ | 3.5 |



## IN FEEDTHRU－STEATITE PILLARS－CORRUGATED GIRMDACD CERAMIC－STANDOFF INSULATORS． TRANSMITTING SOCKETS

BIRNBACH FEEDTHRU INSULATORS


CORRUGATED FEEDTHRU INSULATORS


HIGH VOLTAGE FEEDTHRU INSULATOR
This insulator has been deslgned to mece the demand fur an
insulator haring high dielertric and merlanieal strentrit．Thue insulator haring high diclectric and merlanieal strintith．The on the too insulator．The hotom slecee tal ar from a hase flat． of $1-3 / 16^{\prime \prime}$ where the clectric ctress is greatest．

| Cat． No． | Height | Std． Pkg． | Base Dia． | Mounting Hole | Hardware |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4233 | $15 \%$ |  |  | 11\％ |  |


|  | STEATITE PILLARS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fave great tenslle strensth with er． tremely low losses at very hish fre quenries．Tapiped on bint emiss：supp－ and ton hardware． |  |  |  |  |  |  |  |  |
|  | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | $H_{A}$ | Std． <br> Pkg． | $\underset{\mathbf{B}}{\mathrm{Dimen}}$ | $c^{\text {Base }}$ | Dia. |  |  |  |
|  |  |  | 11. | － | 1 n |  |  |  | （i）32 |
| － | 4501 | $11 / 2$ | 111 | ＂ | 1 |  |  |  | 0． 1033 3 ． lack |
|  | 4515 |  | 110 | ， | 118．＂ |  |  | N | o． $10.3 . \mathrm{Jark}$ |
|  | 452 | ${ }_{2}^{21 / 1 / 2}$ | 111 | 疡＂ | $1{ }^{1 / 9}{ }^{1 / 2}$ |  |  |  | （i－32 |
|  |  | a $1 / 2$ |  | 4 | 1 | 1－3／1 |  |  | 0． $4^{4}-20^{\text {a }}$ |
|  | 4531. |  |  |  | 1／15\％ | $1-3 /$ |  |  | 29．J．lack |
|  | ${ }_{4541}{ }^{\text {a }}$ ． |  |  |  | $1 \mathrm{H}^{\prime \prime}$. | 1－3 |  |  | 1／ |

BIRNBACH METAL BASE INSULATORS



## STEATITE BUTTONS

This suchemp desimed Nitcatite button is intemied for or a hinding post insulator．Attention is balled to most unifuteness of the design which prevents efther sectime of the insulatar from burning in respert to the amecial
 Cat．No． Std．Pkg． 457－liutton

## Dimensions

|  |  | ＂LUCITE＂FEEDTHRU INSULATORS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  frequency leads thru a panel．They are mate of gemblise Dupht Lacite．Isecunse of fis low loss at high frenteney， it is well addapted to insulated elements of high fre－ <br>  <br>  harduare． |  |  |  |
| Cat． No． | Height Above Panel | Insulator Dia． | Mounting Hole | Bottom Height | Std． <br> Pkg． |
| $\begin{aligned} & 377 \\ & 378 \\ & 379 \\ & 475 \\ & 476 \end{aligned}$ | ．．．． $1_{1 / 2}^{1 / 2}$＂．． |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |





## BIRNBACH TRANSMITTING

 TUBE SOCKETSArrented as standard．Whiely used in imduatrial abpli－ hrumbe．No，calmitan paterl stade wiping type contacts white thazed farerlath hase；hercy nickel plated hrass sheds．Nin，I：t－at＂＂att socket．has heary doulhe flat tornt fary heary curvents：pollighed nickel plated birass shell siot is at white klazed borcelain lase．All brass nickel waterl screats and milled nuta used．

E | Mtg． |
| :---: |
| Holes Pin | Tubs

$\qquad$


BIRNBACH CONE STANDOFF INSULATORS （Steatite）
Made of low absorption high tentile
strength steatite with a sumbth strength Noteatite with a sumbth glaze
All helghts exrept the No． 430 are All hedrhts except the No． 430 are
avallable with a dack or a threader available with a dack or a threaded
hole top．Avallable tin a white piazo and are comuplete with serews，metal and cork washers．

| Cat． No． | Height | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\begin{gathered} \text { Base Dimensions } \\ \hline \end{gathered}$ | Threaded Hole D | Mtg． <br> Hole |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 430 | \％$\%$＂ | 100 |  | （1－72 | 智＂ |
| 431 |  |  | 期＂．．．．${ }^{1 / 2}$ | 8－32．．． |  |
| 4311 |  |  |  | 8－32．．．No． 40 | H＂ |
| 432 | $11 / 2{ }^{\prime \prime}$ | 50 |  | 10－32．．． 10 | 等＂ |
| 432） | 11 \％＂， |  | 7／4．．．．．．${ }^{\text {等 }}$ | 10－82．．．No． 40 | 蜀＂ |
| 433 | 23＂\％ |  | 3／4．．．．． | 1／4－20．．．${ }^{1}$ ） |  |

SCREWS \& NUTS -WASHERS - STANDOFFS INSULATORS and SPREADERS



Cat. No.
468-4 $1 /{ }^{\prime \prime}$ " long Center Insulator.
668 - $41 /{ }^{\prime \prime}$ long ..............




## BIRNBACH AIRPLANE INSULATORS

They are used on moblile and aiterift and also with gus wire on tince ansthations. They are shaped for the least air re Nos. 173 and $: 7$ it are male of white Llazed low absorption porcelitin. No. 472 is made of wet prowess glazed brown. Cat. No.


BIRNBACH ANTENNA
INSULATORS
These antenna insulators have excentionally low moisture absorntion. The leakage path is long and the cross seetion is small and is white ghaze orerall presents the accumulation of dirt or ice.

Std. Pkg.
10
25
.10
.111

- BEE HIVE STANDOFF
$1-15 / 1$ "" cirle for No. is screws. Ifelitht of hise No. fhatumete With 10.32 brass screw and nuts.

Std. Pkg.
766 -Standoff Insulator, $10-: 2 \%$ serew

## 

Cat. No.

464 - Nireader, lonk


## BIRNBACH STEATITE AIRPLANE INSULATORS

A rery small rompression type Steatite insulator with small wind resistance. Fully glazed. It is $1^{1 / 2}{ }^{2}$ in length; $17 / 32^{\prime \prime}$ in dianeter; $x / 4$ " line spacing.

463-stratite dirnlane linsulators.

## BIRNBACH FLEXIBLE SHAFTS

Modern monstruction calls for more commart arrangement of parts. At tmes there is difficulty
 up to sto legrees. the flexible shafts are made of phosphor bronze and fitted into $1 / 4$ diá huts.
Cat. No.
Std. Pkg.
553-Flexible shaft $3^{\prime \prime}$ toms
554-Flexible shaft ho' $^{\prime \prime}$ lons

## BIRNBACH FEEDER SPREADERS

They hare a cruss section of $3 / 4$ " $x$ of hichly vitrified. low absorntion high tensile strength porcelain with smooth white glaze overall.

Stw. Pko.

25

| BIRNBACH |  | FLEXIBLE SHAFTS |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Modern monstructio |  |  |  |  |  |
| getting the rontrols to the proper bosition on the panel. With rouplings ani |  |  |  |  |  |
| these flexible shafis, locations can be made with chse on an offent and athgtes up to sto degrees. The flexible shafts are made of phosphor bronze and fited |  |  |  |  |  |
|  |  |  |  |  |  |
| Cat. No. Std. Pkg. |  |  |  |  |  |
| 553-Flexible Nhaft $3^{\prime \prime}$ toms |  |  |  |  |  |
| 554-Flexible shaft $5^{\prime \prime}$ long.................................... 2 . |  |  |  |  |  |

## TERMINAL STRIPS - LUGS - BUSHINGS - SPACERS SHAFT COUPLINGS - PANEL BEARINGS TUBE CLAMPS

BIRNBACH LUG TERMINAL STRIPS These tu: terminals are used in circuit wiring for "n" "ithe bakelite with cadmium bated hrass luge securcly welethed in where. Intrs are

| Cat. No. | Std. Pkg. | Cat. No. | Std. Pkg. |
| :---: | :---: | :---: | :---: |
| 1382 1382 A | 10010 | 13858 1386 |  |
| 13828 | 1119 | 1386 A |  |
| 1382 C | 100 | 13868 | 101 |
| 1383 | 100 | 1387 | (111 |
| 1383 A | 100 | 1388 |  |
| 1384 | 100 |  |  |
| 13884 1384 | 3011 | 1389 | reds 1100 |
| 1385 |  | 1390 | kras. 100 |
| 1385 A |  |  |  |


|  | BIRNBACH BRASS BUSHINGS \& SPACERS <br> In ideal brass busbing for raising sub banels. chassis. comiensers. transformers. ete. Tole bill arrommonate a Nin. fior No. $x$ sprew. |
| :---: | :---: |
| For No. 6 <br> Cat. No. Std. | $\begin{aligned} & 1 / 4 \text { "O.D. For No. } 8 \\ & \text { Length } \quad \text { Cat. No. Std. Pb } \end{aligned}$ |
| 1125....100 | 1/4"......1130 |
| $1126 \ldots 100$ | 1131 |
| 1127... . 100 | 1132 . . 190 |
| $1128 . . .100$ | $1133 . . .100$ |
| $1129 . . .100$ | $1134 . .111$ |
| THREAD | BRASS SPACERS 1/4" 0. D. |
| For No. 632 | 832 |
| Cat. No. Std. Pkg. | Length Cat. No. Std. Pk |
| 1125T ... 1011 | 1130 Y . . 100 |
| 1126 T ... 100 | 11317... 110 |
| $1127 \mathrm{~T} . . .100$ |  |
| 1128 T . . . 1181 | 1133T.. .. . 100 |
| 1129 T . . . 100 | . 11347 . . . . 100 |
|  | 3/8" O.D. |
| $1135 \cdots 100$ | 1/4". . . . . $1140 . . .100$ |
| 1136... 100 | 1141 . . 100 |
| $1137 . .100$ | 1142 ... 11011 |
| $1138 . . .101$ | 1143 ... 1111 |
| 1139 ... 100 | $1144 \ldots 100$ |



BIRNBACH THREADED RODS

These brass niekel mated threaded rods are standirid



BIRNBACH TINNED TERMINAL LUGS


TERMINAL STRIPS
Fixeellent monnting for twin lead transmission lines.
frass bot tinned lugs spacud


## $\begin{array}{r}\text { BIRNBACH } 3 \text { POST } \\ \hline \text { OKSO }\end{array}$

Brass how timed lugs. spaced $7 / 16^{\prime \prime}$ cemer to eenter.


## BIRNBACH FRONT PANEL BEARING

('admbun plated brass for namels ply to sor in thick-



Cat. No.
Cat.
551
552
 Cat. N
 SAFETY
CORD No. 813. 1010


## TELEPHONE TYPE PLUGS and JACKS NYLON LACING CORD "HANDYPAK" WIRE ASSORTMENTS

## Binnbach

## telephone type plugs

This stamband two coneluctor phur tits all stambard jacks. All metal parts lurass with
 is moflowl bokelite, liex or blatak.
bakelite double phone plug


Cat. No. 251

## SHIELDED PHONE PLUG



Cat. No. 252

JR. SHIELDED PHONE PLUG


Cat. No. 253

|  | SHAFT LOCK-Wrench Type |
| :---: | :---: |
|  |  <br>  <br>  An:ss. |
|  | Cat. No. 546 Fid. Pkg. |
|  | SHAFT LOCK-Thumb Type |
|  |  areall. Rear: ${ }^{1}$ ?" bex bata with <br>  kburdal mut. |
|  | $\begin{aligned} & \text { Cat. No. } \\ & 547 \text { Std. Pkg. } 1 / 4 \text { : } 1 \text { hatt } \end{aligned}$ |

## TELEPHONE TYPE JACKS

Tlow leuty is hatas nickel phatod. Small, rumens and the: are designol for loug lift, with low contact resistance shap sprines male sure iatly from nimel silver allog which is combiom resistant. Monats in $3_{\mathrm{B}}$ " bole.


## New! 'HANDYPAK"

## SPOOL WIRE ASSORTMENTS


 Fiady "lamblyak" (arton contains six (ompart stumis of fop quality loncik-1If
 on-uts are avalilable in kit.

## FREE DISPLAY

Fin- (oulartul bisulay Kil cuntains 1 :



Cat. No. 155.H Kit


| Cat. No. | No. of Spools | PICK YOUR CHOICE OF ONE STOCK COLOR |
| :---: | :---: | :---: |
| 203H | $1{ }^{1}$ |  |
| 203A | $1 ;$ |  |
| 204H | 1 |  |
| 204A | ${ }^{1}$ |  |
| 205H | (i) |  |
| -206H | is |  |
| 206A | (i) |  |
| 207H | fi |  |
| 208H | (i) |  |
| 209H | f |  |
| 212A | 1 |  20x alli 209. |
|  | $k$ Color | RED, BLACK, WHITE. GREEN, BLUE, YELLOW |






Cat. No. 1070
Cat. No. 1071
Cat. No, 1072

Class:
: 1
1111 V1s.

## LINENLACINGCORD

 fore meets spec. JAN-T-713, Trge N. (lases 1. 2, and at

|  | 402. Tube |  | 802. Tube |  | 1 Lb. Tube |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cat. No. | Yds. | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Yds. | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Yds. |
| $4 \mathrm{P} \mathrm{l}_{3}$ | 1073. | 210 | 1074 | . 40.5 | 1075 | 850 |
| (1) Pr | 1076.. | 55 | 1077 | .. 150 | 1078 | 300 |
| 9 Ply | 1079. | . 100 | 1080 | .. 200 | 1081. | $40 \%$ |

## Birnbach PRICE LIST

| Cat. No. | List Price | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | List Prite | Cat. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | Cat. No. | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ | No. Cat. | Pries |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1-50 | .60/Ea. | . 179 | $35.00 / \mathrm{Ea}$ | 31 | $19 / \mathrm{Ea}$. | 432.J | S . 95 Ea | . 60 | 35/Ea. | . 920 |  |  |  |
| -10 | 1.20/Ea. | . 180 | 37.50 Ea | - 317.8 | $80 /$ Ea. | . 433 | 1.40 Ea | . 606 | $25.00 / \mathrm{c}$ | - ${ }_{923}^{920}$ | 88.00 Ea | . $\begin{array}{r}1372 \\ 1373\end{array}$ | $12.00 / \mathrm{C}$ 15.00 |
| 2 -50 | $9.60 / \mathrm{Ea}$. | . $\begin{array}{r}182 \\ 193\end{array}$ | ${ }^{4} 4.00 / \mathrm{M}$ | ${ }_{318}{ }^{\text {a }}$ | 3.00/Ea. | . ${ }_{\text {a }}^{434}$ | 2.70.Ea. | . ${ }^{607}$ | $90.00 / \mathrm{C}$ 10000 | 924 | 4.5 .00 / Ea | . 1374 | 20.00 / |
| $2 \cdot 100$ | 1.20/Ea. | . 194 | $14.00 / \mathrm{M}$ | 318 | .75/Ea. | 435 | 1.85/Ea. | . 609 | $110.00 / \mathrm{C}$ |  | S5.00/Ea. | . $\begin{array}{r}1375 \\ 1376\end{array}$ | $25.00 / \mathrm{C}$ |
| 2.1000 | 9.75/M | 195 | $14.00 / \mathrm{M}$ | 318. BC | $4.70 / \mathrm{Ea}$. | 441 | 14.00 C | 610 | 120.00/C | 932 |  |  |  |
| 3 -50 | 60/Ea. | 196 | 18.00 m | 319 | . 45 Ea. | 441.A | 14.00 C | 631 | 20.25/Ea. | . $\begin{array}{r}932 \\ 933\end{array}$ | 35.00/Ea. | .1377 <br> 1378 | $33.00 / \mathrm{C}$ |
| 3.1000 3.100 | $9.75 / \mathrm{M}$ | 201.35 | .60/Ea. | 319-8 | . $75 / \mathrm{Ea}$. | - 442 | $14.00 / \mathrm{C}$ | 632 | 25/Ea. | - 934 | $50.00 / \mathrm{Ea}$. | . $\begin{aligned} & 1378 \\ & 1379\end{aligned}$ | $38.00 / \mathrm{C}$ $40.00 / \mathrm{C}$ |
| $\begin{aligned} & 3 \cdot 100 \\ & 3 A-1000 \end{aligned}$ | $1.20 / E a$. | $201-100$ 201.1000 |  | 319.8 C 320 | 6.75/Ea. | .$_{443}^{442-A}$ | $14.00 / \mathrm{C}$ 15.00 | 633 634 | 25/Ea. | - $\begin{aligned} & 935 \\ & 936\end{aligned}$ | 25.00 Ea. | . 1380 | $43.00 / \mathrm{C}$ |
| 4. 1000 | 37.50/M | 203 |  | 320.8 | .75/Ea. | 444 | 17.00/C | 635 |  |  | $25.00 / E a$. $39.00 / E a$. | .1382 <br> $1382-A$ | $2.75 / \mathrm{C}$ |
| 5-1000 | $50.00 / \mathrm{m}$ | 203-A | 3.75/Ea. | $320 \cdot \mathrm{BC}$ | 6.75 EEa. | 445 | 17.00 c | 636 | .25/Ea. | . ${ }_{939}$ | $39.00 / \mathrm{Ea}$. $40.30 / \mathrm{Ea}$. | $1382-A$ 1382.8 | 2.90 C |
| ${ }_{8}^{6}$ | 12.00/C | 203-H | 3.75 Ea. | 321.8 | . 60 /Ea. | 446 | $18.00 / \mathrm{C}$ | 668 | . $35 / \mathrm{Ea}$. | - 952 | $32.50 / \mathrm{Ea}$. | - $\begin{array}{r}382.8 \\ 1382-C\end{array}$ | $2.75 / \mathrm{C}$ $3.25 / \mathrm{C}$ |
| 10 | $12.50 / \mathrm{C}$ $12.50 / \mathrm{C}$ | 204-A | 3.75 Ea. | ${ }_{322}^{321 . B C}$ | 8.50 Ea. | 447 448 | 28.00/C | 675 6 6 | 85.00, ${ }^{\text {c }}$ | ${ }_{972} 97 . \mathrm{A}$ | 15.75 Ea. | - 1383 | $3.50 / \mathrm{C}$ |
| 11 | 17.50/C | 204. H | 3.75, Ea. | 322 -BC | \$14.00/Ea. | . 449 | 32.00 c | 677 |  | 972. ${ }^{\text {9 }}$ | 69.00 Ea. | $1383 . \mathrm{A}$ | 3.75/C |
| 15 | 7.00 / C | 205 | 65 Ea. | 323 | 1.00 Ea. | 450 | 32.56/Ea. | 678 | 120.00 C | 972-S |  | - ${ }^{1384}{ }^{1384 .}$ A | 5.00/C |
| 16 | .25/Ea. | $205-$ | 3.75 Ea . | 323.BC | 22.50 Ea. | $450 . J$ | .67 Ea. | 681 | 1.22 Ea. | 973 | 16.00 Ea. | $1384 . \mathrm{B}$ | 5.50 |
| 18 | 1.00-Ea. | ${ }_{2064}$ | . 65 /Ea. | 324 | 1.10/Ea- | 451. | ${ }^{67}$ Ea. | 700 | 1.22 /Ea. | 973 | 62.50 Ea. | 1385 | $5.75 / \mathrm{C}$ |
| 21.35 | . $60 / \mathrm{Ea}$. | 206-H | 3.75 Ea. | 325 | $35 / \mathrm{Ea}$. | 452 | 72/Ea. | 702 |  | 975 | 20.00 Ea. | $1385 . \mathrm{A}$ | 6.10 C |
| 21.100 | $1.50 / \mathrm{Ea}$. | 207 | . 65 Ea. | 325. B | . $75 / \mathrm{Ea}$. | 452.1 | . $95 / \mathrm{Ea}$. | 703 | ${ }^{4} 7.50$ Ea. | 976 | 27.50/Ea. | ${ }_{\text {1385-B }}$ | 6.50/C |
| 21.1000 | $12.50 / \mathrm{M}$ | 207. | 3.75 Ea. | 325.8C | 4.40 Ea. | 453 | 1.30 Ea. | 704 | $97.00 / \mathrm{Ea}$. | 977 | $30.25 / \mathrm{Ea}$ 36.85 Ea. | ${ }_{1}^{13866} 1$ | 7.50 C |
| 22.15 | $60 / \mathrm{Ea}$. | 208 | .65/Ea. | 326 | 40 Ea. | 453.J | 1.50 Ea. | 705 | 135.00 Ea. | 978 | 41.25 Ea. | 1386. B | $8.25 / \mathrm{C}$ $9.75 / \mathrm{C}$ |
| $22 \cdot 100$ | 3.20 /Ea. | 208.H | 3.75 Ea. | 326 | 75/Ea. | 454 | 1.70 ' Ea. | 706 | 180.00 Ea. | 1017.10 | .60/Ea. | 1387 | $9.75 / \mathrm{C}$ $9.75 / \mathrm{C}$ |
| $22 \cdot 1000$ | $29.50 / \mathrm{M}$ | 209 | 65 Ea. | 326. BC | 5.00 /E | 454 | 1.75 'Ea. | 710.100 | 8.90 Ea. | 1017.100 | 3.85/Ea. | 1388 | $9.75 / \mathrm{C}$ |
| $\begin{aligned} & 23 \\ & 24 \end{aligned}$ | $15.00 / \mathrm{C}$ $15.00 / \mathrm{c}$ | ${ }_{246}^{209 .} \mathrm{H}$ | 3 3.75. Ea. | 330 331 | $25.00 . \mathrm{C}$ 25.00 | 457 458 | 40 Ea. | $710-250$ $710-500$ | 22.00 Ea. | $1017-1000$ | $35.00 / \mathrm{M}$ | 1389 1389 | 9.75 C |
| 26 | 15.00/C | 248 | 8.00 C | $331 . \mathrm{A}$ | 13.00 C | 458 | 25 Ea. | 710.5 | 44.00 Ea. | 1025 | 1.35 'Ea. | 1390 | 0.00/C |
| 27 | .11/Ea. | 248. | 8.00 c | 332 A | 18.00 C | ${ }_{463}$ | ${ }^{25} 50 \mathrm{Ea}$. | 710.2500 | 0 206.25 Ea. | 1051 | 2.50 Ea. | 1402 1403 1 | 6.95/C |
| 27-C | 21/Ea. | 2a | 1.00 C | 332.A | $20.00 / \mathrm{m}$ | 464 | .35/Ea. | 712-100 | 5.75 Ea. | 1052 | 37.00 Ea. |  |  |
|  | . 195 / Ea. | 25 | 55 Ea. | 333 | $25.00 / \mathrm{C}$ | 465 | 25.00 c | 712.250 | 13.80 Ea . | 1053 | 75 Ea. | 1407 | 38.90/C |
| 28 | -11/Ea. | 252 | 1.00 Ea . | 334 | 50.00 | 465 | 45.00 c | 712-500 | 27.60 Ea. | 1054 | 40 Ea. | 1410 | 2.78 / C |
| 29 30 | . 37 'Ea. | ${ }_{2}^{257}$ | ${ }_{-} 80$ Ea. | $\begin{array}{r}335 \\ 336 \\ \hline\end{array}$ | 60.00 C | ${ }_{4}^{466}$ | 25.00 C | 712.1000 | $0 \begin{aligned} & \text { 53.75 Ea. }\end{aligned}$ | 1055 | 2.75/Ea. | 1411 | 80/C |
| 31 | 15/Ea. | 258 | . 45 Ea | 337 | 15.00 C |  |  |  |  |  |  |  |  |
| $31 . \mathrm{R}$ | 22 Ea. | 259 | . 55 Ea. | 341 | ${ }_{60} 60$ Ea. | ${ }_{467}+8$ | 45.00 | 714.250 | 3.50 Ea. | 1057 | 1.45 Ea. | 1415 | 19.15 C |
| 31.5 | 15.00 C | 260 | . 75 Ea . | 3418 | 90.00 c | 468 | 5.45 Ea. | $714-500$ | ${ }^{17.20}$ Ea. | 1059 | 5.00 Ea. | 1419 | 15.40 c |
| 32 | 50 | 263 | 8.50/Ea. | 342 | 250.00 C | 469 | 45/Ea. | 714.1000 | ( 33.35/Ea. | 1060 | 40.00 Ea. | 142 | $1{ }^{25}$ |
| $32 . \mathrm{A}$ | 2.25/C | 264 | 11.00 Ea. | 342-8 | 300.00 C | 470 | 1.00 Ea. | 714-2500 | $0{ }^{\text {81.65/Ea. }}$ | 1070 | 13.50 Ea. | 1423 | 1.45/C |
| 33 | 10.50 C | 265 | 13.25 Ea. | 3 | .55/En. | 47 | 1.40 Ea. | 740 | 1.00 Ea. | 1071 | 14.00 Ea. | 1424 | 7.20 |
| ${ }_{51}^{1 /-A}$ | 17.50 C | 266 | 17.50 Ea . | -344 | . 35 - En. | 472 | -45, Ea. | 749 | 37.50 /Ea. | 1072 | 4. 30 Ea. | 1426 | 6.6.65 |
| 52 | 17.50/c | 268 | 19.50 Ea. | 348 | 2.05, Ea. | 473. | -23'Ea. | 756 757 | 22.50 Ea. | 1073 | 2.50 Ea. | 1428 | 6.00/C |
| 53 | 17.50/c | 269 | 22.50 Ea. | 360.8 C | 32.50 Ea . | 475 | - 20 Ea. | 756 | ${ }^{200.00}$ ¢ Ea. | 1075 | ${ }_{2} 2.40$ Ea. | 1430 1433 143 | 5.85 C |
| 54 | 17.50 C | 270 | 25.00 Ea . | 361.8 c | 35.00 Ea . | 7 | 1.05 Ea. | 766.1 |  | 1076 | 4.30 Ea. |  |  |
| 54 A | 18.00 C | 272 | $31.00 / \mathrm{Ea}$. | 362.8 C | 22.50 Ea. | 478 | . 35 Ea. | 772 | 6.75/Ea. | 1077 | 4.10 Ea. | 1490 | $6.25 / \mathrm{Ea}$ |
| 55 | 20.00 C | 274 | ${ }^{65.00}$ Ea. | 363-80 | 30.00 Ea. | 478.1 | . 42 Ea. | 772/18 | 21.50 Ea. | 1078 | 4.10 Ea. | 1492 | 46.00 |
| 56 | 22.50 C | 278 | 50.00 C | 37 | 45 Ea. | 479 | 62 Ea . | 773 | 21.50 Ea. | 1079 | 8.20 Ea. | 1497 | 72.50 |
|  | 30.00 C | 279 | 40.00 C | 378 | .60 Ea. | 479.1 | . 75 Ea. | 773/18 | 29.00 Ea. | 1080 | 8.30 Ea. | 1560 | 15.00 Ea |
| 56.B | 32.50 C | 291 | -19/Ea. | 379 | . 65 Ea. | 490 | 3.00 Ea . | 774 | 24.00 /Ea. | 1081 | 7.80 Ea. | 1562 | 6.60 Ea. |
| 51 | 2.40 Ea, | $291 . \mathrm{Vc}$ | 1.700 Ea. | 380 381 381 | 3.15/Ea. | 490.A | 4.50 Ea. | 775 776 | 27.50/Ea. | 1101 | 4.20 /Ea. | 1563 | 61.10 C |
| 62 | 20.85 Ea. | 293 | 19 Ea. | 382 | 3.50 Ea. | $490 \cdot 8$ | ${ }_{4} 600$ Ea. | 777 | 35.00 Ea . | 1112 | 57.50 Ea. | 1566 | 4.05 |
|  | 5.00 Ea. | 293. | 1.80'Ea. | 383 | 3.85 Ea. | $492 . A$ | 6.90 Ea. | 778 | 42.50 Ea. | 1113 | 115.00 Ea. | 1570 | 2.75 C |
|  | 23.60 | 29 | 1.75 Ea. | 384 | 4.30 Ea. | 492-B | 9.20 En. | 781 | 19.00 Ea. | 1120 | 5.00/C | 1571 | 26.65 |
|  | 8.50 Ea. | 294 | . 19 / Ea. | 385 | 4.75 Ea. | 193 | 4.50 Ea . | 786 | 27.50/Ea. | 1121 | 2.80/C | 1574 | 2.15 |
| 69 | 41.8r Ea- | 294.V | 1.80 Ea. | 391 | . 22 Ea. | 495 | 4.90 Ea. | 787 | $38.50 / \mathrm{Ea}$. | 1122 | $5.50 / \mathrm{C}$ | 1575 | 19.50/C |
|  | 2.75 /Ea. | ${ }_{295}^{294-v C}$ | 6.70/Ea. | 392 $392 . A$ | 50.00 Ca . | 497 | 7.25 Ea. | 788 | 12.50 / Ea. | 1123 | $2.20 / \mathrm{C}$ | 1600 | 14.00 |
|  | 11.55 Ea . | $295 . \mathrm{V}$ |  |  |  |  | 11.50 Ea . | 789 | $31.00 / \mathrm{Ea}$. |  | 2.20/C | 1618 | 10.40 |
| 75 | 14.00 Ea. | 2950 | 7.800 Ea, | ${ }_{393}^{392}$ B | 100.00 C | 503 | $3.35 / \mathrm{Ea}$. | 790 |  | 1125 | $5.00 / \mathrm{C}$ | 1620 | 0.40/C |
|  | 21.50 Ea. | 296 (36") | 1.75/Ea. | 393.A | 65, Ea. | 529 | $2.90 / \mathrm{Ea}$. | 791 | 37.50/Ea. | 1125. | 6.100 C | 1622 | 8.05 |
| 7 | $24.25 / \mathrm{Ea}$. | 296-vC | 50.00 Ea. | $394{ }^{\text {a }}$ |  | 526 | $\underline{9.75}$ Ea. | 793 | 18.75/Ea. | ${ }_{1126-T}$ | ${ }^{6.50} 5$ | 1628 1633 | $2{ }_{25}^{20.00 / \mathrm{C}}$ |
|  | 20 5/Ea. |  | 45/Ea. | 395 | .45 Ea . | 527 | 16.50 Ea. | 794 | 22.00 Ea. | 1127 | $8.00 / \mathrm{C}$ | 1634 | $21.00 / \mathrm{C}$ |
| 5 | 3.05 Ea. | ${ }_{298} 998$ | . 50 'Ea. | 396 | 15 Ea. | 528 | 26.00 Ea. | 795 | $55.00 / \mathrm{Ea}$. | 1127 | 9.00 c | 1638 | $27.80 / \mathrm{C}$ |
| 7 | 3.30/Ea. | 299. ${ }^{296}{ }^{(36)}$ | ${ }^{1} 1.45 /$ Ea. | 396.8 397 | 80.00 C | 539 531 53 | 40.00 Ea. | 796 | 27.50 Ea. | 1128 1128. | 9.50 c | 1639 1647 | $26.10 / \mathrm{C}$ |
|  | 24.20 Ea. | 300 | .19/Ea. | 397.8 | 85.00 ca. | 532 | ${ }^{25} 5{ }^{2}$ Ea. | 797 | ${ }^{655.00}$ /Ea. | 1129 | 1.00 c | 1647 | 17.10 |
|  | 27.00 Ea. | 300. | 1.95 Ea. | 398 | . 45 Ea. | 533 | ${ }_{25} 5^{\text {EEa. }}$ | 802 | 24.00 / Ea. | 1129.T | 12.50 c | 1670 | 1.85/E |
| 4 | 29.50 /Ea. | $300 \cdot \mathrm{vc}$ | 7.65 Ea. | 398.8 | $80.00{ }^{\text {c }}$ | 534 |  |  |  | 1130 |  |  |  |
| ${ }^{5} 40$ | 33.00 Ea. | 301. | . 35 Ea. | 349 | 6.45 En. | 535 | ${ }^{2} 25$ Ea | 803 810 | 30.00 Ea. | 1130-T | 6.00 C | 1673 | 3.15 Ea. |
| 6.100 | 1.150 Ea. | $301 . \mathrm{Vc}$ |  | $399-A$ 400 | ${ }^{30} \mathrm{Ea}$. | 536 | . 25 Ea. | 813 | $16.75{ }^{\circ} \mathrm{C}$ | 1131 | $6.50 / \mathrm{C}$ | 1674 | $2.55 / \mathrm{Ea}$. |
| 6.1000 | 10.75 M | 302 | 10.00 EA. | 400.8 | ${ }_{35.00} .20 \mathrm{Ea}$. | 53 53 | -25 Ea. | 815 | .80/Ea. | 1131.T | 7.50 C | 1680 | 1.75/Ea. |
| 7.40 | G0/Ea. | $302 . \mathrm{V}$ | 1.25 'Ea. | 401 |  |  |  |  | .55/Ea. |  |  |  | 12.0 Ea. |
| 7.100 | 1.20 Ea. | 302. Vc | 11.00 Ea. | $4 \mathrm{I} 1-8$ | 35.20 ca | 539 540 | S .30'Ea. | 817 818 | . $30 / \mathrm{Ea}$ |  | 9.00 9.50 | 17772 | \$50.00 Ea. |
| 7.1000 8.35 | 10.75/m | 3303 | . 65 Ea. | 402 | $4.00 / \mathrm{C}$ | 541 | . $60 /$ Ea. | -818 | ${ }^{13.25}$. $75 . \mathrm{Ea}$. | $1133 . \mathrm{T}$ | $11.00 / \mathrm{C}$ | 1774 | \$50.00Ea. |
| $8 \cdot 100$ | 1.50 Ea. | 304 ( $36^{\text {¢ }}$ ) | \$25.00 Ea. | ${ }_{403}{ }^{402 . A}$ | 5.00 ' ${ }^{\text {c }}$ | 542 | . 45 /Ea. | 820 | 11.50 Ea. | [134 | 11.00 / C | 1775 | $67,50 / \mathrm{Ea}$ - |
| 8-1000 | 12.50 / ${ }^{\text {c }}$ | 304.VC | 30.00 Ea. | 404 |  |  |  |  |  | 1135 |  |  |  |
| 9.35 | .60/Ea. | 305 -V | 1.50 Ea. | 404.A | . 27 'Ea. | 545 | . 60 Ena. | ${ }_{826} 824$ | 77.00/Ea. | ${ }_{1} 1136$ | $8.00 / \mathrm{C}$ | 1822 | 87.50/Ea. |
| 9.100 9.1000 | ${ }^{1.50} 50$ Ea. | 305-vc | 14.00 Ea | 404-8 | .40/Ea. | ${ }^{546}$ | . 35 Ea. | 831 | 65.00 Ea. | 1137 | $11.00 / \mathrm{C}$ | 1822 -8 | 30.00 /Ea. |
| 00.20 | ${ }^{2} .60$ Ea. | $306 . \mathrm{Vc}$ | 16.60 Ea . | 404.8 C $404 . \mathrm{CB}$ | 60.00 50.00 | 547 550 | . 50 Fa. | 832 | $70.00{ }^{\text {/ Ea. }}$ | 1138 1139 | 12.50 C | $1822 . \mathrm{C}$ | 56.00/Ea. |
| 00-100 | 2.25 Ea . | 307 | .$^{\prime}{ }^{\text {E Ea. }}$ | 404-S | 30.00 ¢ |  |  |  |  |  |  | 1824. |  |
| 100.1000 | 20.00 m | 307.V | 1.80/Ea. | 405 | .14'Ea. | 551 | 50 Ea. | 885 | 120.00 Ea. | 1141 | ${ }_{9.50 / \mathrm{C}}$ | 1825 | $31.00 / \mathrm{Ea}$. |
| 04 | 1.50/Ea. | 307.vc | 9.00 Ea. | 406 | 20 'Ea. | 552 | 60 Ea. | ${ }_{853}$ | 45.00 Ea. | 1142 | 11.00 c | 1825 -M | $55.00 / \mathrm{Ea}$. |
| 106 | 1.50'Ea. | 308.8 308.8 C | . 75 Ea. | 407 | 20 Ea. | 553 | 90 Ea . | 854 | 50.00 Ea . | 1143 | 12.50 c | 1840 | 33.25 Ea. |
| 07 | 1.50 Ea. |  |  |  | 3.00 ' Ea. | 554 | 1.30 Ea. | 855.50 | 2.80 /Ea. | 1144 | 14.00/C | 1841 | $42.50 / \mathrm{Ea}$. |
| 08 | 1.90 Ea. | 310 |  | 409 410 | ${ }^{23}{ }^{\prime}$ 'Ea. | 555 | 2.20 /Ea. | 856.50 | 22.25 Ea. | 1145 | 6.00 C | 1842 | 62.50 Ea. |
| 109 | 2.75 Ea. | $310-\mathrm{c}$ | 23.00 C | 411 | . 50 Ea. | 560 | 2.25 Ea . | 857.50 | 22.00 ' Ea. | 1146 | 6.75/C | 1870 | 27.25 Ea. |
| 10 | 3.25 Ea. | 310.5 | 19.00 c | 412 | . 30 Eza. | 562 | 6.0n Ea. | -858.30 | 2.90 Ea. | 1148 | ${ }_{9.00} 7 . \mathrm{c}$ | 1872 1874 | 69.00 Ea. |
|  | 1.10/Ea. | 311 | 35.00 C | 414 | 20.00 ca | 570 | 6.25 ' ${ }^{\text {Ea. }}$ | $860-50^{\circ}$ | 4.00 Ea. | 1149 | 6.00/c | 1874 -A | 36.10/Ea. |
| 14 | 10.00 C | ${ }^{311-8}$ | .$^{75} \mathrm{Ea}$ | 415 |  | 572 | 15.50 Ea- | 863-50' |  |  |  |  |  |
| 115 | 11.00 12.00 C | $311-8 C$ 312 | 2.75 Ea. | ${ }_{4}^{417}$ | $20.00^{\circ} \mathrm{C}$ | 573 | 28.00 /Ea. | 864.50 | $7.50 \mathrm{Eã}$. | 1151 | $7.00 / \mathrm{C}$ | $1875 . \mathrm{A}$ | 45.00 Ea. |
| 17 | 25.00 C | 313 |  | 417 | . 50 /Ea. | 574 | 30.00 Ea. | $865.50^{\prime}$ | 10.75/Ea. | 1152 | 9.00/C | 1878 | 11.10 Ea. |
| 18 | $22.50 / \mathrm{C}$ | 313.8 | ${ }^{7} 75 / \mathrm{Ea}$. | 418 419 | -55'Ea. | 575 578 | 45.00 'Ea. | 866 | ${ }_{23} 3 \mathrm{Ea}$. | 1153 | $1.50 / \mathrm{C}$ | 1878 - | 58.35/Ea. |
| 19 | 20.00 C | 313-8C | 2.75/Ea. |  |  |  | 3.00 Ea. | 867 |  |  | 1.80 | 1972 | 15.90 Ea. |
| 49 | 6.75 Ea. | 314 | -17/Ea. | 421 | 1.30/Ea. | ${ }_{581}^{580}$ | ${ }_{32} 29.00$ Ea. | 867 867. | . $35 / \mathrm{Ea}$ / Ca . | 1155 | $2.00 / \mathrm{C}$ | ${ }_{1972 .} 1973$ | $75.00 / \mathrm{Ea}$ $19.00 / \mathrm{Ea}$. |
| ${ }_{72}{ }^{\text {- }} \mathrm{H}$ | 45.00 Ea. | ${ }_{3} 314.8$ | .75/Ea. | 422 | r.30/Ea. | 582 | 33.60 Ea. | ${ }^{868.50}$ | 9.75/Ea. | 1157 | 2.50 C | 1974 | $23.00 / \mathrm{Ea}$. |
| 73 | $11.00 / \mathrm{Ea}$. | 315-86 | 2.75/Ea. | 423 | 1.30/Ea. | 583 | $36.00 / \mathrm{Ea}$. | 870 | 11.00 /Ea. | 1260 | $23 / \mathrm{Ea}$. | 1975 | $30.00 / \mathrm{Ea}$. |
|  | 1.00 Ea. |  | .18/Ea. | 426 | 25.00 C | 584 | 38.50 ' Ea. | 872 | $13.50 / \mathrm{Ea}$. | 1261 | 23/Ea. | 1976 | $35.00 / \mathrm{Ea}$. |
|  | 15.00 Ea. | 315-8 | 75/Ea. | 427 | 45.00 c | 585 | $44.00 / \mathrm{Ea}$. | 901 | 125.00 Ea. | 1262 | 23/Ea. | 2010 | 13.90 /Ea. |
| 76 | 20.00/Ea. | $315.8 C$ 316 | 2.75/Ea. | 430 | .32/Ea. | 600 | 11/Ea. | 903 I | 112.50 Ea. | 1263 | 40/Ea. | 2012 | 11.55/Ea. |
| 77 | 25.00 /Ea. | 316 |  | ${ }_{431-1}$ | 40 Ea. | 601 | 45.00 ' C | 905 | 97.25 Ea. | 1264 | .45/Ea. | 2013 | 9.90 ' ${ }^{\text {Ea. }}$ |
| 78 | $30.00 / \mathrm{Ea}$. | 316-BC | + 3.00 Ea, | ${ }_{43}{ }^{431-J}$ | 48 Ea. | 603 | 40.00 | 91 | 117.50/Ea. | 1265 | 56/E | 2014 | 9.00/Ea. |
|  |  |  |  |  | .72/Ea. | 604 | .25/Ea. | 919 | 42.50 /Ea. | 1266 | .62/Ea. | 2015 | 7.35/Ea. |

Birnbach price list numerically arranged by cataiog number


[^55]Where wire is shipped on returnable spools or reels a deposit covering same will be required. No credit will be allowed for returnable reels
and spools unless returned prepaid within 12 months from date of shipment. All deposit spools ond reels are billed separately on invoice
and not included in price of materials sold.

# Columbia (P 



## MULTI PAIRED INTERCOM CABLES

For use in Intercom Systems as station to station wiring, the cables listed below will handle most installations. Each conductor is 22 ga.
solid soft drawn copper and has an solid soft drawn copper and has an .010 wall of durable color coded plastic. Each pair is individually all with an adequate plastic jacket.

## PLASTIC INTERCOM CABLE

| Cat. No. | No. of Pairs |  | Type | O.D. | Spool Size |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 4012 | 3 Pair | 22 | Ga. Solid | 225 | 100 FT . |
| 4014 | 3 Pair | 22 | Ga. Solid | 225 | 500 FT . |
| 6012 | 3 Pair | 22 | Ga. Str. | . 245 | 100 FT . |
| 6014 | 3 Pair | 22 | Ga. Str. | . 245 | 500 FT . |
| 4016 | 7 Pair | 22 | Ga. Solid | 310 | 100 FT . |
| 4018 | 7 Pair | 22 | Ga. Solid | . 310 | 500 FT . |
| 8016 | 7 Pair | 22 | Ga. Str. | . 345 | 100 FT . |
| 8018 | 7 Pair | 22 | Ga. Str. | . 345 | 500 FT. |
| 4020 | 11 Pair | 22 | Ga. Solid | . 365 | 100 FT . |
| 4022 | 11 Pair | 22 | Ga. Solid | . 365 | 500 FT . |
| 6020 | II Pair | 22 | Ga. Str. | . 410 | 100 FT . |
| 8022 | 11 Pair | 22 | Ga. Str. | . 410 | 500 FT . |
| 4024 | 15 Pair | 22 | Ga. Solid | . 395 | 100 FT . |
| 4026 | 15 Pair | 22 | Ga. Solid | . 395 | 500 FT. |
| 6024 | 15 Pair | 22 | Ga. Str. | . 465 | 100 FT . |
| 6026 | 15 Pair | 22 | Ga. Str. | . 465 | 500 FI . |
| 4028 | 27 Pair | 22 | Ga. Solid | . 550 | 100 FT . |
| 4030 | 27 Pair | 22 | Ga. Solid | . 500 | 500 FF . |
| 6028 | 27 Pair | 22 | Ga. Str. | . 570 | 100 FT . |
| 6030 | 27 Pair | 22 | Ga. Str. | . 570 | 500 FT . |

NOTE length dengths of this cable a

COLUMBIA TELEVISION TRANSMISSION LINES


## PERMALINE INTERCOM AND TELEPHONE WIRE FOR OUTSIDE USE

For applications requiring a durable wire on outside ductors eliminate voltage drop and iong life High Molecular Weight Polvothylene insulation will give many extra years of useful life. Wire will not stretch. Twisted conductors are black but one conductor has a colored marker thread for easy identification.
INTERCOM AND TELEPHONE WIRE TWISTED PAIR
19 Go. Solid Conductors . 032 Wall High Molecular Weight Polyethyiene over each conductor. . 240 O.D
Cat. NO.
2714
2716
500 FT. SPOOL
2718
1000 FT.
2000 FT. SPOOL

## / PERMALINE <br> TELEVISION TRANSMISSION LINE

A new type of Transmission line, inPulated with High Molecular Weight Polyethylene for extremely long life. Accelerated aging tests have shown this insulation to have a life of from 20 to 50 years n outside use. Contains Carbon Black for maximum resistance to sunlight. Will withstand severe below-zero temperafures, in addition to salt air, moisture, dirt, acids and other factors hat cause deterioration in ordinary types of television lines. 5pecify COLUMBIA "'PERMALINE' for the best in long life Television Transmission Line.


## PERMALINE

 TV TRANSMISSION LINE 20 Ga. $7 / 28$ Str. $.080 \times .385$ CAT. NO.5052 500 FT. SPOOL 5050
$5055-75$ FT COIL IN ATTRAC. 5055-75 FT, COIL IN ATTRAC. TIVE, PRINTED, HEAT SEALED
POLYETHYLENE BAG.

## PERMALINE ROTOR CABLES

An entire new line of Rotor Cables jacketed with the same High Mole cular Weight Polyethylene described above. Will provide exceptionally long life under all conditions.


New, convenient, handy package that is sure to be appreciated by the service man and others handing television installations. Small size the at sealed, clear Polyethylene package protects the wire until it is to be used. Cable is insulated with genuine High Molecular Weight cable. cable
20 Ga. Str. 7/28 4 Conductor Flot Rotor Cable
Outside conductor is tinned copper for easy identification.
CAT. NO.
5060
75 FT. CLEAR POLYETHYLENE PACKAGE



## COLUMBIA

 UHF-VHF FOAM POLYETHYLENE TRANSMISSION LINESNew additions are a treavier type of Foamline and new packaging on both types of Columbia Foam Polyethylene Transmission Lines. Attrac. tive 3 color carton for 100 H . coils will enable the distributor and serviceman to handle this quality item with a minimum investment.

COLUMBIA
TELEVISION
TRANSMISSION
LINE

A new ides in television wire packaging is the use of a clear Polyethylene bag to protect against dirt and moisture. Bag is heat sealed assuring fresh, attradive merchandise at all times.

70 MIL. 20 GA. STR. $7 / 28$ TELEVISION LINE $.070 \times .390$
Cat. Ne. 1068-100 Ft. Heavy Duty Television Line in Attractive Polyethylene Bag.

## Columbia

## PLASTIC MICROPHONE CABLES

Low capacitance cables with durable plastic insulation provides resistance to abrasion, moisture and aging. Low loss polyethylene insulation ovar flexible stranded copper conductors. Grey plastic jacket overall.

LAPEL MICROPHONE CABLE . 130 O.D.

Cat. No. $1315 \quad 100$ Ft. Spoal 25 Ga. $7 / 33$ Stranding Cat. No. 1316500 Ft. Spool 25 Ga. $7 / 33$ Stranding NOMINAL CAPACITANCE 33 MMF PER FT.

CRYSTAL MICROPHONE CABLE . 190 O.D.
Cat. No. 1317100 Ft. Spaol 25 Ga. 7/33 Stranding Cat. No. 1318500 Ft. Spool 25 Ga. 7/33 Stranding NOMINAL CAPACITANCE 24 MMF PER FT.

## TWO CONDUCTOR

PLASTIC MICROPHONE CABLE . 230 O.D.


## .230 O.D.

Cat. No. 1321100 Ft. Spool 22 Ga. 16/34 Stranding Cat. No. 1322500 Ft. Spaol. 22 Ga. 16/34 Stranding NOMINAL CAPACITANCE 30 MMF PER FT. BETWEEN 1 COND. AND REMAINING COND. CONNECTED TO SHIELD.
DELUXE
TELEVISION
SERVICE LITE

This newly designed service lite is one of the finest items in our entire line of television service accessories. Has a $21 / 4$ inch highly polished aluminum reflector and wide opening spring clamp that will permit this lite to be attached almost anywhere inside the television cabinet leaving both hands free to work. Lower part of clamp has rubber covering that will hold firmly wherever it is placed. Comes complete with $71 / 2$ watt 110 Volt bulb and six foot parallel plastic cord with unbreakable male plug for attaching to baseboard or into service block on our all purpose Tele. vision Service Cord. Display card furnished with orders for $\mathbf{2 5}$ or more lites.

Cat. No. 185
deluxe television service lite

WRITE FOR COMPLETELY ILLUSTRATED CATALOG TO COLUMBIA WIRE SUPPLY CO., CHICAGO 18 , ILL.
comply to Joint Army－Navy Specification JAN－C－76 and manufactured under specific approval of the Armed Services Electro Standards Agency（ASESA） Impervious to oils，acids，alkalies，moisture and flame and possessing umusually high dielectric strength．


## Rome Synthinol

THERMOPLASTIC INSULATED
HOOK－UP
WIRE
SPECIFICATIONS

Itulue syathinol is a polyuingl chloride type of thermo－ Hastib insulation impersiuus to oils，aribls，alkalies， moisture and flame，ant possessing untasuaty high dielectric strengh．Folors are of gem－like bermandery． Abrored hy Enderwiters Laboratories where exinsel 10）trituratures not exceeding sit Centizatac or where

 lathe．The I＇nderwriters approsal seal apmears on every fintory leusth reel of Rome Nsuthinol．
ifothe Symbinol is sperbally designell fur thr chassis and stab ehassis wiring of ratio and television receivers and trammitters ats well as all other ifpes of electronice equipe ment．It has physical and electrical eharacteristies of

## Conductors：Ammeales tinnef solid ar stranded comp

 In urider to provide maximum flexibility and prevent un－ raveling of the stzands，a short lity strambing is usimb as follows：


 colors or with a surface applict contrasting eolored spirial stripe．

## Typical Test Results

Breakdown foltage
over 10000 volts 1／：：2＂sunthinol Insulation Ihesistanae

$$
\begin{aligned}
& \text { Nam. Ins. } \\
& \text { Thickness Vof }
\end{aligned}
$$

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | Size Awn． | Stranding | Nom．Ins． Thickness | Volts | Max．Dia． fnches | Length | Price List |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 852 | 2\％ | Solit | 1，3\％ | 101 | ． 1147 | $1010^{\circ} \mathrm{Cam}$（ma） | \＄51．84 |
| 853 | 2.8 | Solid | 182 | 6011 | 115 6 | 5100，＇saxal | 8.18 |
| 854 | 22 | Solid | 1／32 | 600 | ． 097 | 1000，Spks） | 15.77 |
| 856 | 21 | solid | 1／32 | 600 | ． 10.4 | 管\％Cartum | ． 73 |
| 857 | 20 | Solid | 1／3： | 800 | .104 | $100^{\prime}$ carton | 2.35 |
| 858 | 20 | Sold | 1／3： | 600 | ．104 | $51000^{\prime \prime}$ | 9.4 |
| 859 | 20 | sulid | 1／3 | 600 | ． 10.4 | 1000＇，spow | 17.87 |
| 861 | 18 | Sulil | 1／32 | 600 | ．112 | 2J\％＇Carton | ． 7 |
| 862 | 18 | soldt | 1／32 | 600 | ．112 | 100＇＇arion | 2.6 |
| 863 | 18 | salid | 1／32 | 610 | ．112 | Tan＇Smol | 12.27 |
| 864 | 18 | sultid | 1／32 | 600 | ．11\％ | $10000^{\text {S }}$ Stow | 23.67 |
| 866 | 22 | $7 \times$ No． 30 | 1／32 | 600 | ．102 | ＂a＇Marton | ． 66 |
| 867 | 2. | $7 \times \times 10$ | 1／32 | 600 | ．102 | gov＇Carton | 3.07 |
| 868 | $\underline{2}$ | $7 \times$ x 0.30 | 1／32 | 600 | ． 109 | 500，Smol | 9.4 |
| 869 | 22 | $7 \times 10.30$ | 1／3 ${ }^{\text {2 }}$ | 600 | ．10\％ | $1000 \cdot \mathrm{Smor}$ | 17.8 |
| 871 | 20 | $10 \times$ No． 30 | 1／32 | 600 | ． 110 | \％ia Carton | ． 7 |
| 872 | 20 | $10 \times$ Nio． 30 | 1／32 | 600 | .110 | 1110 ＇Carton | 2.72 |
| 873 | 20 | $10 \times$ No． 30 | 1／32 | 600 | .1111 | S（b）＇Nowl | 10.8 |
| 874 | 20 | $10 \times$ No． 30 | 1／32 | 600 | ． 110 | 10nro＇Spool | 20.9 |
| 876 | $1 \%$ | $15 \times \mathrm{NO} 30$ | 1／32 | 600 | ． 119 | 25.5 Carton | ． 8 |
| 877 | 18 | $16 \times$ No． 30 | 1／32 | 600 | .110 | 100＇Carton | 3.1 |
| 878 | 18 | $10^{10} \times$ No． 30 | 1／32 | 600 | ． 119 | －1100，simml | 13.0 |
| 879 | 180 | 16 x No． 30 | 1／32 | 600 300 | ． 118 |  | 23.3 3.8 |
| 881 | $2 \stackrel{20}{20 m}$ | $10 \times$ No． 30 | ．025 | 300 | ． 170 | $100^{\prime}$ Coil |  |
| 882 | 21 | $10 \times \mathrm{No} .30$ | ． 025 | 300 | .170 | $500 \cdot$ Spool | 17.7 |
| 883 | 20 | 10 工 No． 30 | ． 025 | 300 | ． 170 | 11000＇Spool | 35 |



## Rome Hi－Temp



T＂nlerwriters＂ approted and tableled

The risult of extersibi－hatmatary dipmbroment and rasid ly a decade uf serriee－lame Hi－Temp is iffert fur ratio and eretronid eqrelits where resistane to moisture and heat is requirod．

## SPECIFICATIONS

Conductors：Anmalerd inmed，sulid or stranded comper confurming t：A．S．T．Al．Spectification b： 33 and ${ }^{\prime \prime}$ ＇inderwriters＇Stamdarils．
In oriler to privide maximum fluxibility and prevent unrareling of the strambe a short lay stranding is used as fullows



## Typical Test Results

Breakdown Vnltage（1／3：2＂11i－Temp）．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 10 ：00 rolts Insulatim Resistace．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．Ifer 10000 megolms fert （only fallory lomgth reets are furnished with It／e＇s latels．

| Cat． No． | $\begin{aligned} & \text { Size } \\ & \text { No. } \end{aligned}$ | Stranding No． | Lenyth | Insulation Thickness | Diameter | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 901 | 23 | Solid | $\underline{2} \mathrm{St}$ f．cartom | 1／8！2＂ | ． 075 | \＄0．44 |
| 903 | 2． | Suliul | 100 ft ．cartom | 1／： ²＂$^{\prime \prime}$ |  | 1.65 |
| 905 | $\because 2$ | Sillind | 506 ft ．spual | 1／32＂ |  | 6.56 |
| 907 | バ | Sinlid | 1000 ft ．spowl | 1／3 $\underline{y}^{\prime \prime}$ |  | 12.70 |
| 911 | －0 | Sulid | $\underline{-5} \mathrm{ft}$ ．cartom | 1／3：2 | ．086＂ | ． 50 |
| 913 | $\underline{0}$ | Sulda | 1011 ft ．Eartum | 1／8き＂ |  | 1.79 |
| 915 | 30 | Sulid | 5011 ft ．spmen | 1／：2＂ |  | 7.40 |
| 917 | 20 | Sulid | 1000 ft ．spurl | 1／：3＂ |  | 14.30 |
| 921 | 29 | $7 \times 30$ | $\underline{9} \mathrm{ft}$ ．callturn | 1／83＂ | ．085＂ | ． 50 |
| 923 | －2 | $7 \times 34$ | 100 ft ．carthe | 1／：30＂ |  | 1.79 |
| 925 | －2 | $\bigcirc \times 30$ | Sto ft．spent | 1／3き＂ |  | 7.40 |
| 927 | 23 | $7 \times: 11$ | 1001 ft ，spers］ | 1／3．3＂ |  | 14.30 |
| 931 | $\because 0$ | $111 \times 311$ | $\underline{\square} 5 \mathrm{ft}$ ．cartims | 1／：3＂ | ．090＂ | ． 62 |
| 933 | 20 | $111 \times 3$ | （10） ft ．cartom | 1／30＂ |  | 2.04 |
| 935 | 211 | $111 \times 30$ | $\therefore 000 \mathrm{ft}$ ．spmel | 1／82＂ |  | 9.07 |
| 937 | 20 | $10 \times 8$ | 10100 ［1．spmul | 1／8：足＂ |  | 16.95 |



TELEVISION CABLE . . . Transmission Cables


TELEVISION CABLE . . . Transmission Cables

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | Type | Length | Size $\&$ Strand- ing | $\begin{gathered} \text { Speciftatiens } \\ \text { General Appllcations } \end{gathered}$ | Nominal <br> Diam. <br> (in.) | Fre. quency (ilic) | Attenua ion Per 100 100 f1 | Impedance (ohmis) | Velceity of <br> Propacation (") | Capacl$t$ nee Per Ft. ( mmf ) | Lis: Price Encl |
|  | \$401 | ietnilt. | $\begin{gathered} 1010 \\ \mathrm{ft.} \\ \mathrm{~S} \text { Sinul } \end{gathered}$ | $\begin{gathered} 22 \\ (a) 14] \end{gathered}$ | Hare copper, solid: black "fayl plastic jacket; Hare (mpper braja shteld; julyethylene 1 lustic insulation. | . 44 | $\begin{aligned} & 1001 \\ & .000 \\ & 300 \\ & 100 \end{aligned}$ | $\begin{aligned} & 3.75 \\ & 7.60 \\ & 7.10 \\ & 8.30 \end{aligned}$ | 33 | bil | 21.0 | \$ 7.65 |
|  | 4403 | $\stackrel{1}{\text { entale. }}$ | $\begin{gathered} 500 \\ \text { tt. } \\ \text { Squal } \end{gathered}$ | $\begin{gathered} 22 \\ \text { solld } \end{gathered}$ | Stine as 4tol | . 92 | $\begin{aligned} & \text { Same } \\ & 1101 \end{aligned}$ | $\begin{gathered} \text { Same } \\ \text { as } \\ 4401 \end{gathered}$ | 73 | 66 | 21.0 | 71.50 |
|  | 4405 | 1 condr. | 100 ft. Spool | $\begin{gathered} 20 \\ \text { solid } \end{gathered}$ | bare eopuer, sobld: black vinyi phastic jace et: timned copper bradd s'ietd; patyethylene plastir insulathon. | .195 | $\begin{aligned} & 100 \\ & 300 \\ & 306 \\ & 4100 \end{aligned}$ | $\begin{aligned} & 4.10 \\ & 6.20 \\ & 8.00 \\ & 9.50 \end{aligned}$ | 53.5 | 66 | 28.5 | 7.35 |
|  | 4407 | $\xrightarrow[\text { (0.OHA) }]{\text { t }}$ | $\begin{gathered} 500 \\ \mathrm{ft} . \\ \text { Spuln) } \end{gathered}$ | $\underset{\text { sulid }}{20}$ | same as 4405 | . 16.7 | $\begin{array}{r} \text { Name } \\ \text { as } \\ +405 \end{array}$ | $\begin{aligned} & \text { same } \\ & 4405 \end{aligned}$ | 53.5 | 60 | 23.5 | 59.35 |
|  | 4415 | $\stackrel{1}{1}$ | $\begin{gathered} 100 \\ \text { f1. } \\ \text { spurl } \end{gathered}$ | $\frac{13}{7 \times 21}$ | Bare cobper; flesible strandfing: black vinsl blastic jucket: hare cuprep braid shield; polyethylene phastle insulation. | . 405 | $\begin{aligned} & 100 \\ & 300 \\ & 300 \\ & 4110 \end{aligned}$ | $\begin{array}{r} 2.10 \\ 3.30 \\ 4.10 \\ 4.51 \end{array}$ | 52 | 66 | 29.5 | 18.50 |
|  | 4417 | $\stackrel{1}{\text { lumulr. }}$ | $\begin{gathered} 500 \\ \mathrm{ft} . \\ \text { Sprol } \end{gathered}$ | $\frac{13}{7 \times 21}$ | Same as 4415 | . $\$ 10{ }^{5}$ | $\begin{gathered} \text { same } \\ \text { as } \\ 4415 \end{gathered}$ | stame as 4415 | 52 | Ait | 39.5 | 173.75 |
|  | 4419 | $\underset{\text { (0)lindr. }}{1}$ | $\begin{gathered} 1100 \\ \mathrm{ft.} \\ \text { Spurl } \end{gathered}$ | $\frac{18}{7 \times 26}$ | Trimed copper; flexible stranding: bare moner bratd shleld; hlack thyl pasthe jacket: polycthylenc plastic insulation. | . $40 \%$ | $\begin{aligned} & 100 \\ & -101 \\ & 3190 \\ & 1011 \end{aligned}$ | $\begin{aligned} & 1.90 \\ & .9 .85 \\ & 3.60 \\ & 1.35 \end{aligned}$ | 75 | 66 | 20.5 | 17.35 |
|  | 4421 | $\underset{\substack{1 \\ \text { coint. }}}{ }$ | 500 <br> ft. <br> Sponl | $\frac{18}{7 \times 26}$ | Same as 4 419 | . 41.5 | $\begin{gathered} \text { same } \\ \text { tis } \\ +419 \end{gathered}$ | $\begin{gathered} \text { same } \\ \text { as } \\ 4419 \end{gathered}$ | 75 | 66 | 20.5 | 163.75 |
|  | 4523 |  | $\begin{gathered} 500 \\ \mathrm{ft.} \\ \text { Sponl } \end{gathered}$ | $\frac{18}{7 \times 26}$ | Condurtors hare emper ; Ales. thle stranding; conductors run parallel: nolsethylene insularion. USE: TV and FM receiving antenna. Esperially designed for use in TV fringe areas. Also adapted to use with lowpower transmitting anterna. |  |  |  |  |  |  |  |
|  | 4527 |  | $\begin{gathered} 501 \\ \text { ft. } \\ \text { spmil } \end{gathered}$ | $\frac{20}{i x 28}$ | Comperweld enductors; tubular design protects against exterior hazaris. USE: For UHF and VHF. | .3.50 | $\begin{array}{r} 30 \\ 600 \\ 100 \\ 200 \\ 100 \\ 1000 \\ 700 \\ 100 \\ 100 \end{array}$ | $\begin{array}{r} .63 \\ .93 \\ 1.45 \\ 1.82 \\ 2.7 \\ 3.0 \\ 3.6 \\ 4.2 \end{array}$ | 300 | 84 | 5.6 | 48.00 |
| Howhernem | 4529 | $\stackrel{1}{2}$ <br> (rulilr. oval | 510 <br> ft. <br> Sipurl | $\frac{20}{i x 28}$ | Same as 4.507 | $\begin{gathered} .2011 \\ x \\ .400 \end{gathered}$ | $\begin{gathered} \text { same } \\ \text { is } \\ 4527 \end{gathered}$ | $\begin{gathered} \text { siume } \\ \text { iss } \\ 45: 7 \end{gathered}$ | $\begin{aligned} & \text { same' } \\ & \text { ass } \\ & \mathbf{4 5 2 7} \end{aligned}$ | $\begin{gathered} \text { simur } \\ \text { as } \\ 4520 \end{gathered}$ | same as 4537 | 48.00 |

## CONTROL PANEL INTERCOM CABLE



| $\begin{aligned} & \text { TVPE } \\ & \text { No. } \end{aligned}$ | TVPE | LENGTH | SIZE | STRANDING | INSULATION <br> THICKNESS (Inches) | $\begin{gathered} \text { FINISHED } \\ \text { O.D. } \\ \text { (Inches) } \end{gathered}$ | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \\ & \text { EACH } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{aligned} & 1+168 \\ & 1469 \end{aligned}$ | $\begin{gathered} 2 \\ 8 \\ 8 \text { coundurvors } \\ \hline \end{gathered}$ | $\begin{aligned} & 1018 \mathrm{ft} \\ & 101 \mathrm{it.} \end{aligned}$ | 29 29 | Solid Solid | $\begin{aligned} & .010 \\ & .010 \end{aligned}$ | $\begin{array}{ll} 110 \\ 1 & 0 \end{array}$ | $\begin{array}{r} \$ 5.25 \\ 6.70 \end{array}$ |



LEAD COVERED CABLE
Fur fredum from interferemer, currusion and uanphiss.
SPECIFICATIONS: T'indme (upher wite; heary rubler insulation and colton brail: hawy leal sleath.

| $\begin{aligned} & \text { TVPE } \\ & \text { No. } \end{aligned}$ | TVPE | LENGTH | SIZE | STRANDING | INSULATION THICKNESS (Inches) | $\begin{gathered} \text { FINISHED } \\ \text { O.D. } \\ \text { (Inches) } \\ \hline \end{gathered}$ | LIST PRICE EACH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1453 1454 | $3{ }^{3}$ | 100 ft 309 ft . | 18 18 | Solid <br> Solid | $\begin{aligned} & 1 / 32 \\ & 1 / 32 \end{aligned}$ | $.240 \times .2010$ | $\begin{array}{r} \$ 21.50 \\ 37.50 \end{array}$ |

## CD, 1 SIIITITATTD

## INTERCOMMUNICATING AND SOUND SYSTEM CABLES PAIRED CONDUCTORS

|  | No. | Type | Lenoth | Size \& Stranding | Specifications and General Applications | Nominal Diam, (in.) | List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5201 |  | 1170 it. spund | 2- Solid | Cabled, $0: 00^{\prime \prime}$ gray viusl | 145 | \$2.50 Ea. |
| - | 5202 |  | Stioft stum | \% Solid | plastic Jarket owerall |  | 25.00 M |
| \% | 5205 | $2 \mathrm{Ir}^{\text {r }}$ ¢ Cundt. | jomett. sumi | 20 Solid | Same as 5201 | . 190 | 25.65 Ea . |
|  | 5206 |  | \#un fit. spmel | 32 Solid | Same as 5301 | . 190 | 46.50 M |
|  | 5211 |  | B114) it. simuld | $\because 2$ Solid | same as 5201 | :230 | 5.90 Ea. |
|  | 5212 |  | -ital it. spuld | 22 Solid | same as 5:01 | . 330 | 59.00 M |
| - | 5221 | - $1 \mathrm{l}_{\text {re }} 110$ Comalt. | [10+ ft. Spmer | 22 Solid | Same as 5201 | $\bigcirc$ | 8.80 Ea . |
|  | 5222 | - Pro- 10 comid. | Sumit. Spurl | ze Solid | same as 5001 | -200 | 88.00 M |
|  | 5226 | A Pre-12 Cupur. | 190 ft. Simul | ? Solid | Name as 5201 | 265 | 9.25 Ea . |
|  | 5227 | 61.101 madr. | Sillo fr. Symal | 2e Solid | same as 5201 | .265 | 92.50 M |
|  | 5231 | ¢Pre-1: cindr. | 1101 ft. Siluels | 2e Solid | Name as 5201 | $\cdots 80$ | 13.30 Ea. |
| 1 2 | 5232 |  | Siluif. Stpent | 22 Solid | same as 5201 | . 280 | 133.00 M |
| - | 5236 |  | 1010 ft S Spul | 29 solit | same as 5201 | . 300 | 13.80 Ea |
|  | 5237 |  | \%14ifit. Spul | 32 Sulid | same as 5201 | . 300 | 138.00 M |
|  | 5241 |  | !imift. Sperl | ? Solid | Name as 5201 | $\therefore 30$ | 14.15 Ea. |
|  | 5242 |  | Simert. Spand | 32 Solid | Same as 5001 | . $3: 0$ | 141.50 M |
|  | 5251 | 11 lr \%-2.e comir. | 100 ft Spowl | \%2 Solid | Same as 5201 | . 360 | 16.50 Ea . |
|  | 5271 | 1.5 lr ¢ -30 Condr. | 1u) ft . Spuol | 22 solid | Name as 5201 | . 360 | 165.00 M 22.00 Ea . |
|  | 5272 | 15 l Pr. 30 l cendr. | Sill) ft. spual | 22 Solid | Same as 5201 | . 390 | 220.00 M |
|  | 5286 | 27.1 rrait 4 madr. | 100 ft . simul | 2e Solid | Same as ine 01 | . 510 | 36.00 Ea. |
|  | 5287 | $2{ }^{2}$ Pr.at 4 comir. | Sther it. spueel | 2e Solid | Same as 5201 | .i10 | 360.00 M |

PAIRED INTERCOMMUNICATING CABLES FOR COLOR CODING

Identification is simple with Cmbsolidated Interrom cables because they are all coln roded. Sce chart in next column.

| Pair | Color Combination |
| :---: | :---: |
| 1 | 131a,k paired with Red |
| 2 | Hlark paired with White |
| 3 | B)ack paired with tireen |
| 4 | Blank paired with thue |
| 5 | lbizak paired with lirown |
| 6 | 1:3sek paired with Yellow |
| 7 | dimek paired with 0range |
| 8 | Roll paired with Green |
| 9 | 1bilajred with White |

> 19 White paired witl blue 20 White pairud with Brown White paired with Orange White paired with Yrange Bluc paired with Brown Bluc paired with Brown Bluc paired with Orange krown paired with Orange liroun paired with Yellow

MULTIPLE CONDUCTORS


| 5401 | : Comir. | 110] 11. Silwal |
| :---: | :---: | :---: |
| 5402 | 3 Condr. |  |
| 5406 | 4 Comir. | 190 ft . Spian |
| 5407 | 1 comils. | $\therefore$ She ft , Slaml |
| 5411 | Stondtr. | 3 (10) f\%. SFoml |
| 5412 | $\therefore$ douma. | $\therefore 1010 \mathrm{ft}$. Spmol |
| 5416 | ${ }_{6}$ (1)midr. | 100) ft. Spool |
| 5417 | 6 d'ondr. | flll ti. Nenol |
| 5421 | T (madr. | 11101 fit. Sison |
| 5422 | 7 Coundr. | $\therefore 1 \mathrm{l} 1 \mathrm{ft}$. Spunl |
| 5426 | 8 Comindr | 1611 ft . S[mm] |
| 5427 | scondr. | Stult ft. Sturn |
| 5431 | - Courls. |  |
| 5432 | \% ${ }^{\text {comald }}$ |  |


| 22-ixio | iahled, . $0: 0$ " gray rinyl plastic Jacket orerall |
| :---: | :---: |
| 22-7x30 | Same as 5401 |
| 22-7x311 | Name as 5401 |
| 22-7x.30 | Name as 5401 |
| 22-ix30 | same as 5401 |
| 22-ixi31 | Name as 5401 |
| 22 - $7 \times 30$ | Name as 5401 |
| $22-7 \times 30$ | Siame as 5401 |
| 22-7530 | same as 5401 |
| 22-7x30 | Name as 5401 |
| 22-7x30 | Same as 5401 |
| 22-is30 | Same as 5401 |
| 22-7x30 | Same as 5401 |
| 22-7x30 | stame as 5401 |


| . 140 | \$3.00 | Mark, green, red |
| :---: | :---: | :---: |
| . 140 | 30.00 | Same as :5-411 |
| . 158 | 3.70 | lidack, green, red, white |
| . 158 | 37.00 | Name as 5407 |
| . 1711 | 4.50 | flack, lrown, green, red, white |
| . 170 | 45.00 | Same as 5411 |
| . 212 | 7.15 | Black, bluc, brown, green, red, white |
| .213 | 71.50 | Same as 5416 |
| . 231 | 7.70 | Black, bluc, brown, green, orange, red, white |
| . 230 | 77.00 | Siame as 5421 |
| .235 | 8.25 | Black, bluc, brotin, green, orange, red, white, yellow |
| . 235 | 82.50 | Same as 5126 |
| . 945 | 9.00 | Black, bluc, hrown, green, oranke, purfle, red, white, yellow |
| . 245 | 90.00 | Same as 5431 |




|  |  |  | INSULATION | FINISHED O.O. |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| TYPE No. | LENGTH | SIZE | STRANDING | THICKNESS | (lnches) | .070 |

MICROPHONE CABLE On 100 ft , spools-Combluctur ro


| TYPE Ne. | TYPE | SIZE | SPECIAL USE |
| :---: | :---: | :---: | :---: |
| 1458 | $\because$ comuluetor | $\because 2$ |  |
| 1459 | 1 conductur | 20 | Lapel nijerplarue |
| 1460 | 1 anminetor | 20 | Crystal micluphone |
| 1461 | 1 romilutior | $2 \cdot$ | 1.apel minruphors |
| 1462 |  | $\because 0$ | Carloun micruphun s |
| 1463 | 3 comiuctor | $\because 1$ | 1 arbun mievoplone |
| 1464 | 4 conductor | $\because 9$ | ( artuon mieropliones |
| 1465 | 5 conduetor | $\because 0$ | 1 arbon mieruphanes |
| 1466 | 6 conduetor | $\because 0$ | 1 arbun nicrophonts |
| 1467 | 7 conductor | 20 | ('arhon micpap)homes |



| STRANOING | $\begin{gathered} \text { FINISHED } \\ \text { (liones) } \end{gathered}$ | $\begin{aligned} & \text { NOMINAL } \\ & \text { CAPACITY } \\ & \text { per ft. } \\ & \text { (mmf) } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { LIST } \\ \text { PRICE } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
| 16531 | .231 | 32. | \$0.00 each |
| $26 \times 34$ | . 175 | 10. | 10.15 each |
| $26 \times 34$ | . 240 | 33. | 10.50 each |
| $16 \times 34$ | . 135 | 34. | \$0.00 each |
| 26934 | . 280 | 63. | 11.35 each |
| 2i) $\times 34$ | . 290 | . 54 | 12.75 each |
| 26.153 .4 | . 300 | . 33 | 16.85 each |
| \%19 $\times 34$ | . 340 | . 32 | 19.00 each |
| - $41 \times 5 \times 34$ | .350 .370 | . 32 | 24.70 each 25.90 each |

## CATHODE-RAY TUBE LEAD CABLE

## Flame Retardant Polyethylene Plastic Insulation




| No. | Lempth Packate \& Color | Size | Specifications | Strandimy | Insulation Thickness (liches) | $\begin{gathered} \text { Finished } \\ 0 . D \\ \text { (lisches) } \end{gathered}$ | List <br> Price <br> Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4601 | [11] ft. Sunt] lod wit! two white tracts | 211 | $\therefore$ sta flexible timen (m) mat whe: rod redhlase aretate Garn oraill with $\because$ white traters: lambut matitur. | $\begin{gathered} 7 \\ x \\ \ddot{2} 8 \end{gathered}$ | .03.) | . 130 | \$2.80 |
| 4611 | $\begin{aligned} & 100 \mathrm{ft} \text { Sponl } \\ & \text { licd } \end{aligned}$ | 24 |  | $\begin{gathered} 7 \\ x \\ 28 \end{gathered}$ | .065 | . 198 | \$4.80 |
| 4616 | 1110 fl . Spun! White | $\because 11$ |  ber wits: flante warmant bultofly lene pastic insulatiun: wotking whate 10.0101 rolts. | $\begin{gathered} 7 \\ x \\ \hdashline 8 \end{gathered}$ | .035 | . 108 | \$2.75 |
| 4621 | 1101 ft . Sipul White with red strju. | $\because 0$ | Siame as Sio. 1616 expept workin: matage 20,000 volts. | $\begin{gathered} 7 \\ x \\ 28 \end{gathered}$ | . 065 | . 168 | \$4.60 |

## PHONOGRAPH MULTIPLE CABLE

|  | TYPE No. | LENGTH | SIZE | $\begin{gathered} \text { SPECIAL } \\ \text { USE } \end{gathered}$ | SPECIFICATIONS | STRANDING | $\begin{gathered} \text { FINISHED } \\ 0.0 . \\ \text { (linches) } \end{gathered}$ | LIST PRICE EACH |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5030 | 500 ft . | $\begin{array}{r} 3-16 \\ \hdashline-29 \end{array}$ | Tombections hetwem com wereital electrie phenorghis (juke hoxes) selectors. |  | Sinlid |  | \$382.00 |
|  | 5103 | 1.000 ft . | 3-22 | Connectians for olectric phomelectron man remed selecturs |  <br>  (athle form sith a thated cotom lrait | $7 \times 30$ | . 125 | 44.25 |
|  | 5113 | $1,000 \mathrm{ft}$. | $\begin{array}{r} 3-16 \\ 1-18 \end{array}$ | fonneqtions fur momblerelal <br> electric phomes. slablis and rerord selecturs |  <br>  hermondastic imsulalion. at imblishat ally yolor roded. All comburtars promeal into cable form with a trated hown cotan brail owrall latimered. | $\begin{aligned} & 0-26 \times 30 \\ & 1.16 \times 30 \end{aligned}$ | . 165 | 105.70 |
|  | 5123 | 1000 ft . | $\begin{aligned} & 2-16 \\ & 1-18 \end{aligned}$ | Name as | samue as ill:, but will siluer plastic jawker. | $\begin{aligned} & \because-24 \times 30 \\ & \hdashline-16 i \times 30 \end{aligned}$ | . 165 | 77.75 |
|  | 5135 | 1000 ft . | $\begin{gathered} 22 \\ 5 \\ \text { condr. } \end{gathered}$ | $\begin{gathered} \text { Same as } \\ \substack{511: 30} \end{gathered}$ | : condr. Nis. 2. with 1 tit" thermar Hastir insulation: :3 emendr. thisted together with a branted timent confor <br>  grented into cahle firm with a hrown valtom braid atradl. | -1-7 $\mathrm{F} \times 30$ | . 225 | 99.75 |

## MULTI-COLOR CABLES

## ... for intercom anl p.a. systems

CONDUCTOR COLOR CHART (colored rublier): 1 s1 hel: shl-

 toth Wrange.

## FLEXIBLE COTTON BRAIDED

 Onsoleato rontimunas lengtis if desitall

SPECIFICATION: Tinmed :lexihle comber: mothon steeve: live cubred rubher insubte


| Type No. | Type | Length | Size | Strand. | Insulation Thickness (Inches) | Finished 0.0 . (Inches) | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1481 | 1 conir. | 100 ft . | 20 | $10 \times 30$ | 1/64 | . 150 | \$ 4.15 |
| 1482 | $2{ }^{2}$ comir, | 100 ft . | 20 | $10 \times 30$ | 1/64 | . 175 | 5.60 |
| 1483 | 3 comilr. | 100 ft . | 20 | $10 \times 30$ | 1/64 | . 200 | 7.75 |
| 1484 | 4 comir. | 100 ft . | 20 | $10 \times 30$ | 1/64 | .275 | 9.65 |
| 1485 | 5 comir. | 100 ft . | 20 | $10 \times 30$ | 1/6. | . 350 | 11.60 |
| 1486 | 6 condr. | 100 ft . | 20 | $10 \times 30$ | 1/64 | .260 | 14.45 |
| 1487 | 6 conitr. | 100 ft . | 20 | $10 \times 30$ | 1/64 | . 275 | 16.60 |
| 1488 | 8 conilr. | 100 ft . | 20 | $10 \times 30$ | 1/64 | .300 | 22.45 |
| 1489 | 9 condr. | 100 ft . | $\pm 0$ | $10 \times 30$ | 1/6. ${ }^{4}$ | . 310 | 23.25 |
| 1490 | 10 comulr. | 100 ft . | 20 | $10 \times 30$ | 1/64 | . 325 | 25.30 |
| 1494 | 11 comult. | 100 ft . | 20 | $10 \times 30$ | 1/64 | . 335 | 27.20 |
| 1495 | 123 comir. | 100 ft . | 20 | $10 \times 30$ | 1/64 | . 350 | 33.80 |

ANALYZER CABLE
SPECIFICATIONS: F:Xtra flevillu tithed rapher:
 ruberall.

| 1456 | s rundr. | 106) ft . | $\begin{aligned} & 2-11 \\ & 6-18 \end{aligned}$ | $\begin{aligned} & 11 \times: 61 \\ & 16 \times 31 \end{aligned}$ | 1/6! | . 300 | \$26.30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1457 | 9 conitr | 1 min ft | $2-14$ $7-18$ | $11 \times 8: 19$ $10 \times 30$ | 1/64 | . 320 | 27.50 |

##  <br> $\square=$

## TINNED COPPER SHIELDED

For radid. anto and electrical work.
SPECIFICATIONS: Extra flexible: tinned popper stranded; potton serve; live color-


| 1471 | 1 condr. | 100 ft. | 18 | $16 \times 30$ | $1 / 64$ | .110 | $\$ 6.60$ |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| 1472 | 2 condr. | 100 ft. | 20 | $10 \times 30$ | $1 / 64$ | .190 | 8.50 |
| 1473 | 3 condr. | 100 ft. | 20 | $10 \times 30$ | $1 / 64$ | .200 | 11.00 |
| 1474 | 4 condr. | 100 ft. | 20 | $10 \times 30$ | $1 / 64$ | .220 | 14.45 |
| 1475 | 5 condr. | $100 \mathrm{ft}$. | 20 | $10 \times 30$ | $1 / 64$ | .235 | 17.05 |
| 1476 | 6 condr. | 100 ft. | 20 | $111 \times 30$ | $1 / 64$ | .250 | 21.00 |
| 1477 | 7 condr. | 100 ft. | 20 | $10 \times 30$ | $1 / 64$ | .265 | 25.30 |

## MAGNET WIRE



Pophilar，profitahb＊ sperialty wire pack ilmed for teisy selling in adin－elertijeal．de－ patment，spercialty and harduare stures． Wjak bariaty of size and insulat funs． Keapls stork in parfeet Heber，always saluable Fur all wire pages S－7！ 115 5）
Supplivel an Spons as Stown and in Heaver Werights．
Hete is a bandy and convemient way to stork small quantities of wire．It pre－ vents wire from matting or tangling．The sleera is arderpitioly marle artal pailn be reablily slipporl but of the waty when any lengtl／of wire is desireml．

| DOUBLE COTTON COVERED |  |  |  | PLAIN ENAMEL |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size | $1 / 4 \mathrm{lb}$ ． | 1／2 ib． | 1 lb ． | Size | $1 / 4 \mathrm{lb}$ ． | $1 / 2 \mathrm{lb}$ ． | 1 lb ． |
| 14 | \＄0．55 | \＄0．95 | \＄1．87 | 14 | \＄0．45 | \＄0．75 | \＄1．39 |
| $1 . \%$ | ． 58 | ． 98 | 1.90 | 1.7 | ． 45 | ． 80 | 1.40 |
| 116 | ． 60 | 1.00 | 1.95 | 16 | ． 50 | ． 84 | 1.42 |
| $1 \%$ | ． 60 | 1.05 | 2.00 | 17 | ． 50 | ． 87 | 1.44 |
| 1 | ． 60 | 1.10 | 2.05 | 18 | ． 50 | ． 89 | 1.45 |
| $1!1$ | ． 65 | 1.15 | 2.28 | $1 \%$ | ． 55 | ． 92 | 1.49 |
| $\underline{11}$ | ． 65 | 1.25 | 2.34 | 211 | ． 55 | ． 94 | 1.50 |
| $\because 1$ | ． 77 | 1.34 | 2.50 | $\because$ | ． 55 | ． 95 | 1.59 |
| ！－ | ． 82 | 1.39 | 2.64 | $\because$ | ． 55 | ． 97 | 1.70 |
| \％ | ． 88 | 1.50 | 2.75 | 2： | ． 58 | ． 99 | 1.75 |
| 31 | ． 94 | 1.60 | 3.00 | －1 | ． 60 | 1.00 | 1.87 |
| $\underline{0}$ | ． 95 | 1.65 | 3.14 | $\because$ | ． 65 | 1.10 | 1.95 |
| 26 | 1.00 | 1.75 | 3.39 | $\because 1$ | ． 65 | 1.10 | 2.03 |
| － | 1.15 | 1.89 | 3.64 | $\because 7$ | ． 70 | 1.15 | 2.14 |
| \＃ | 1.20 | 2.14 | 4.00 | 总 | ． 73 | 1.20 | 2.25 |
| ？！ | 1.30 | 2.39 | 4.50 | 34 | ． 75 | 1.25 | 2.30 |
| ：31 | 1.32 | 2.50 | 4.75 | 30 | ． 80 | 1.30 | 2.35 |
| 31 | 1.50 | 2.75 | 5.00 | 31 | ． 89 | 1.35 | 2.45 |
| 湿 | 1.75 | 3.00 | 5.64 | 3\＃ | ． 90 | 1.40 | 2.50 |
| 3： | 1.89 | 3.37 | 6.25 | 33 | ． 95 | 1.50 | 2.65 |
| 31 | 2.14 | 3.89 | 7.00 | 34 | 1.00 | 1.70 | 2.75 |
| 3： | 2.39 | 4.25 | 7.50 | 3.5 | 1.09 | 1.84 | 3.14 |
| 36 | 2.75 | 4.89 | 8.65 | 36 | 1.29 | 2.00 | 3.50 |
| 37 | 2.25 | 6.25 | 11.40 | 37 | 1.45 | 2.25 | 4.00 |
| $3 \times$ | 4.75 | 8.65 | 16.50 | 38 | 1.70 | 2.50 | 4.50 |
| 5！ | 6.00 | 11.50 | 20.00 | $3:$ | 1.87 | 3.00 | 5.00 |
| 40 | 8.00 | 15.00 | 28.15 | 10 | 2.50 | 3.75 | 6.00 |

## SOLID ENAMELED COPPER

No． 3851
No． 3853 fit mil， No． 3854.1010 ft．coul． No． 3861 ． 10 ft cuil No． 3862 ． 7 fit mil， No． $3864 . \quad 1100 \mathrm{ft}$ ．spmal No． $3871 . \quad 511 \mathrm{ft}$ cuil No． 3872 ． 5 ff ．mil． No． 3874 ， 101101 ft spail

AERIAL
AERIAL No． 3815. No． 3816.
 No． 11100 ft ．spuol No． $3818 . \quad 1$（ant ft．spinil， No． 3819.1010 ft ．spunl， No． 3821 ．

1 Sulid Ename 14 Sulal Litimet 11 Sulid EDamel －Solle Danne 2 Solid Fnamu 3 Solial Ename 12 Sulid thamul 10 sulial finamel 11 Sollil Finamel o soliol tamme 10 Sullil Finamel

| No． 3822. | Tis ft．cuil． | If sulid Timuend |
| :---: | :---: | :---: |
| No． 3823. | 1010 ft ．atoil． | 1t Solidid Timmed |
| No． 3824. | 1000 ft spmil． | 14 solid＇limmed |
| No． 3831. | 50）ft．cuil． | 12 suliol Tinnme |
| No． 3832. |  | 12 Sulin Timued |
| No． 3833. | 100 ft ．cuil． | 12 Sollid Tinued |
| No． 3834. | 11001 ft ．spmol． | 10 Solid Timmed |
| No． 3841 ， | 50 ft coil． | 10）Sulid Timbed |
| No． 3842. | 75 ft ．mil． | 10 sulid Tinmed |
| No． 3843. | 101 ft enil． | 10 Sullid Timberd |
| No． 3844. | ！ 1000 ft ．spmin， | 10 sulid Thimerl |
| SOLID BARE COPPER |  |  |
| No． 3786. | 50 ft ．coil． | 12s Sulid Sare |
| No． 3787. | 75 ft．mil． | 12Sulid liare |
| No． 3788. | 1010 ft ．coil． | 1＂Solis liare |
| No． 3789. | 1000 ft ．spund， | 12 Solill tare |
| No． 3791. | S．oft．coil． | 111 siljul Hire |
| No． 3792. | 75 fl ，mil． | 10 Sushl Itare |
| No． 3793. | $100 \cdot \mathrm{ft}$ ． coil ． | 10 solid liare |
| No． 3794. | 101010 ft ．Sjwil， | 111 silid liare |
| No． 3801. | 50 ft ．cuil， | 1． Soulid liare |
| No． 3802. | 7 F ft．cuil． | 15 Sulid liare |
| Na． 3803. | 100 ft ．enil． | 1．5 Solid hare |
| No． 3804. | 1 （10）（1） ft ．spmul， | 1．t Sulinl hare |
| No， 3811. | 50 ft．cail． | 11 Solind lare |
| No．3812． | 75 ft coil． | 14 sulid liare |
| No， 3813. | 106 ft ．coil． | 14 Solid Bare |
| No． 3814. | 1000 ft ．spoin）， | $1+$ Solid lare |

FORMVAR WIRE—No． 2000

| SINGLE FORMVAR MAGNET WIRE |  |  |  | HEAVY FORMVAR MAGNET WIRE |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Sizt | $1 / 4 \mathrm{lb}$ ． | $1 / 2 \mathrm{lb}$ ． | 1 lb ． | Size | $1 / 4 \mathrm{lb}$ ． | 1／2 lb． | 1 lb ． |
| 1 ！ | \＄0．66 | \＄1．12 | \＄2．07 | 1 ！ | \＄0．73 | \＄1．24 | \＄2．27 |
| $1 \%$ | ． 66 | 1.20 | 2.10 | 15 | ． 73 | 1.34 | 2.33 |
| 110 | 75 | 1.25 | 2.14 | 11 | ． 84 | 1.39 | 2.35 |
| 1 | 75 | 1.30 | 2.15 | $1 \%$ | ． 84 | 1.44 | 2.37 |
| 1 N | ． 75 | 1.34 | 2.17 | 18 | ． 84 | 1.47 | 2.39 |
| $1: 1$ | ． 83 | 1.39 | 2.23 | 19 | ． 92 | 1.52 | 2.45 |
| $\because 11$ | ． 83 | 1.40 | 2.25 | －11 | ． 92 | 1.54 | 2.51 |
| 21 | ． 83 | 1.42 | 2.37 | $\because 1$ | .92 | 1.55 | 2.61 |
| $\because$ | ． 83 | 1.45 | 2.56 | 22 | ． 92 | 1.60 | 2.80 |
| \％： | ． 89 | 1.49 | 2.62 | 23 | .97 | 1.64 | 2.87 |
| $\cdots$ | ． 90 | 1.50 | 2.80 | \％ | 1.00 | 1.65 | 3.07 |
| ？ | ． 97 | 1.65 | 2.92 | 2.5 | 1.15 | 1.97 | 3.50 |
|  | 99 | 1.65 | 3.05 | 26 | 1.19 | 1.98 | 3.64 |
| $\underline{27}$ | 1.05 | 1.74 | 3.20 | 27 | 1.25 | 2.07 | 3.84 |
| \％ | 1.10 | 1.80 | 3.37 | －s | 1.34 | 2.15 | 4.64 |
| \％ | 1.14 | 1.87 | 3.46 | 2！ | 1.37 | 2.24 | 4．14 |
| ：110 | 1.20 | 1.95 | 3.52 | 319 | 1.44 | 2.34 | 4.22 |
| 31 | 1.34 | 2.02 | 3.67 | \％ 1 | 1.67 | 2.52 | 4.58 |
| 32 | 1.35 | 2.10 | 3.75 | ： | 1.69 | 2.63 | 4.67 |
| \％ | 1.42 | 2.25 | 3.95 | ： 3 | 1.77 | 2.81 | 4.94 |
| 3.4 | 1.50 | 2.55 | 4.12 | ： | 1.87 | 3.19 | 5.16 |
| ： 7 | 1.64 | 2.81 | 4.70 | 3： | 2.04 | 3.46 | 5.88 |
| 31 | 1.92 | 3.00 | 5.26 | 34 | 2.39 | 3.75 | 6.58 |
| ： 7 | 2.17 | 3.37 | 6.00 | ：37 | 2.72 | 4.20 | 7.50 |
| ：is | 2.55 | 3.75 | 6.76 | ： 8 | 3.17 | 4.69 | 8.45 |
| 1： 18 | 2.80 | 4.50 | 7.50 | $3!$ | 3.50 | 5.64 | 9.38 |
| 10 | 3.75 | 5.64 | 9.00 | 40 | 4.69 | 7.04 | 11.27 |

COPPER WIRE—No． 2000

BARE COPPER WIRE Size $1 / 4 \mathrm{lb} .1 / 2 \mathrm{lb}$ ．I lb ． $\begin{array}{lrrr}\text { Size } & 1 / 4 & \mathrm{lb} . & 1 / 2 \mathrm{lb} . \\ 1! & \mathrm{I} \text { b．} \\ 1! & \$ 0.53 & \$ 0.97 & \$ 1.54 \\ 1 . & .57 & 1.00 & 1.60\end{array}$

TINNED COPPER WIRE Size $1 / 4 \mathrm{lb} .1 / 2 \mathrm{lb}$ ．I lb．

| 14 | \＄0．67 | \＄1．13 | \＄1．75 |
| :---: | :---: | :---: | :---: |
| $1 \%$ | ． 73 | 1.27 | 1，92 |
| 16 | ． 80 | 1.40 | 2.00 |
| 17 | ． 84 | 1.44 | 2.03 |
| 18 | 87 | 1.47 | 2.08 |
| 19 | ． 90 | 1.50 | 2.12 |
| 20 | ． 94 | 1.53 | 2.18 |
| 21 | ． 95 | 1.53 | 2.24 |
| 22 | ． 97 | 1.57 | 2.30 |
| 2.3 | 98 | 1.58 | 2.34 |
| $\because 4$ | 1.00 | 1.60 | 2.37 |
| 25 | 1.00 | 1.60 | 2.37 |
| 26 | 1.00 | 1.60 | 2.37 |
| 27 | 1.05 | 1.67 | 2.64 |
| －8 | 1.10 | 1.75 | 2.90 |
| 29 | 1.13 | 1.84 | 2.94 |
| 30 | 1.17 | 1.92 | 2.97 |
| 31 | 1.20 | 2.00 | 3.04 |
| 333 | 1.24 | 2.09 | 3.10 |
| 33 | 1.27 | 2.17 | 3.19 |
| 34 | 1.30 | 2.25 | 3.27 |
| 35 | 1.32 | 2.30 | 3.40 |
| 36 | 1.34 | 2.34 | 3.54 |
| 37 | 1.36 | 2.42 | 3.72 |
| 38 | 1.38 | 2.50 | 3.90 |
| 34 | 1.39 | 2.50 | 3.95 |
| 40 | 1.40 | 2.67 | 4.00 |

BARE COPPER STRANDED


Special．attractive three－color cartuns help to make this wire easier for customers to buy，easier for your dealers to sell．Supplied at slight additional cost．

| No． |  | No． |  |
| :---: | :---: | :---: | :---: |
| 3501 | in ft，coil | 3533 | 100 ft ，coil |
| 3502 | 7．ft．coil | 3534 | 1000 ft ．Pmoul |
| 3503 | 1008 ft coll | 3541 | 50 ft ．coil |
| 3504 |  | 3542 | 7． ft ，coil |
| 3511 | $\therefore 0 \mathrm{ft}$ ，coil | 3543 | 10018 ft ． 40611 |
| 3512 | 二．f1．coil | 3544 | 10018 ft spool |
| 3513 | 100 ft ．mil | 3551 | itl ft．coll |
| 3514 | 1404 ff f．spmal | 3552 | － 11 ，corit |
| 3521 | $50 \mathrm{ft} . \mathrm{cost}$ | 3553 | 100 ft ．coil |
| ： 522 | 7．ft．coil | 3554 | 1 forfit．spori |
| 3523 | 100 ft ．coil | 3561 | 50 ft．mil |
| 3． 24 | 1 1010 it．smosel | 3562 | 7．ft．coil |
| 3531 | silft．mill | 3563 | 11019 ft ．eoll |
| 3532 | 75f．roil | 3564 | 1000 ft ．sjamel |



TEST PROD WIRE

| No． | Length Package \＆Colar | Size | Specifications | Stranding | Insulation Thickness （Inches） | Finished O．D． <br> （Inches） | List Price Each | No． | Length Packaye \＆Color | Size | Specifications | Stranding | Insulation Thickness （Inches） | Finished 0．D． <br> （Inches） | List Price Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1001 | 100 ft. sipmol 1，1ark lied | 20 | Extra flexible timberl cup wire with red or Wack live rut）－ | $41 \times 36$ | ． 043 | .130 | \＄ 2.25 | 1006 | 1010 ft ． <br> sрииі <br> lalatk <br> lind | 1 N | $\begin{aligned} & \text { Same as No. } \\ & 1 \text { lin }] \\ & {[11, b 10] \text { Volts }} \end{aligned}$ | $65 \times 36$ | ．088 | ．230 | 4.30 |
|  | 250 ft ． |  |  |  |  |  |  | 1007 | $\begin{gathered} 9.30 \mathrm{ft} \\ \text { simind } \\ \text { Bhark } \\ \text { lind } \\ \hline \end{gathered}$ | 18 | Sime as No． 1001 <br> 111． 141410 Volts | $65 \times 36$ | ． 088 | ． 230 | 10.75 |
| 1002 | Smal <br> IBlack <br> Ied | 20 | Same as No． 1001 <br> 50101 Volts | $41 \times 36$ | ．043 | ． 130 | 5.60 | 1008 | 500 ft ． <br> S； <br> Jblark <br> lied | 18 | $\begin{aligned} & \text { Sime as No. } \\ & 11101 \\ & 111 .(4) 0 \text { Vults } \end{aligned}$ | 65x36 | ．088 | ． 230 | 20.00 |
| 1003 | $\begin{gathered} 100 n \mathrm{ft} \text {. } \\ \text { Spool } \\ \text { CHlack } \\ \text { Red } \end{gathered}$ | 20 | $\begin{aligned} & \text { Same as No. } \\ & 10 \text { (1) } \\ & \text { sun folles } \end{aligned}$ | $41 \times 36$ | ．043 | .130 | 21.00 | 1009 | 10 in ft． S！ини） labith lied | 18 | $\begin{aligned} & \text { Same as No. } \\ & 1001 \\ & \text { 10.1101 fiolts } \end{aligned}$ | $65 \times 36$ | ．088 | $\therefore 30$ | 40.00 |

## microphone cables

Cornish Microphone Cables are available in plastic and rubber insulations. Plastic cables utilize polyethylene insulation on the conductor with outer viny plastic jacket. They are designed for low capacitance, high insulation resistance, low attenuation; and withstand severe service under all operating con. ditions.



| RUBBER MICROPHONE CABLE |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2101 | 20/1 | 26/34 | . 260 | $32^{*}$ | 500' Spool | $1{ }^{\text {Spool }}$ | 49 | 92.00 |
| 2152 | $20 / 2$ | 26/34 | . 280 | $68{ }^{\circ}$ | 500' Spool | 1 Spool | 54 | 115.00 |
| 2153 | 20/3 | 26/34 | . 280 | 85** | 500' Spool | 1 Spool | 59 | 132.50 |
| 2154 | 20/4 | 26/34 | . 305 | $95^{*}$ | 500' Spool | 1 Spool | 72 | 157.50 |
| 2182 | 18/2 | 41/34 | . 295 | $88^{\circ}$ | 500' Spool | 1 Spool | ${ }^{60}$ | 147.50 |
| 2160 | 20/1 | 26/34 | . 175 | $34^{*}$ | 500' Spool | 1 spool | 25 | 78.25 |

## antenna control cables



Cornish TV Lead-in Cables are furnished oniy in pure virgin polyethylene insulation to insure long life under severe operating conditions and are designed so that only exceptionally low losses at high frequencies are experienced. They are available with pure copper or copperweld conductors. Copperweld 300 Ohm lead in cable has $11 / 2$ times the tensile strength of copper and has approximately $21 / 2$ times greater flexing life. It insures long service life in IV deria! installations requiring long runs.


| Catalod Number | $\begin{aligned} & \text { AWG } \\ & \text { Size } \end{aligned}$ | Number of Strands | Nominal Outside Diameter Inch | Frequency (MC) | Attenuation Per 100 Ft. (Decibels) | Impedance (Ohms) | Capacitance Per Ft. (MMF) | Standard Put. Up Pkge. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 500 | 20/2 | 7/28 | . $052 \times .400$ | $\left[\begin{array}{l}100 \\ 200\end{array}\right.$ | 1.17 | 300 | 4.6 | 1000' Spool | 17 | 26.25 |
| 501 | 20/2 | 7/28 | . $072 \times .400$ |  |  | 300 | 4.6 | 1000 ' Spool | 18 | 32.80 |
| 502 | 20/2 | 7/28 | . $100 \times .400$ | 4000 | 2.7 | 300 | 4.6 | 1000' Spool | 20 | 37.50 |
| 503 | 20/2 | 7/28 | . $052 \times .400$ | 100 | 1.1 | 300 | 4.6 | 1000' Spool | 17 | 26.25 |
| 504 | 20/2 | 7/28 | . $072 \times .400$ | 200 300 | 1.7 . | 300 | 4.6 | 1000' Spool | 18 | 32.80 |
| 505 | $20 / 2$ | 7/28 | . $100 \times .400$ | 300 400 | 2.7 2.7 | 300 | 4.6 | 1000' Spool | 20 | 37.50 |
| 520 | 20/2 | 7/28 | . $320 \times .460$ | 100 | 1.25 | 300 | 4.65 | 500' Spool | 28 | 54.00 |
| 499 | $22 / 2$ | 7/50 | . $040 \times .360$ |  |  | 300 | 4.6 | $1000{ }^{\text {Spool }}$ | 12 | 20,00 |

## RG/U cooxial transmission cables



| Catalog Number | $\begin{aligned} & \text { AWG } \\ & \text { Siza } \end{aligned}$ | Number of Strands | $\begin{aligned} & \text { Nom. Outside } \\ & \text { Diam. Inch } \end{aligned}$ | $\begin{aligned} & \text { Frequency } \\ & \text { (MMC) } \end{aligned}$ | $\begin{aligned} & \text { Atten. Der } 100 \\ & \text { Ft. (Decibels) } \end{aligned}$ | Impedance (Ohms) | Capacitance per MFt. (MMF) | $\begin{aligned} & \text { Standard } \\ & \text { Put-Up } \end{aligned}$ | $\begin{gathered} \text { Standard } \\ \text { Shipping Pkge. } \end{gathered}$ | Approx. Woht. Per M Ft. Lbs. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{cc} 521 \\ R-59 / U \end{array}$ | 22/1 | Solid | . 245 | $\begin{aligned} & 100 \\ & 200 \\ & 400 \end{aligned}$ | $\begin{aligned} & 3.75 \\ & 5.60 \\ & 8.30 \end{aligned}$ | 3 | 21 | 500 Ft . Spool | \| Spool | 43 | 11.25 |
| $\begin{array}{r} 522 \\ R=11 / U \end{array}$ | 18/1 | 7/26 | . 405 | 100 200 400 | 1.90 2.85 4.35 | 75 | 20.5 | 500 Ft. Spool | \| Spool | 98 | 185.00 |

Notes All Cornish Wire and Coble is ovoilable in put-ups other than those listed, ask for current price schedule.

# बormeer Radio \& TV Wire Products 

## test lead wire



STANDARD COLORS:-Red and Black.

## intercommunication cable

Corrish Intercommunication and Sound Cables are made in various constructions utilizing plastic insulation for both conductors and jacket. Where installation conditions dictate, Cornish shielded cables are recommended.

| Catalog Number | $\begin{aligned} & \hline \text { AWG } \\ & \text { Size } \end{aligned}$ | Number of Strands | Number of Pairs | Thick. Conductor Insulation Inch | Thickness Jacket Insulation Inch | Nominal Outside Diameter Inch | Standard Put-Up | Standard Shigping Pkg. | Approx. Waht. Lhes./MFt. | List Price Per M.F. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1240 | 22/2 | Solid | I | . 015 | 015 | . 145 | 500' Spool | 1 Spool | 14 | 31.25 |
| 1241 | 22/4 | Solid | 2 | . 015 | . 015 | 205 | 500' Spool | I Spool | 22 | 53.75 |
| 1242 | 22/6 | Solid | 3 | . 015 | . 015 | . 230 | 500' Spool | 1 Spool | 29 | 76.25 |
| 1243 | 22/12 | Solid | 6 | . 015 | . 015 | . 265 | 500' Spool | 1 Spool | 42 | 102.50 |
| 1244 | 22/18 | Solid | 9 | . 015 | . 015 | 320 | 500' Spool | I Spool | 68 | 152.50 |
| 1245 | 22/30 | Solid | 15 | . 015 | . 015 | 380 | $500^{\prime}$ Coil | I Coil | 105 | 262.50 |
| 1246 | 22/54 | Solid | 27 | . 015 | . 015 | . 510 | 500 Coil | 1 Coil | 170 | 442.50 |

plastic insulated cable


## shielded intercommunication cable



| Catalog Number | $\begin{aligned} & \text { AWG } \\ & \text { Size } \end{aligned}$ | Number of Strands | Thickness Conducter Insulation Inch | Tinned Copper Shielding | Nominal Outside Diameter Inch | Standard Put-Up | Standard Shipping Pkg. | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1230 | 20/2 | 10/30 | . 015 | \#34 | . 163 | 1000 ft . | 2 | 22 | 50.00 |
| 1238 | 18/2 | 16/30 | . 015 | $\pm 34$ | . 228 | 1000 ft . | 2 | 35 | 60.00 |
| 1233 | 20/3 | 10/30 | . 015 | $=34$ | 230 | 500 ft . | 2 | 42 | 97.50 |

## intercommunication cable



| Catalog Number | $\begin{aligned} & \text { AWG } \\ & \text { Size } \end{aligned}$ |  | $\begin{aligned} & \text { Number } \\ & \text { of } \\ & \text { Strands } \end{aligned}$ | Thickness Conductor Insulation Inch | Thickness Jacket Insulation linch | Nominal Outside Diameter Inch | Standard Put.Un | Standard <br> Shipping <br> Package | Approx. Weight Lbs./M f | List Price Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1234 | 20/2 |  | 10/30 | . 015 | . 015 | . 205 | $1000^{\prime}$ Spool | I Spool | 29 | \$ 76.25 |
| 1236 | 20/3 |  | 10/30 | . 015 | . 015 | . 262 | 1000' Spool | 1 Spool | 35 | 120.00 |
| 1237 | 18/2 |  | 16/30 | . 015 | . 015 | . 260 | 500' Spool | \| Spool | 35 | 85.00 |
| 1239 | -20/4 |  | 10/30 | 015 | 015 | 230 | $500^{\prime}$ Spool | - Spool | 45 | 100.00 |

- Two conductors twisted and shielded with unshiglded twisted pair.
noflame-cor hook-up wire

| Catalog Number | $\begin{aligned} & \text { AWG } \\ & \text { size } \end{aligned}$ | Number of Strands | Nominal Outside Diameter Inches | Voltage Break-Down Nominal Volts | Available Standard Put-Ups | Standard Shipping Package | Approx. Weight Lbs./M Ft. | List Price <br> Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1084 | 18 | 16/30 | . 110 | 7400 | $\left\{\begin{array}{l}100 \\ 1000 \\ \\ 100 \\ \text { Spool }\end{array}\right.$ | $\left.\begin{array}{c}10 \\ 1\end{array}\right\}$ | 9 | 38.60 35.50 |
|  |  |  |  |  | - 100 'spool | 10 |  | 32.10 |
| 1085 | 20 | 10/30 | . 102 | 7400 | \} 1000' Spool | 1) | 7 | 29.00 |
| 1086 | 22 | 7/30 | . 091 | 7400 | $\left\{\begin{array}{c}100 ' S p o o l \\ 1000 \\ \text { Spool }\end{array}\right.$ | $\left.\begin{array}{r}10 \\ 1\end{array}\right\}$ | 6 | 27.90 24.80 |
|  |  |  |  |  | - 100 Spool | 10 | 9 | 35.90 |
| 1079 | 18 | Solid | .103 | 7400 | (1000' Spool | $1)$ | 9 | 32.80 |
| 1080 | 20 | Solid | . 095 | 7400 | $\{100 '$ Spool | $10 \%$ | 6 | 29.40 26.30 |
|  |  |  |  |  | [100' spool | 10 |  | 26.10 |
| 1081 | 22 | Solid | . 091 | 7400 | \{1000' Spool | 1 ) | 5 | 23.00 |

STANDARD COLORS:-Black, Red, Green, Yellow, Blue, Brown, Orange, Slate, White and tracer combinations of base colors. - 100 Ft . Spool put-ups furnished in assorted colors.

## cor-lac push back wire



| Catalog <br> Number | $\begin{aligned} & \hline \text { AWG } \\ & \text { Size } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Number } \\ \text { of Strands } \end{gathered}$ | Nominal Outside Diameter Inches | Voltage Break-Down Nominal Volts | Available Standard Put. Ups | *Standard Shimping Package | Approx. Weight Lhs./M Fi. | List Price Per MEL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 648 | 18 | 16/30 | . 092 | 3100 | $\left\{\begin{array}{l}100 ' \text { 'spool } \\ 1000 \\ \text { spool }\end{array}\right.$ | $\left.\begin{array}{l} 10 \\ 1 \end{array}\right\}$ | 9 | 25.60 22.50 |
| 649 | 20 | 10/30 | . 072 | 3100 | $\left\{\begin{array}{l}100 \\ 1000 \\ \text { Spool } \\ \text { spool }\end{array}\right.$ | $10\}$ | 6 | 20.60 17.50 |
| 650 | 22 | 7/30 | . 062 | 3100 | $\left\{\begin{array}{l}100 ' \text { Spool } \\ 1000 \\ \text { 'spool }\end{array}\right.$ | $\left.\begin{array}{c}10 \\ 1\end{array}\right\}$ | 4 | 17.40 14.30 |
| 642 | 18 | Solid | . 092 | 3100 | $\left\{\begin{array}{l}100 ' \text { Spool } \\ 1000 \\ \text { Spool }\end{array}\right.$ | $\left.\begin{array}{l}10 \\ 1\end{array}\right\}$ | 6 | 23.00 19.75 |
| 644 | 20 | Solid | . 071 | 3100 | $\left\{\begin{array}{l}100 ' \text { Spool } \\ 1000 \\ \text { Spool }\end{array}\right.$ | 10 13 | 5 | 18.75 15.60 |
| 645 | 22 | Solid | . 061 | 3100 | $\left\{\begin{array}{l}100 \\ 1000 \\ \text { Spool } \\ \text { Spool }\end{array}\right.$ | $\left.\begin{array}{r}10 \\ 1\end{array}\right\}$ | 4 | 15.75 12.60 |

STANDARD COLORS:-Black, Red, Green, Yellow, Blue, Brown, Orange, Slate, White and tracer combinations of base colors. * 100 Ft . Spool put-ups furnished in assoried colors.

## vinyl-cor hook-up wire



| Catalog Number | $\begin{gathered} \hline \text { AWG } \\ \text { Size } \end{gathered}$ | $\begin{gathered} \text { Number } \\ \text { of Strands } \end{gathered}$ | Nominal Outside Diameter Inches | Voltage Break-Down Nominal Volts | Available Standard Put-Ups | Standard Shipping Package | Approx. Weight Lbs./M Ft. | List Price Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1307 | 18 | 16/30 | . 108 | 22,000 | $\left\{\begin{array}{l}100 \\ 1000 \\ \hline 100 \\ \text { Spool }\end{array}\right.$ | $10$ | 11 | 28.10 23.00 |
| 1308 | 20 | 10/30 | . 097 | 22.000 | $\left\{\begin{array}{l}100 \\ 1000 \\ 100 \\ \text { Spool } \\ \text { Spool }\end{array}\right.$ | $\left.\begin{array}{c}10 \\ 1\end{array}\right\}$ | 10 | 21.75 18.60 18.75 |
| 1309 | 22 | 7/30 | . 092 | 22,000 | $\left\{\begin{array}{l}100 \\ 1000 \\ \text { ' Spool } \\ \text { Spoil }\end{array}\right.$ | 10 1 | 9 | 19.75 16.60 |
| 1301 | 18 | Solid | . 105 | 22.000 | $\left\{\begin{array}{l}\text { 100' Spool } \\ 1000 \\ \text { Spool }\end{array}\right.$ | $\left.\begin{array}{c}10 \\ 1\end{array}\right\}$ | 11 | 24.25 21.10 |
| 1302 | 20 | Solid | . 094 | 22.000 | $\left\{\begin{array}{l}100 \\ 1000 \\ \\ 100 \\ \text { Spool }\end{array}\right.$ | 10 if | 10 | 19.50 16.30 |
| 1303 | 22 | Solid | . 089 | 22,000 | $\left\{\begin{array}{l}100 \\ 1000 \\ \text { Spool }\end{array}\right.$ | $\left.\begin{array}{c}10 \\ 1\end{array}\right\}$ | 9 | 16.60 13.50 |

STANDARD COLORS:-Black, Red, Green, Yellow, Brown. Tan, Blue. Orange and White. -100 Fl . Spool put-ups furnished in assorted colors.
flexible and portable cords


| Catalog Number | AWG <br> Size | Ul | Number of Strands | Insulation Cond. In. | Thickness Jacket In. | Nominal Outside Diameter Inch | Current Carrying Capacity Amp. | Standard Put-Up | Standard Shipping Pkg | Approx. Wght. Lbs./M Ft. | List Price Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3000 | 18/2 | SP-1 | 41/34 | $2 / 64$ | - | . $220 \times 225$ | 7 | 2501 Spool | 4 Spools | 22 | 31.25 |
| 3001 | 18/2 | SP-2 | 41/34 | 3/64 | - | . $150 \times 285$ | 7 | 250' Spool | 4 Spools | 36 | 45.60 |
| 3003 | 16/2 | SP-2 | 65/34 | 3/64 | - | . $170 \times 320$ | 10 | 250' Spool | 4 Spools | 50 | 63.75 |
| 3010 | 18/2 | SPT-1 | 41/34 | 2/64 | - | . $120 \times 225$ | 7 | ${ }^{250} 0^{\prime}$ Spool | 4 Spools | 23 | 27.50 |
| 3011 | 18/2 | SPT-2 | 41/34 | 3/64 | 二 | . $150 \times 285$ | 7 | 250' Spool | 4 Spools | 33 | 43.10 |
| 3012 | 16/2 | SPT. 2 | 65/34 | 3/64 |  | . $170 \times 320$ | 10 | 250' Spool | 4 Spools | 45 | 63.75 |
| 3100 | $18 / 2$ | $5 V$ | 41/34 | 1/64 | 2/64 | . 250 | 7 | 250' Spool | 4 Spools | 42 | 62.50 |
| 3200 | 18/2 | SJ | 41/34 | 2/64 | $2 / 64$ | . 305 | 7 | 250' Spool | 4 Spools | 54 | 70.00 |
| 3201 | 18/3 | SJ | 41/34 | $2 / 64$ | 2/64 | . 345 | 7 | 250' Spool | 4 Spools | 73 | 103.50 |
| 3202 | 18/4 | SJ | 41/34 | 2/64 | 2/64 | . 360 | 5.6 | 250. Spool | 1 Spool | 96 | 150.40 |
| 3300 | 18/2 | SJ | 16/30 | 2/64 | 2/64 | . 305 | 7 | 250' Spool | 4 Spools | 54 | 65.00 |
| 3301 | 18/3 | SJ | 16/30 | $2 / 64$ | 2/64 | . 345 | 7 | 250' Spool | 4 Spools | 73 | 97.40 |
| 5020 | 18/2 | HPD | 41/34 | $2 / 64$ |  | . 274 | 10 | 250' Spool | 4 Spools | 32 | 62.50 75.00 |
| 5070 | $16 / 2$ | HPD | 65/34 | 2/64 | - | 301 | 15 | 250' Spoot | 4 Spools | 42 | 75.00 |

Note: Alt Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.

## Roricter Radio \& TV Wire Products

## replacement and extension cord sets



| Cataleg <br> Number | Lengeth | Standard Put-Up | Stand ard Shipping Pkg. | Wght. Standard Shippint Pkg. | List Price Por M Cords | Catalog Number | Length | Standard Put.Up | Stanciard Shipping Pkg. | Woht. Standard Shipping Pkg. | List Price Pel M Cords |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3185 | 6 Feet | 100 | 100 | 19 | 565.00 | 3580 | 6 Feet | 100 | 100 | 24 | 825.00 |
| 3189 | 9 Feet | 100 | 100 | 25 | 670.00 | 3581 | 9 Feet | 00 | 100 | 32 | 937.50 |
| 3500 | 6 Feet ${ }^{\text {¢ }}$ | 100 | 100 | 18 | 345.00 | 3582 | 12 Feet | 100 | 100 | 38 | 1,037.50 |
| 3501 | 10 Feet | 100 | 100 | 26 | 480.00 | 5520 | 7 Feet | 100 | 100 | 30 | 1,070.00 |
| 3509 | 6 Feet | 100 | 100 | 28 | 665.00 | 3543 | 15 Feet | 1 | 20 | 23 | 1,775.00 |
| 3510 | 10 Feet | 50 | 50 | 23 | 952.50 | 3544 | 25 Feet | 1 | 20 | 33 | 2,787.50 |
| 3519 | 6 Feet | 50 | 50 | 19 | 680.00 | ${ }^{3190}{ }^{1}$ | 6 Feet | 100 | 100 | 19 | 565.00 |
| 3520 | 10 Feet | 50 | 50 | 28 | 977.50 | $3191 *$ | 9 Feet | 100 | 100 | 25 | 670.00 |

## phonograph pick-up arm cable

This cable is designed specifically for use as phonograph pick.up arm cable. The conductor, being stranded from \#36 AWG wire, is very
 ilexible. The overal

| $\begin{aligned} & \text { Cataloy } \\ & \text { Number } \end{aligned}$ | $\begin{aligned} & \text { AWG } \\ & \text { Size } \\ & \hline \end{aligned}$ | Number of Strands | Thick. Conductor Insulation Inch |  | Nom. Outside Diameter Inch | Outer <br> Braid | Standard Put-Up | Standard Shipping Packane | Approx. Woht Lus. MFI. | List Price Per M Ft. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1250 | 24/1 | $16 / 36$ $16 / 36$ | .015 .015 | $\pm 36$ $\# 36$ | 095 080 | Orerall None | 100 100. Spool Spool | 4 Spools 4 Spools | 6 | 38.75 31.25 |

## high voltage and cathode-ray tube lead wire

This cable is designed for high voltage applications such as leads to cathoderay tubes intelevision receivers and oscilloscopes. It has a high dielectric strength, corona resistance, and minimum surface leakage.

| Catalog Number | $\begin{aligned} & \hline \text { AWG } \\ & \text { Size } \\ & \hline \end{aligned}$ | $\begin{gathered} \text { Number } \\ \text { of Strands } \end{gathered}$ | Nominal Outside Diameter Inch | Suggested Voltage Rating | Color Outer Braid Braid | $\begin{gathered} \text { Available } \\ \text { Standard Put-Ups } \end{gathered}$ | Standard Shipping Package | Approx. Wght. Lts./M Ft. | List Price Per MFE. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1248 | 20/1 | 10/30 | . 136 | 10,000 | Red with 2 White | $\left\{\begin{array}{l} 100 \\ 1000 \\ \text { Spool } \end{array}\right.$ | $\begin{aligned} & 4 \text { Spools } \\ & 1 \text { Spool } \end{aligned}$ | 14 | $\begin{aligned} & 57.50 \\ & 53.75 \\ & \hline \end{aligned}$ |
| 1249 | 20/1 | 10/30 | . 198 | 20,000 | Tracers Solid Red | $\left\{\begin{array}{c} 100^{\circ} \text { Spool } \\ 1000^{\prime} \text { Spool } \end{array}\right.$ | $\begin{aligned} & 4 \text { Spools } \\ & 1 \text { Spool } \end{aligned}$ | 24 | $\begin{aligned} & 77.50 \\ & 72.50 \\ & \hline \end{aligned}$ |

Note: All Cornish Wire and Cable is available in put-ups other than those listed, ask for current price schedule.


WIRE \& CABLE CORPORATION
136 SAN FERNANDO ROAD, LOS ANGELES - PHONE CApitol 1-2171

## "JAN-spec" WIRES

WIRES TO GOVERNMENT SPECIFICATION
ARMY • NAVY • AIR FORCE JAN-C-76 - MIL - ANJ-C-48A

## TYPE SRIR HOOK-UP WIRE

Canstructian: Tinned copper-stranded or solid. Nominal insulation thickness, . $015^{\prime \prime}$ Thermoplastic. Rating 1000 VOLTS (working). Temperatures -40 C to +60 C .
Sizes: 28 to 6. Colors: all NEMA standard colors. Tracers on solid colors also available. Catalog No. 100.

## TYPE SRIR GLASS BRAID

Construction: Tinned copper with thermoplastic insulation and braided glass and flame resisting lacquer finish over all. Temperature rating, -40 C to +60 C .
Sizes: 28 to 6. All standard NEMA color coding and also available with tracers on solid colors. Catalog No. 101.

## TYPE WL - NYLON - HOOK-UP WIRE



Construction: Tinned copper stranded or solid. Nominal insulation thickness . $010^{\prime \prime}$ Thermoplastic with . 005" extruded nylan. Rating 600 VOLTS (warking). Temperature rating -40C $10+60 C$.
Sizes: 28 to 6. Colors: bright standard NEMA colors, also tracers an solid calors. Catalog No. 102.

## TYPE SRHV HOOK-UP WIRE

Construction: Tinned copper, stranded or solid. Nominal insulation . 031 " Thermoplastic. Rating 2500 VOLTS (working). Temperature rating, -40 C to +60 C .
Sizes: 28 to 6. Colors: all slandard NEMA colors, also available tracers on solid colors. Catalag No. 103.

|  | TYPE MIL-W-16878-A |
| :---: | :---: |
|  | Construction: Tinned copper, stranded. Nominal insulation Thermoplastic, with or without nylon jacket. Types 8 and $C$. Temperature rating -54 C to +105 C . |
|  | Sizes and Colors: all sizes and standard NEMA colors. Catalog No. 120. |

## TYPE SRRF HOOK-UP WIRE R. F. INSULATED

Construction: Tinned copper stranded, polyethylene insulated with or without glass braid. Rating 1000 VOLTS (working).

Sizes: 24 to 6. Colors: all NEMA standard colors. For use in radio frequency circuils. Catalog No. 105.

## hational - largest electronigs ano aircraft wire and cable inventory west of chicago!

## AIRCRAFT WIRE

## TYPE ANJC - 48-A - Aircraft power and lighting cable

Canstructian: Flexible tinned copper, vinyl insulction with cotton braid with fungicidal treatment. Flame resisting lacquer finish. Low Tension: 800 VOLTS (working).

## 

Sizes: 22 to 4/0. Colors: White.
Cotolog No. 200.

## TYPE AN-C-168

Canstruction: Flexible tinned copper, vinyl insulation with cotton braid with fungicidol treotment. Flome resisting locquer finish. Tinned copper broid shield. Low Tension: 600 VOLTS (working).


Sizes: 22 to 4/0. Colors: White.
Cotalog No. 201.

## TYPE MIL-W 5086 \& MIL-W 5274 A AIRCRAFT,

 power and lighting cables. TYPE 1Construction: Tinned copper stranded, synthetic resin insulation with nylon jocket. Roting 600 VOLTS (working).


Sizes: all standard gauges. Color: White.
Catalag No. 202.

## TYPE MIL-C-7078

Construction: Tinned copper stranded, synthetic resin insulation with nylan jacket and tinned copper shield, Rating 600 VOLTS (warking).


Sizes: all standard gauges. Color: White.
Catolog No. 203.

## TYPE 2

Construction: Tinned copper stranded, synthetic resin insulation plus glass braid, plus synthetic insulation with overall nylon jacket. Rating 600 VOITS (working).


Sizes: all standard gauges. Colars: White.
Catalag No. 204.

## TYPE MIL-C-7078

Canstruction: Tinned copper stranded, synthetic resin insulation plus glass braid, plus synthetic insulation with overall nylon jacket and tinned capper shield. Rating 600 VOLTS (working). Sizes: all standard gauges. Colors: White.
Catalog No. 205.

## national - Largest electronics and aircraft wire and cable inventory west of chicagot



WIRE \& CABLE CORPORATION
136 SAN FERNANDO ROAD, LOS ANGELES - PHONE CAPitol 1-2171

## microphone cable and intercom cable


PLASTIC JACKETED MICROPHONE CABLE - fwo conductor
Construction: General purpose, low loss, poly insulated, tinned copper shield. Stranded,
twisted two conductor with filler. Nominal capacitance per foot between conductors 18 mmf .
Size: Outside diameter $.225^{\prime \prime}$.
Catalog No. $601 / 2$.

## RUBBER JACKETED MICROPHONE CABLE



Construction: Extra flexible stranded tinned copper conductors, cotton serve between conductor and insulation and between shield and outer jacket. Braided tinned copper shield, covered with tough rubber outer jacket. For use indoor and outdoor.

Sizes: 20 gauge stranded tinned copper, available from one conductor to eight conductors. Catalog No. 603/1-8.


## SHIELDED AUDIO TRANSMISSION LINE



Construction: Solid two conductor thermoplastic insulated twisted pair, color coded with braided shield with thermoplastic jacket overall.
Catalog No. 604.


INTERCOM CABLE


Construction: Twisted pairs, one to fifty-one pairs, twenty-two gauge solid copper, thermoplastic insulation, overall thermoplastic jacket or overall treated cotton braid.
Catalog No. 605.


## mational - Largest elegtronigs and airgraft wire amd cable inyentory west of chigago:

IMMEDIATE DELIVERY FROM WAREHOUSE STOCKS


Sizes 24 thru $3 / 8$ on spools completely enclosed in plastic wrapping. Sizes $7 / 16^{\prime \prime}$ thru $21 / 2^{\prime \prime}$ in coils. GP--general purpose Insulite qualified under spec. MIL-i-631B, Type F, form U, Grade A, Classes 1 and II, Categories 1 and 2.

## ABOUT INSULITE

Insulite, commercial and specification grade Vinyl tubing is manufactured from only the highest quality materials. Extreme care in preparing the compound formulations assures product uniformity. The most modern of plants, complete with compounding facilities and controlled extrusion techniques, together with modern inspection equipment, provides rigid physical and visual inspection on each length of lubing, assuring a finished product fully guaranteed against defective workmanship and materials. A product development laboratory is engaged in constant research to provide you with the finest in tubing.

PHYSICAL PROPERTIES

| Property | MIL-1-7444 | MIL-I-631A |
| :---: | :---: | :---: |
| Secific Gravity | 1.21 | 1.23 |
| Tensile Strength | 2800 PSI | 2700 PSI |
| Ultimate Elongation | 350\% | 340\% |
| Water Absorption* | 0.2\% | $\square$ |
| Cold Bend | $-55^{\circ} \mathrm{C}$ | $-30^{\circ} \mathrm{C}$ |
| Dielectric Strength (. 025 wall) | 875 V.P.M. | 1032 V.P.M. |
| Flame Resistance | * | * * |
| Approx. Durometer <br> Hardness (Shore "A") | 66 | 86 |

*Weight increase after 24 hours at $77^{\circ} \mathrm{F}$.

* Self-Extinguishing


## IMMEDIATE DELIVERY

## AT STANDARD MILL PRICES

LARGEST ELECTRONICS AND AIRCRAFT WIRE AND CABLE INVENTORY WEST OF CHICAGO!

## NATIONAL OPENLINE



Packaged 1000 feet to the box on two 500 foot no charge reels.
Price per $M$ feet $\$ 67.50$ net.

## NATIONAL TV LEAD-IN OPENLINE

470 ohm—one inch spacing; 350 ohm—one-half inch spacing . . . either solid copper or Copperweld . . . all formvar coated, supplied one 250 foot no charge reels $\$ 27.50$ per $\mathbf{M}$ feet . . . supplied on 100 foot and 75 foot reels ladd $10 \%$ per $M$ feet) . . . supplied on 60 foot and 50 foot reels ladd $20 \%$ per $M$ feet).

AII NATIONAL OPENLINE is $100 \%$ guaranteed . . . no missing spacers . . . no loose spacers . . . every foot inspected to insure high quality and maximum performance.



## PROVED DEPENDABILITY



Copperweld Ground Rods and Clamps provide the reliable grounding protection necessary for successful performance, elimination of interference and safe operation of radio and television equipment. The rugged steel core gives the stifness you need for easy driving. High conductance and lasting protection against corrosion are provided by the heavy molten-welded copper covering.
Millions of Copperweld Ground Rods are rendering permanent grounding protection. You're SAFE when you use Copperweld - the only Molten-Welded Ground Rods. They give you PROVED dependability - PROVED economy - PROVED longer servico.

SPECIFICATIONS

| CONVENIENT | Cotalog Number | Size | $\begin{gathered} \text { Pounds } \\ \text { Per } 100 \text { Pcs. } \end{gathered}$ | Pcs. Per Package |
| :---: | :---: | :---: | :---: | :---: |
|  | *RT 24P | . $258^{\prime \prime} \times 4^{\prime}$ | 92 | 50 |
| $\bigcirc$ | RT 34 | $3 / 8{ }^{\prime \prime} \times 4^{\prime}$ | 142 | 25 |
|  | RT 36 | $3 / 8^{\prime \prime} \times 6^{\prime}$ | 212 | 25 |
|  | RT 38 | $3 / 8{ }^{\prime \prime} \times 8^{\prime}$ | 277 | 20 |
| the heavy fiber tube. This creates | RT 45 | $1 / 2^{\prime \prime} \times 5^{\prime}$ | 320 | 10 |
| a bin for the rods and a convenient container for the clamps. | RT 46 | $1 / 2^{\prime \prime} \times 6{ }^{\prime}$ | 385 | 10 |
|  | RT 48 | $1 / 2^{\prime \prime} \times 8^{\prime}$ | 505 | 10 |


"Copperweld Radio and Television Economy Ground Rods With Copperweld Annealed 60" Pigtail (No Clamp Needed).


## COPPERWELD GUY STRAND

Ideal for guying radio and television antenna masts and towers. It provides greater safety, permanent high strength and rust proof construction for the life of the antenna. Furnished in 2 sizes, 3 No. 18 (breaking strength 550 Lbs.) available in 100', 200', 500' and $1,000^{\prime}$ coil lengths; and 3 No. 14 (breaking strength 1,000 Lbs.) put up in $250^{\circ}$ and $500^{\circ}$ coil lengths. Mast popular size is 3 No. 18 put up in $500^{\prime}$ lengths in an octagon-shaped box, which is illustrated.


## COPPERWELD ANTENNA WIRE

Preferred for many years by professionals and amateurs. Because of its high strength, it maintains a fixed length. Furnished bare in 4 sizes. No. 10 Awg. No. 12 Awg, and No. 14 Awg are available in $100^{\prime}, 150^{\circ}, 250^{\prime}, 500^{\prime}$ and $1,000^{\prime}$ coil lengths. No. 14 is also coiled in 2,500' lengths. Size No. 18 Awg is put up in 3,000.ft. spools. Sizes 10,12 and 14 are also made with Polyvinyl. chloride (PVC) Insulation.

## COPPERWELD GROUNDING WIRE

Used to connect antenna mast to ground rod. Annealed for easy handling. Available in two sizes, No. 8 Awg and No. 10 Awg. Coils are furnished in various lengths ranging from 50 to 500 ft .

Copperweld is also used for television twin-lead wire, coaxial cable, resistor and condenser pigtails, radio fube parts and various allied components manufactured and sold by other companies.
Additional information available upon request.

## COPPERWELD STEEL COMPANY



SINGLE BAY MODEL ALSO AVAILABLE
MODEL TV－ 355
For the＇intermediate areas＇or in between fringe and primary areas The single bay unit gives outstanding performance．Individual shipping weight： 7 lbs．

## FOR THE HARD TO REACH AREAS IT＇S THE 4 BAY INVADER

（2 Bays of Model TVS－ 356 with Stacking Harness）Proved reliable reception up to 200 miles in the deep fringe．No bulkier than other super fringe antennas and less mast is required．
Stacking Kit for 4 bay model is Model TV．357．Shipping weight： 4 lbs．

## NEW SNAP LOCK DESIGN

with positive locking action that improves with age． All aluminum－completely pre－assembled－cuts in－ stallation time and costs．
The powerful WARD INVADER is designed for the high gain，flat response needed for good black and white and Color reception．Gain variation across any VHF channel less than I db ．
High front to rear ratio to eliminate ghosts and co－ channel interference．Close stacking（29＇）makes the Invader a neat compact installation and is particularly adapted for a rotator．
The Invader is designed to bring in reliable TV reception to areas otherwise inaccessible．
Standard package is TVS－356（2 single bays with stack－ ing harness）．
Shipping weight： 13 lbs．
Model TVS－356
（



## WARD＇S TROMBONE VHF．UHF Designed for high gain on all channels－UHF and VHF．8－elements properly spaced and streamline in design．Engineered for sharp di－

 rectivity， 300 ohm impedance match and low VSWR．Completely preassembled．Model TV－132－Single Bay ．．．individually packed ．．．shipping weight $53 / 4$ lbs．ea．．．． 6 units standard quantity．
Model TVS－142－Double Bay ．．．individually packed ．．．shipping weight II lbs．ea．．． 3 units standard quantity．
Model TV－132
Pat．No． 2538915.

## WARD＇S UHF CORNER REFLECTOR

A new UHF antenna designed for weather resistant service．Fan dipole rigidly mounted to prevent antenna flutter．Uses air gap as insulation to prevent icing， and short circuiting－a rigid rear mast mount．A new fold－up design all aluminum construction to prevent rusting and giving lasting performance．

Litlle Chief Model TV－260．
Model TV－260－Individually packed ．．． 6 units standard quantity ．．．shipping weight $31 / 4 \mathrm{lbs}$ ．ea．


Pat．No． 2538915


## AUTO AERIALS

# Featuring Revolutionary NEW Dura－ramics made of Durable，corrosion proof Fiberglass 

DURA－RAMIC

FIBERGLAS＊aerials made of the same miracle material that has revolutionized fishing rods and is being widely used in the new experimental automobile bodies．Made from millions of fibers of glass，woven together and impregnated with resin under terrific pressures，the FIBERGLAS completely protects the imbedded electronic wires from all bad effects of weather．Will bend almost double without damage．Thoroughly tested under the most rugged field conditions，Dura－ramic aerials have been proved electronically satisfactory by famous electronic testing organizations．Available in 6 colors to match or contrast car colorings．Available in yellow，brown，red，green， blue and white．

Model TGF－1＿Front Mount－Master of 6 － 6 lbs ．
Model TGR－1－Rear Mount－Master of 6 － 9 lbs ．


## PA－1 ASSORTMENT PACKAGE

Holds 12 TSF－I（Front Mount）Aerials 2 each of the 6 colors Ind．packed in a master carton Shipping $W+12$ lbs．

## PA－2 ASSORTMENT PACKAGE

Holds 12 TGR－1（Rear Mount）Aerials 2 each of the 6 colors Ind．packed in a master carton Shipping $W$ t． $17 \mathrm{~s} / 8 \mathrm{lbs}$ ．

## PA－3 ASSORTMENT PACKAGE

Holds 6 TGF．I（Front Mount）Aerials 1 each of the 6 colors Ind．packed in a master carton Shipping Wt． 6 lbs．

## PA－4 ASSORTMENT PACKAGE

Holds 6 TGR－I（Rear Mount）Aerials 1 each of the 6 colors Ind．packed in a master carton Shipping $W 4.81 / 2 \mathrm{lbs}$ ．

## DURA－RAMIC SELF SELLING DISPLAY

Dura－ramic aerials are available in handsome display cartons which tell the whole Dura－ramic story and show an assortment of the six complementary Dura－ramic colors．The package WDD－4 is a salesman you add to your staff．Enclosed with each Display is a colorful Window Streamer．

WDD－4 Display Box of $6\left(1\right.$ each color）．Shipping wt． $6 \frac{1}{4}$ lbs．
＊TM－Reg．OCF－Corp．

## EACH WARD AERIAL MODEL COMPLETE WITH A WARD ELEKTRAN LEAD CABLE

Made of the finest insulating materials－Polyethylene，wire shield braid， oil and abrasion－proof vinylite．WARD＇S exclusive lead connector fitting provides an easy coaxial fonnection， $100 \%$ shielded．Bayonet adapter for pin plug included so lead will fit every car radio．


## LEAD EXTENSIONS

Provides additional lead length required for fender installation．Covered by one or more of the following Patent Numbers：104968， 119160. 2152316，2251889，2252671，2269947， 2366634.

Model C－8－（ $12^{\prime \prime}$ ） 24 Model C－4）－（ $9^{\prime}$ with Per Box， $11 / 2$ lbs．
Model C－9－（18＇） 24
Per Box， $21 / 2 \mathrm{lbs}$ ．
Model C－12－（24＇） 24 Per Box， 3 lbs． capacitor） 12 Per Box． 6 lbs．
Model C－42－（15＇ with capacitor） 12 Per Box， $83 / 4$ lbs．

# 四 <br> $\square$B 

## AUTO AERIALS CHROME MODELS

World Famous WARD Exclusive Patented

## EIGHT－BALL <br> Non－Disappearing

TOP COWL OR FENDER MOUNTS

Completely installed from the outside in 5 minutes ．．．at any desired angle．Fits any car． Rugged construction．Completely rattle－proof． Smart appearance．The universal，most popular auto aerial．
Three sections：adjustable from $56^{\prime \prime}$ to $22^{\prime \prime}$ ． $36^{\prime \prime}$ Elektran Cable．

Model TCF－3B－Individually packed， 12 to master carton， 12 lbs ．Individual weight I lb ．

Model TCF－3C－Same as Model TCF－3B with $54^{\prime \prime}$ lead．


MAJORETTE

A new，top－quality aerial priced to meet the keenest competition． 3 Sections extend to 56＇．Triple chromed on brass．Ward＇s exclusive 8－Ball top cowl or fender mount． Genuine Elektran lead cable．Quickly and easily installed from outside．
Individually packed 12 to master carton－ 121／4 lbs．

Model TA－3－36＂lead
Model TB－3－54＂lead

## SIDE COWL MOUNTS

Two stanchions for sturdy installation．Smartly designed in－ sulators with chrome caps．Conversion kit for torpedo bodies included．
LONG RANGER
Special sensitivity for low signal strength areas．Two stanchion，triple chrome plated，rattle－proof．

Four sections，extends to $100^{\prime \prime}$
Model 5C－8 36＂Elektran Cable
EZ－on installation
Individually packed， 12 to a master carton， 21 lbs．Indi－ vidual weight，I lb． 10 oz．
SKY QUEEN
Smartly styled for side mounting．Rugged construction． Finest quality heavy duty brass tubing，with corrosion－fres triple chrome plate．Rattle－proof．

Three sections，extends to $66^{\prime \prime}$
Model SC－6 36＂Elektran Cable
EZ－on installation
Individually packed 12 to a master car－ ton， $123 / 4$ lbs．Indi－ vidual weight．I lb．


## «世世 JOBBER DISPLAY RACK

Here＇s the modern way to store，as well as display，the Ward Auto Aerial line．This beautiful permanent black wrought iron and expanded metal rack with yellow，white and black trimmings will attract every eye ．．．and will sell more aerials for you．
Model WJD－1－Contains 24 TCF－3B and 12 TCF－3C assort－ ment．Shipping weight 53 lbs．
Model WJD－2－Contains 36 TCF－3C assortment．
Model WJD．3－Contains 36 TCF－3B assortment．
DEALER DISPLAY RACK $\rightarrow$
Colorful and compact in black wrought iron with yellow， white and black sign．Ward＇s new permanent display rack will＂dress－up＂any show room．For practical＂see－it＂demon－ strations，an aerial can be mounted on the side of the rack． Model WDD－1－Contains 3 TCF－3B and 3 TCF．3C assort． ment．
Model WDD－2－Contains 6 TCF－3C assortment．
Model WDD－3－Contains 6 TCF－3B assortment． Shipping weight 9 lbs．



## BUILT FOR RIGOROUS SERVICE

## UNIVERSAL SWIVEL MOUNTS

Antennas built for the hardest mobile use. Separate components may be combined to meet any requirements. These rear-mounting Transmitting Antennas are designed for the $\mathbf{2 5 - 4 5} \mathrm{mc}$. services. Base mounts in such a way as to allow the whip rod to be held vertically regardless of contour of vehicle body.
$\leftarrow$ WCA-3B SINGLE ROD

Special Alloy Whip Rod of maximum resilience and durability. $84^{" ~ S i n g l e ~ r o d ~ f o r ~}$ use in the range of $\mathbf{3 0}$ to 45 mcs . NonCorroding, stainless steel tapared for proper stress distribution. Base Adapter threaded $3 / 8-24$ to permit mounting on WCA-3 Base or WCA-3A Spring.

Individually packed. Approx. wt. $11 / 2 \mathrm{lbs}$.

## SWIVEL BASE

Swivel base for mounting at any desired point. Half balls of cast aluminum tapped $3 / 8-24$ to accept whip rods and shock springs. Insulator of black bakelite - rubber gaskets - steel backup plate. All screws are Allen Head type with wrenches supplied.
Individually packed. Approx, wt.: 1 lb .10 oz.


WCA-3

## SHOCK MOUNTING SPRING $\rightarrow$

This sturdy spring is used to lessen damage to the whip rod. A flexible lead through the center of the spring maintains constant electrical impedance through the spring assembly. $3 / 8-24$ stud on one end - $3 / 8 \cdot 24$ tapped hole on opposite end - approximately $6^{\prime \prime}$ in height made of oil tempered wire.
Individually packed. Approx. weight: $21 / 2 \mathrm{lbs}$.


WCA-3A


## ROOFTOPANTENNA <br> 

This model is designed for taxicabs, police services, and others using the 140 to 165 Megacycles frequencies. Installed entirely from the outside of vehicle - 12 ft . length of RG-58/U coaxial cable attached permanently to antenna. Whip rod is replaceable.
Individually packed. Approximate weight: I lb. MODEL WCA. 18

## Write or See Your Distributor for Catalog. <br> WARD PRODUCTS CORPORATION DIVISION OF THE GABRIEL COMPANY

## pico Manufacturers of the WORLD'S FINEST TV ANTENNAS

## UHF-VHF-FM-COLOR



$$
\text { Indoor }_{\substack{\text { MODEL TV-8 }}}
$$

Only SPICO can make this UNCONDITIONAL GUARANTEE

- UNBREAKABLE
- RUSTPROOF
- TILTPROOF

Sturdy appearance, handsome construction. Rust-proof Admiralty brass tubing as-
sures clean contacts and insures full signal strength.

## LIST PRICE $\$ 6.9 \mathrm{~S}$

Net Priced Competitively for Volume Sales
TV-8A (in aluminuml Avaitable at Even Lower Cost

Jhe

## "SUPER SIX"

FEATURING

## SELECTRONIC TUNING

## Tunes Out Ghosts and Fuzz "SUPER SIX" EXCLUSIVES

TUNABLE IMPEDANCE MATCHING INDUCTOR - tunes to match exact input impedance of any TV set, making it custombuilt for that set! Eliminates or reduces ghosts, fuzz and snow. SELECTRONIC TUNING - tunable impedance matching inductor is housed in handsome plastic shield with easy-to-read figures. Simply move slide pointer for best reception for each TV station and note exact number on calibrated scale.
ADJUSTA KNOB - guarantees micro-fine tuning with amazing finger-tip control, resulting in clearer, sharper pictures. Eliminates excessive manipulation of telescopic dipoles.

## THE 'SUPER.SIX'" FEATURES

Nickel plated, rust proof, admiralty brass tubing to assure permanent, clean contacts between telescopic sections and insures full signal-strength. Spico's lightweight rods prevent top heaviness, and the gleaming molded bakelite over weighted metal base prevents tilting. Flock padded to prevent scratching.

List Price $\$ 9.95$
U.S. PAT. No. 2,608,657

A CONSISTENT BARRAGE OF CONSUMER ADVERTISING FROM COAST TO COAST GUARANTEES STEADY SALES AND ASSURES FAST TURNOVER.

Only SPICO can moke this
UNCONDITIONAL GUARANTEE

- UNBREAKABLE
- RUSTPROOF
- TILTPROOF

Automotically positions ontenna by turning directionol switch to letter on alphabetical dial that gives best reception. Handsomely constructed base of crackle finished, non-breakable metal with light weight admiralty brass rods,

LIST PRICE \$9.95
Net Priced Competitively for Volume Soles


Sold Only Through SPICO Authorized Distributors
SPIRLING PRODUCTS CO., Inc. . Hicksville, L. I., New York

## Manufacturers of the WORLD'S FINEST TV ANTENNAS

## The E-Z-BEE "Do It Yourself ANTENNA KIT VHF-COLOR with "QUICK RIG" "B" CONSTRUCTION



EASILY STACKED (Matching Bors Available)

OUICK RIG for per manent installation within minutes. Pre assembled, fold away, individually boxed


Potent Pendinc
The Only ALL CHANNEL VHF Jutdoor Antenna with ALL these features:

- Unique "B" construction
- Forward resonator section
- Mid-band parasitic resonator
- Narrow beam width eliminates inferference and ghosts
- High gain throughout all channels
- All aluminum, eliminates electrolytic ation
- Quick-rig, pre-assembled foldaway for E-Z instalJation
- Non-corrosive construction
- May be stacked in any number of bays
- Elements securely held and positioned
- Uni-directional
- High front-to-back ratio
- Two point anchorage secures all elemerts to withstand severe storms

Designed for Highest Gain in Flinge Areas The SPICO E-Z-BEE outdoor antenna has proven itself under rigorous testing conditions. It will outlast all others.
Opens easily as an umbrella - practically no tools needed.

## SEAMLESS TUBING All Aluminum Construction

 list price $\mathbf{\$ 1 6 . 9 5}$ for complete kit

1 E-Z-BEE (Model 904) antenna
3 31/2 ft. length galvanized mosts (1 $1 / 4^{\prime \prime}$ dia.) tapered for easy joining
2 wall brackets
2 mast clamps
2 U clamps for mast
5 wood sirew stand-offs 2 mast stand-offs
75 feet of 300 ohm wire
SPICO, the industry's fastest selling TV antenna line, makes the "E-Z-BEE" another money maker for you. Unique " $B$ " construction eliminates stacking of extra bays in most locations . . . permanent installation in minutes. Weatherproof to withstand all conditions. Customers' satisfaction guaranteed. Backed by a barrage of national advertising to create constant demand.

Sold Only Through SPICO Authorized Distributors
SPIRLING PRODUCTS CO., Inc. - Hicksville, L. I., New York


Hurt is the outstambing new auto atrial that lise versthing. Full 30 derree mast adjustment so that it fits all body amd fender contom's. And the new installation drign makes it a shapmy 1 , ? , 3 assembls withomiters looking under the fender.

MODEL B BD HI•BALL

- Fast installation . . 5 minutes
- 30 degree mast adjustment fits all body and fender contours
- "18.8" Stainless steel rod
- Fits any car radio, bayonet lead-in adaptor included

I faworite with dealers whil servies-men evers. Where. Fast assembliy. and outstanding per-
formany make it a treat value.
Also Model \&BDL with $48^{\prime \prime}$ leadi-in

TWO INSULATOR SIDE MOUNT TYPES Sturdy hisel puality construction throurhout. Brilliant claromed hrase mist: witle stahless steel rorls. Windse tyive :udaptor furnishet. with $30^{\prime \prime}$ jolyethylene lemb-in.
MODEL 2S, $43^{\prime \prime}$ extended, $\because$ sections. 10 per mastev carton, 9 potmend
MODEL 3S, $43^{\prime \prime}$ extended, as sertions. 10 pet master carton, $131 / 4$ pounels.
MODEL 4S, $92^{\prime \prime}$ extended, iz sections. 10 pet mester carton, 17 1/2 promds


## dISAPPEARING MOUNT

A hambeme adhlition to any car. Collapses t.. of inchers and extombs to bio inchers. Fits either sender or cowl and reatures the explusive "or" rines seal around the mast that provents wath from enterine insila the aerial. Only one for monting hole required.
MODEL 3D, 60" extempel. \& sixtions. " pommds each
10 per master carton wiohing 1! phunde

## BATRY POWER

Here is the ideal compact. efticient unit for testing and demonstrating auto radios. Smooth DC power. 6 or 12 volts. from the 110 volt 60 cycle $A C$ line

| Model | Output | Class |
| :--- | :---: | :---: |
| 110 B 6 | 6 A at 12 V or 10 A at 6 V | H |
| 110 B 12 | 10 A at 12 V or 20 A at 6 V | H |

## MODEL 8 BE SPEE-DEE



## SUPERIOR STANDARD

 MODEL 4BX2Twn surtion derim extencls
11) $43^{\prime \prime}$.

- iv antennas


# THE PAD/APTCORPORATION <br> CLEVELAND 2,OHIO 

## RADIART TV ANTENNAS

## VHF ANTENNAS

## the "ULTAMATIC"

TV Antenna UM 213

Perfectly synchronized for both monoclromatic and color TV. The best performing antenna on the market.
the true conical Model K-8
TV Antenna
Rugged and sturdy berond awy ordinary requirenent. arailable in single or double bays.

## the famous

SUPER-VEE
TV Antenna
Here is the only all channel antenna with sharp directivity on all channels.
the

## 10 YG YagI

A ten element yagi for any channel . . the best performing antenna of its ț̣pe.
the popular
Model V-8
TV Antenna
Here is the most economical 4 stacked antenna for all channel reception.

## combination

UHF and VHF

## TV Antenna

 UVS-6A uew antenna of conical derign for all channel reception, requires no network.

## the "LAZY X" <br> Conical <br> 

Unirormly good all channel reception. LZX. single, LZX-2, double stacked, LZX-4 with four hays.
the budget antenna Model S-6

Here is a conical antenna
the best budget conical to be had.

## UHF ANTENNAS

UW-2
UW-4 and UW-8

Three models, single, double or quadruple stacked designs for peak UHF reception.
indoor
UHF antenaas the UW-1-2 and UW-I-3

The same fine prin ciple adapted for indoor use.
the UC-I and UC-2
The new corner reflector type LHF antema.

## the UBT-I

An improved version of the "bowtie" antemna...for UHF TV reception.

## ACCESSORIES

## for FM reception

## 92 FM and 93 FM

Two superior quality antennas for truest high fidelity FM reception.

## AK-85 Chimney Mount

The famous "Spee-Dee" chimney mount. faster and sturdier.

## TA-5 Lightning Arrestor

Here is the midget that dces the work of a giant Many features of superiorits

> the original
> Model U-4

TV Antenna
Here is the original design . . often copied but never duplicated.

## the YAGI for UHF 6YGU

Here is a yagi type antenna for UHF reception... for all channels.

## Model UAK-4 Filter Network

Here s the most efficient network . . . not just a circuit. . . but an electronic device.

> the new
> VU-I
> TV Antenna
> Combination

For peak performance on all channels both UHF and
VHF.

## THEDAD/MDT CORPORATION

Cleveland 2,OHIO

## now... 3 models to chnose from


a type for every need ...

ALL $40 \%$ sharper
tuning than
any other
automatic rotor.

The complete, AUTOMATIC rotor with THRUST BEARING. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.

The complete, AUTOMATIC rotor. Handsome, modern design cabinet, uses 4 wire cable. Proven and tested by thousands and thousands of satisfied users, it has everything that could be asked for in a popular rotor.




TENN-A-LINER MODEL RCGA


## . The biggest profit making line in its field

CROWN ANTENNA ROTATORS . . . a proven, top performer with an exceptiontal record for consumer acceptame and satisfaction. Features Cruwns exclusise "weather-guard" design . . . over strength alamimam "atings . . . internal auto matic brake. . . smooth, constant and tepenhable performance under the mont alverse, weather and operating conditions. lun can install it, then forget it ... when it's a Crown.
CROWN TENN-A-LINER COMPASS INDICATING MODELS . . . two outstumding models to choose from. Both ferautifully styled to harmonize with the modern appointments of the home and telesision set. Featares of both modek in hude, casy-toread illaminated lial... combeniem onotf with ... fanger-tip control ... instant and dependable diectional indication. Nodet Rebis features Crown's ex-lusive smart three tone colar stoling in the fomes bahelite. Nodel ho ho is avalable in tich mahogany, see the new (rown Tenn-a-limera. . . the moot thathed about new models in the beld

## CROWN TWO-SET COUPLER . . . np"rates isu TV + - 1 - from the - - me anterm with

 induction ... not a printed circuit ... has hith-pachlter wiont . . . internat
 proof teated. Also retommendert for opratiog obe FW radio ami one $T$ set from the same antenna. It's an exoflent itcm for thome extra "over the counter" sales.
CROWN ROLLER BEARING GUY RING . . . quet ially de-signed lo jermit smonth,
free rotation on FM and TV masta without loowening or frostting the fuy wires
Bade of high quality cast aluminum. ... equipped with roller bearing-. . and protected by (rowns exclacive, tronblefore. "weather mard" desimm. Avaibable for masts up to $13 / 1$ "O.I).

Write for liferafure and additional information on Crown's complete line, today!

## 

Canadian Subsidiary Crown Controls Mfg. Lid. Export Division, 15 Moore St., New York, N. Y., Cable-"Minthorne"

## corivinht (c) DU:Thमझ:

CAPACITORS - ROTATORS - VIBRATORS - AUTO, TV \& FM ANTENNAS - CONVERTORS

## C.D.R ROTORS

The Ultimate in
Completely Automatic Rotors

40\% Sharper Tuning than any other automatic rotor

Mechanical Brake is Released Magnetically
Quick Mounting Antenna Mast Collet
Speedy Installation . . . no loose parts to ossemble

Modern Design Offers Minimum Wind Resistonce
Takes Antenno Mosts up to $1 \frac{1}{2 \prime \prime}$ O.D.-self-centering sawtooth clamps

High Sirength with Low Weight
Fits Standord Towers
Completely Weother Sealed . . . Factory Lubricated

## THE NEW <br> Automatic CDR <br> Rotors

MODEL AR-I AUTOMATIC rotor with hondsome MODERN design plostic cobinet. uses 4 wire cable. List Price .................... $\$ 44.95$ MODEL AR-2 . . . some as AR-1 but with thrust bearing. List Price $\$ 47.95$


TR-2 rar, camplete with "Cam pass Cantral' " cabinet and illuminated "'perfect patfern" dial, 8 wire cable. List Price................... $\$ \mathbf{4 4 . 9 5}$

TR-4 . . . the DE-LUXE HEAVY DUTY ratar similar ta TR-2 but with madern design meter contral dial cobinet, using 4 wire coble. List Price................... $\$ 48.95$


TR-12 binat value consint binatian value cansisting of camplete rator, including thrust bearing handsome madern dasign cabinet with meter cantral dial, 4 wire cable. Lis Price ....................... $\$ 42.95$

TR-11 . . (Similor to TR-12, but less thrust bearing). List Price......\$39.95

THRUST BEARING
Accessary - MODEL "A-6 - heary duty bearing for SIDE thrust . . . has six precision raller bearings . . . nan-carrasive, water-praaf .. weather proofl No kit needed to install. Warks with ony CDR Rator. List Price

##  4.



MOUNTSPECIFICATIONS
(All types ore topped for $3 / 0^{\prime}$ Stud fitting on Antenno End. Shipping Weight Approx. 3 lbs.)




## ANTENNAS

MOUNTS Mestracte

INCREASE YOUR QSO AND DX QUOTAS WITH... HY"

ANTENNA COILS...



## 2 GREAT, NEW ANTENNA COILS!

NEWI . . . SILVER-PLATED ROLLER WITH POSITIVE ACTION, STAY-PUT CONTACT No. "666" MASTER ALL-BANDER
For 10-11-15-20-40-75 Meters
A irreat advancement in anterna coils. .. fully enclosed, the nonlinear, 'varialle-spraced ${ }^{\prime}$ adjustalle silver-plated roller with built-in Hy " $Q$ " that maintains a airly constant "Q" over the lower ham bands. Operates with a minimum of loss $\kappa$, meaning more (QSOs, Positive action, silver-plated roller assures kteady sifnal, stays put. simple one-shot tuning for any band. "if Bands Plus on 1 'oil.'

NET \$1495

No. "333" MASTER MIGHTY-MIDGET
For 40-20-15-11-10 Meters

Another arst and finest with Master Mohile, the new Hy " $Q$ " non-linear "variahle - spaced" Mishty-Midret gineered to provide the highest " $Q$ " consistent with good design. Compact, extremely rupged, yet lightweirht, its op. eration assures precision the ing with the new adjustable silverphated roller that stays put! "Cet 5 Ibunds Plus


NET
$\$ 995$


75 Meter 40 Meter 20 Meter

NEW HY "Q" COILS AIR-WOUND

- Ar Spaced Coll Winding
- Protective Coated Coils
- Highest "Q" Possible
- Weather Sealed
- Extremely

The new MAster IIY " $Q$ " Antena Cuils are approved first in reception, finest ly ecomparisen. Never in molile communication history have coile of such sensitivity been manufactured. Master HY "Q" Coils deliver more QSO's and itrater DX with universal gatisfartion wherner used.
Master HY' "O.' Coils are fromuete of advance rescarch and are "rporerally enginerrorl to prenite thr hirgest phasible "Q" cunsistent with pood desimpt. HY "Q" -oils are compact, extremely rugerd, yet lipstweight, wimbing insures the fincst tramsinission and reeeption.
NOTE-Suggested Mounting:
No. 100-60S-Stainless Steel Whip.
T $\$ 695$
$\$ 4.95$
No. 88 -I.owor seqtion (batied enamel) 3 fir ".
4.95


| HY "Q" C.A.P. COILS |  |  |  |
| :---: | :---: | :---: | :---: |
| HY 'Q" 2374 | KC. Additional HIV" "Y" C.A.I | Net | \$ 8.95 |
| HY "Q" 2738 | KC. Coolls to he used with HY | Net | 8.95 |
| HY "Q ${ }^{\text {HY }} 2758$ | KC. " $Q$ " ( 'A.P. Antemmas ac- | Net | 8.95 |
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| HY "'0'" 45355 | KC. (sirat. Thase mils are inter-) | Net | 7.95 |
| HY "'0", 4325 | KC. changeable. | Net | 7.95 |
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## GROUND PLANE ANTENNA

Modet 300-Master DeLuxe . . NEW! . . brings in that IDX fur sull. Outperforms any tyme of vertical dipole. "Drooping" "Type (iround Plane plus four straight radials to give a low angle of radithin for Leneral coverage. It gives an almost perfect circle radiation ratten, Hent for Band characteristics. Other frequencies is sperified. Dlatches it ohin coaxial cablo through threaded coaxial fitting at emel. Sthaisht ratials are adiustable (up or down) for purpose of eliminating stanclifis wares on tranemission Ines. For medium or low-sowered transbitters. sturdity-



2 METER STANDARM MODEL No. 114 COAX VHFAN- If TENNA - At a popular
 any vonvenient place wish standiard Mustre Mounts.
Baked enamel finish Winh Baked enamel fintish. With
10 for coax Cable and Net. Only \$9.95


## ANTENNAS

MOUNTS
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# NEW！．．．MASTER MATCHER 

WITH BUILT－IN FIELD STRENGTH METER

No．2495－6 ond No．2495－12
REMOTELY TUNES THE ANTENNA OVER THE ENTIRE BAND FROM THE DRIVER＇S SEAT！
The New Master－Matcher，a motor driven variable inductance which is controlled by a switch from the operating position in the driver＇s seat enabling him to tune in the mobile antenna to the exact resonant frequency．Just flip the switch and presto？
the Master－Matcher goes to work！QSY in any particular band without jumping in and out of your car to adjust the an－ tenna loading coil．All guesswork is eliminated with the Master－ Matcher and the built－in FIELD STRENGTH METER with the automatic panel light to indicate when the roller is at minimum inductance position．With the Master－Matcher，maximum effi－ ciency is possible with a minimum of time
 and effort．

Available in 6 （2495－6）and
12 （2495－12）volt models．
AMATEUR NET


Now at last！．．．berr is a must for all mobila hams：．．．the new heavy－duty Master－Flex－＇R，iesimued to relinse thi stregs and strain andi prowent damare that could the transmitted to the loadiner coil． The Master－Flex－＇R protects the whip and prevernts the loadiner coil from injury and detuminer while driving at high speed，or from owerhaterine limbs and driving into the rarame．It also allows the whip to he fastemed down to the front of car，where there is a hamper momat instablation on
late Mrs．
The Master－Flex－＇R was entrineerend for sears of deluendalle service in all 1 ymes of worather．yot takes nily a few minules on attach．Protat sour loading roil

－Staris sprinur stan set flexible edomgh
－Hor alisorlo all the shosth．
－Hoavy calminm tinish to withstand all －eleminents．
－Viry vasy to attaroh．
－＊izu－4 $4 / 2^{\prime \prime}$ luntr $\times 2 / 8^{\prime \prime}$ dia．
－H゙いiorht－abprox．${ }^{7}$＂oz．
AMATEUR NET
$\$ 195$

## EXTENSIONS




## Master FIELD STRENGTH METER

FSM－11

The mew fiald strongth Mater which contains the Indicator Irisht，the Jic Changener switch athl the ド，s．At－
 tembator，is an important abllition for all molile oneration．The comventimal］
hroadcast antenma is utilizad to piok
 to give a very susitive indication of raliation and will much more aceurately indicat＋resoname than the hamal methot of tunine be final phate curvent dig．
Shonted in heary alumimum bux with
rasy installation instructimes inclusent． EXTENSIONS

|  |  |  | Net |
| :---: | :---: | :---: | :---: |
| 88 | 31；＂ | ［ow all Bathl Ant | 5 |
|  |  | In Chrome I＇late | 5.25 |
| 90 | －$\square^{\prime \prime}$ | Exatension for 1 100 Surims Whips | 95 |
| 92 | 181\％＂ | Extension for 10t Eurius Whips | 3.50 |
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| 88 ＊ | 31：＂ | Base section for lis Antenna（baked enamel） | 4.95 |
| 88 C ＊ | 31\％ | （hromer Basa seation for At Anterna | 5.25 |
| Heavy |  |  |  |
| ＊NOTE：Base Sections for use with ALL．BANDER Antenna Coils． |  |  |  |

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## Master Mabile Mounts，Inc． <br> IOS ANGEIES，CALIFORNIA



## AMERICA'S FASTEST GROWING MANUFACTURERS OF TWO-WAY MOBILE ANTENNA EQUIPMENT <br> NEW, IMPROVED VAARO VARIABLE SINGLE UNIT COIL

With the NEW VAARO "DUAL CONTACT" - Has Silver-plated Contact Fingers
FOR USE IN THE $75-40-20-15-11$ AND 10 METER BANDS the VAARO VARIABLE COIL is the ORIGINAL SINGLE UNIT COIL.
It can be INSTANTLY TUNED to ANY DESIRED BAND or FREQUENCY by loosening the SHAFT LOCK, furning the Tuning Shaft to the left, sliding (up or down) to the desired frequency, then turning to the right to lock.
 This places the contact between the coil windings and provide a greater, more positive contact. (Arrow shows tuning contact in locked position). The VAARO COIL is FACTORY PRETUNED. NO GRID DIPPING-NO LOOSE CONNECTIONS-CONTINUOUS COVERAGE FROM 3750 kcs to $30,000 \mathrm{kcs}-\mathrm{HIGHEST}$ " Q " AVAILABLE—WILL FIT ALL WHIPS AND BASES.
TWO CAPACITIES: Model V-102-B for rigs developing from 0 to 500 watts input. Model V-IO3-B for rigs developing from 0 to 1000 watts input. The VAARO Variable Single Unit Coils possess major ond essentiol quolities which are absolutely unobtoinable in ony similor product or device on the market todoy. Model V-102B $\quad \$ 14.95$ Model V-103-B ............ $\$ 16.95$

## VAARO BUMPER MOUNTS WITH INSERT

VAARO MODEL V-105 . . Another FIRST in amateur mobile equipment.
revolutionary antenna bumper mount. "DON'T CHOP HOLES IN YOUR CAR." This unit is engineered to fit any antenna ond car bumper on the market. A special feoture is the bumper curvature insert inexpensively reploceoble as you exchange your car model. Moterial-Case Aluminum. Socket Dimensions-Standard $3 / 8 \times 24$ Thread.
Finish—Hommertone Boked Enamel. Weight-2 pounds. Price: \$13.95 VAARO MODEL V-IO5V . . . Same as Model V. 105 except mount is cast bronze ond beautifully chromed. GUARANTEED for 5 YEARS AGAINST CORROSION and FLAKING. Material-Cast Bronze. Finish-Heovy Chrome with Copper and Nickel Underplating, Socket Dimensions—Standard $3 / 8 \times 24$ Thread. Weight— $51 / 2$ pounds. Price: $\$ 25.95$ This shows the Bumper Insert which we shape to fit your bumber exactly.

## VAARO PLAN FOR BUMPER MOUNTS

When your order is shipped, a Postage Paid Return Card is enclosed in the shipping package. Purchaser returns card to Davis Electronics, giving MODEL and YEAR of car and number of Bumper Mount Bracket purchased. An INSERT to fit the bumper will be sent WITHIN FIVE DAYS without charge.

## VAARO BASE SECTIONS

Made of Solid Hex Stock. Heavy chrome plated. $3 / 3^{\prime \prime}$ SAE $\quad 12^{\prime \prime} \mathrm{V}-104 \ldots \ldots . . . . . . . . .$. threaded studs at each end fit all standard antennas. $\quad \begin{array}{ll}24^{\prime \prime} & \mathrm{V}-104 \\ 36^{\prime \prime} & \mathrm{V}-104\end{array}$

VAARO FIBREGLAS ANTENNA WHIPS
Fibreglas has been selected as the most nearly perfect material for Vaaro ANTENNA WHIPS as it ideally takes the road shocks and constant whipping to which antenna whips are subjected. VAARO ANTENNA WHIPS possess remarkable resilience. In fact, while they can be bent into an almost complete circle, they spring immediately back into a straight position with no danger of taking a permanent bend. They are light in weight and so impose less strain on mounts.

## VAARO <br> "WHIP CLAMP"'

ANOTHER VAARO FIRST! The Vaaro "Whip Clamp' securely fastens to the roof water drain of any make car without damage to the paint or metal. Allows the whip to be fastened down to car roof level for garage storage, heavy low wooded areas, etc., etc. Brass construction, cadmium plated. Installed in 30 seconds. V-109 Price: $\$ 1.79$


## VAARO "WHIP FLEXOR'"

All products are avallable at your distributors, or write
VAARO ELECTRONICS DIVISION since 75 meters and other low frequencies began a new problem has arisen. Any change of antenna (voltage portion) in relation to car body, changes loading and therefore changes output 'tremendously. This problem has been overcome by the "WHIP FLEXOR" which serves a dual purpose . It is designed to keep the whip perpendicular at extremely high speeds while allowing the whip to be brought down in a horizontal plane for garage storage, etc. This elimination of base section spring prevents bad "QSB" action on the receiver end.

V-101-6' $\quad$....................... $\$ 8.50$
V-101-7' $\ldots . . . . . . . . . . . . . . . . . . . \$ 8.75$
V-101-8'
$\$ 8.95$
 Standard Model V-110-S
$\$ 1.95$ . $\$ 3.95$


For the best in both merchandise and merchandising look to-

THE RADION CORPORATION. Dept. C, Chicago 14, III.

NEW FIELD STRENGTH METER Battery Portable

## THE METROPOLITAN

The original and still standard in the industry: Outperforms and outsells all others. The best known the world around. Fully assembled, complete with 300 -ohm lead-in. Three section, nickel-plated arms. Individually packed in new Profit-Pak selfmerchandising (carry-ou:) carton. Stands 19 inches high, extends to 92 inches. Packed 12 to a master carton-ship. wt. 20 lb :

## QTA-3

List $\mathbf{\$ 5 . 9 5}$


Hare is the meter the industry has needed for a long time. On new TV installations it helps one serviceman to do the work of two-with sreater accuracy. On service calls-in any arca-it saves time and money . . . locates source of trouble immediately. It butilds customer confidence, invites future business, often pays for itself in two months time. Covers all TV channels 2 through 83, including $F M$ bands. Other uses: Electric power companies use the FSM-5000 to check transformer leakage, radiation loss.
Ruggedly built of non-corrosive duraluminum. Size $11 \mathrm{x} 81 / 2 \mathrm{x} 6 \mathrm{in}$. Weight 14 lbs . with batteries. Use standard batteries. Ship. wt. 9 lbs.
FSM-5000
Net \$97.50*

## THE METRO

dSame lyasic design and size as The Metropolitan above, with same fine operating characteristics. Fully assembled, complete with 300 -ohm lead-in. Three section, nickel-plated steel arms. Individually packed in new Profit-Pak self-merchandising (carry-out) carton. Stands 19 in . high, extends to 92 inches. I'acked 12 to master carton-ship. wt. 1811 s.
VTA-3
List \$4.95
Also available in aluminum-Model TA 45.
List \$3.95

NEW LIGHTNING ARRESTER


Makes installation: the easiest ever. Slip any standard lead-in under its new twinlead grips, tighten wing nuts, and your jol is done. Radion exclusive ground grip allomatically secures ground wire as monnting stray is tightened. UL approved indoors or ont. All hardware included. Individually boxed. Facked 48 to a master carton-ship. wt. 9 lbs.
LA-75
List \$1.35

## THE BULLSEYE



The best selling UHF indoor TV antenna-providing lowcost installation to help sales of UFIF conversions or sets. Receives all UHF channels yet it's only 10 in. high, weighs less than a pound. Reantifully constructed of rose-gold colored anodized aluminum with malogany phenolic base. Complete with 300 -ohm lead-in. Individually packed. Packed 12 to a master carton-ship. wt. 15 lbs .


New antema for both CHF an CIIF. Ihasing control in base permits convenient tuming for best reception on any channel. Reantifully constructed of rose-grold colored anodized aluminum with mahogany phenolic beace. Complete with 300 -ohm lead-in. Individually packed. Packed 12 to a master carton-ship. wit. 17 lbs .

## TEnna 14 Uumpetwing $C_{0}$.



| YAGIS |  |  | $\begin{aligned} & \text { YS-458J } \\ & \text { YS-458K } \end{aligned}$ | $4 \text { and } 11$ | $\begin{aligned} & 14.30 \\ & 14.30 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{array}{r} \text { BROAI } \\ \text { BAND } \\ \text { HI-CHAN } \end{array}$ | NEL |  |
| Model | Chan. | List | YAGI <br> 7 ELEME |  |  |
| YS-502 | 2 | \$12.30 |  |  |  |
| YS-503 | 3 | 11.65 | BBH-11 | 7 thru 13 | $\begin{aligned} & \text { List } \\ & \$ 10.20 \end{aligned}$ |
| YS-504 | 4 | 10.90 |  |  |  |
| YS-505 | 5 | 10.25 |  |  |  |
| YS.506 | 6 | 9.45 |  |  |  |
| YS-507 | 7 | 7.15 |  |  |  |
| YS.508 | 8 | 7.15 | ARRAY | , |  |
| YS-509 | 9 | 7.15 |  |  |  |
| Y S-510 | 10 | 7.15 |  |  |  |
| Y S-511 | 11 | 7.15 | Model | Chan. | List |
| YS-512 | 12 | 7.15 | RS-206 | 2 thru 6 | \$ 8.25 |
| YS-513 | 13 | 7.15 | RS-713 | 7 thru 13 | 3.95 |



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## New <br> MONARCH <br> Cowl - Fender

Mounts from out sid. Rall-joint metal mounting loasc, ard justahle from flal to $30^{\circ}$. lasas sut ficiently larife to eover largest holes. lovely chrome finish. Holds angular alljustment ber.
 ratble.

Model Sec. Lth. List MH-3B 3-5 ${ }^{\prime \prime \prime} \$ 5.80$ MH-3C : $\because=7{ }^{\prime \prime} 6.40$

## SCREW-BALL

Cowl - Fender

Fintire mountinur jol is done from the tol
only cne min is Heeded. Fasirst. aluickest of all anteminas ro institll. Nobloing like it our the market.

Model Sec.-Lth. List
EZ-2 2-1! $\$ 3.55$
EZ-3 5.10


ROTO-LOK
Cowl - Fender

Easw Hountince all tightening outside. Half inch mounting hole. Chronie plated menumintr hise. Kixclusive Visu-Jock eliminates clumsy hraces. Fite aus fender or top cowl. $90^{\prime \prime}$ liadar true cable.

Model Sec.-Lth. List CO-3A :1-5"" \$5.30

## CHAMPION <br> side Cowl

t competitively uriced acrial hoil 10 RAJ)ELC(O's hish ruality standard. Chrome-plated tuling shicleled wolvethylene cathle with black eover, screw(iI) conuector find chrome ("Infell in. sulatore

Model Sec.-Lth. List
CS-3 :-.fifi" \$4.15

CONCEALED
Cowl - Fender

Completely new the sign in a concealed type aerial. Ralljoint metal mounting base, adjustable flat to $30^{\circ}$. Waterproof construction. large seamlesn shield tule reduces capacity losses. $48^{\prime \prime}$ Radar type cahle.

Model Sec.-Lth. List FD-3 3 -55" $\$ 7.65$ FD-3A 3-68" 8.15

## REPLACE- <br> MENT MASTS

BEICK: Mat for roof aerials all Buicks 1940 thrt 1953.

Model Sec.-Lth. List B. $448+45{ }^{\prime \prime} \$ 2.85$

Folkl: For 1941. 42. 46,47 liordMercury lioof Antenuas that operate behind wind-shield center post.
Model Sec.-Lth. List F-254 2-53" \$2.30

COMMUNICATIONANTENNAS


MB.2

SWIVEL BA8E: IIas adjustalıe splithall with proitive lockine fiatur 10 maintain angular adjustiment al all times. Model MB-1

List $\$ 4.55$
SWIVEL BASE AND SPRING: spring is of dil-tempered hetary ofrims stecl to withstand toughest shocks. Filexible calle thru center of spuing maintains constant electrical impedince.
Model MB-2 -Standiard
List \$6.60
Model MB-2H-Mcavy Duty
List 7.65
STAINLESS STEEL MASTS: (an be hent $90^{\circ}$ and Etill return to its original vertical pusition. Exeeptionally hish tensile strenetla, titw either MB-1 or MB-2 or any standard hase.
Model MM-40F .................. (Motorcerele)
List $\$ \mathbf{5 . 4 0}$
Model MM-60 .................... $1 \mathrm{~B}_{1} \mathrm{l}^{\prime \prime}$........ List 5.40
Model MM-72 -3"
List 5.40
Model MM-84 ........................................ List 5.65
Model MM-96 ................................................. List 6.40
BAE SPRINGS: Model MBS-1 is a regular strencth sprins. Atodel ABN.g is a heary duty surine for heavier masts.
Model MBS-1 - Standard
List \$2.30
MBS. 1
Model MBS-2-Heary Dury
List 3.30


## TTAMCD ANTENNAS

## SPECIALIZED ANTENNA SYSTEMS

Technical Appliance Corporation provides the most complete facilities for engineering and manufacturing specialized antema $s y$ otems for both civilian and military applications. Many military antemas are regular production
 numbers at Taco. Leading electronic and aircraft manufacturers pecify and use Taco designed and manufactured antenmas. No matter what the ireduency range, mechanical requirements. or gain required, Taco is the prime source for specialized antema systems. Seml for complete catalog of specialized antemas.


SEND FOR free military antenna catalog
SERIES 5000 RUGGEDIZED INDUSTRIAL ANTENNAS
Taco ruggedized Series $50 n 0$ antennas are designed specifically for those antenna needs that are more critical both lectrically and mechanically than home recemion uechs. They are used by telecision station- to receive signals
 re-ult: in iontemas that last many times as long as commercial types and at the same time provide more dependable reception that is not affected by local weather conditions. I seciat, high tensile stremsth aluminum allow in employed for extra-long hife. Series 5000 antennas are sharply tunel, high grath yagis designed for reception of a single VHF channel. Complete details on Taco Ruggedized antennas is available upon request.

$$
\begin{array}{llll}
\text { Cat. } 5010 & \text { Triple-Driven Low-Band } & \text { Cat. } 5005 & \text { Twin-Driven Low-Band } \\
& \text { Twin-Driven High-Band } & & \text { Single-Driven High-Band } \\
& 10 \text { Element Coaxial Out- } & 5 \text { Element Coaxial Outpu } \\
& \text { put Yagi } & \text { Yagi }
\end{array}
$$



VHF AND UHF TELEVISION ANTENNAS


## SUPER TRAPPER

Cat. I890 yagi utilizing Trapper wave-trap design for reception of channels 2 through 13. The world's finest antenna for VHF reception under actual field conditions. U'nequalled staying power. High gain without bulk.
Also:
Cat. 1892 - Two bay close spaced stacking kit.
Cat. 1893 - Two bay wide spaced stacking kit.


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TECHNICAL APPLIANCE CORPORATION SHERBURNE, N. Y.

## HL-LO TV ANIENWAS are BEST




MODEL 101

Channels 2-13
Here is the greatest indoor iV antenno ... the antenna which has been setting the highest standard for indoor TV reception since the beginning of television. Beautiful golden spiral which performs as well as it looks the highest signal gain possible ... new and improved for better television pictures. Shipping weight: 2 lbs. FOR UHF, VHF, AND COLOR

list price

## Wrought Iran TV STANDS



Heavy Duty TV stand with Swivel and Extension Arms
This finer stand is unequal led for utility and beauty. Designed with ire latest engineer. ing techniques, it is stronger than any other wrought iron stand - . turntable sup. ported on easy roll rollers spaced $16^{\prime \prime}$ on enters for greater stability .... is guar. anted to support even the heaviest tile. vision sets, with no webhle, no shimmer and complete safety. Has so many exclusive features that you must sue it to believe it. Shipping weight: 18 lbs.

Swivel TV Stand with Extension Arms Here is the Cadillac of the line of Chevrolet prises because this versoile television stand has everything. The best engineering makes Model 700 a guaranteed seller and one that will bring bock more satisfied customers than you dreamed poss ble. Most durable, yep light weight, rollers spored $16^{\circ \prime}$ on centers for stability ana better rubber feet to really prevent marring of any floors. Shipping weight: 13 lb :

IV Stand with Extension Arms This is the finest TV stand; one you'll he prouder to own. Made in fit practically any television set regardless of size and weight. Like all other. Hi.Lo IV Stands, this no. wobble, no-shimmey stand will provide one of the nicest pieces of furniture. Has many exclusive features including sturdier design, more durable and much more attractive op. pearance. Shipping whf:: 11 lbs.

Heavy Duty Stand from the fine rubber feet which prevent marring of floors to the durable, streamlined wrought iron frame, this is a better stand for the money than any other on the market. You get the finest wrought iran, the smartest design, the most durable legs. Shipping weight: 12 lbs.

IV Stand with Swivel
The best viewing is yours as you turn this better table because its rotating feature is designed to pro. vide smoothest operation . ... the easiest, most convenient turntable. Stronger than TV stands costing much more, with a design that is second to none, thetis better stand is designed to blend better with furniture. Shipping weight 10 lbs.

## TV stand

We defy anyone to equal this be cause here is the greatest TV stand value in the world. Imagine you get highest quality engineering. finest streamlined design and dur ability that is tops AND of such - low, low price. . will suit any person : : fit any purse. Shipping weight: 8 Ihs.


# Mfd. By <br> Filo <br> TV Aritenna Corporation <br> Chicago 13, illinois 

## NEMCO HOME AND MAST ANTENNAS

A series of mast and window antennas for a variety of installations

## WINDOW ANTENNAS FOR APARTMENTS. HOMES, HOTELS. OFFICE BUILDINGS

Adjustable hase brackets pelmil setting in any position for best reception. Completely assembled with insulator; lead-in slrip and mounting flange. Antenna constructed of sturdy hrass phated tubing-telescopir joints.

List $\$ 4.85$

## COMPLETE MAST ANTENNAS FOR HOMES

Includes all arcessories tor romplete installation brackets: apmowed lightming asmester, lead-in wire etc. Antema made of nicked plated Adminalty brass. Easily installed on ront wable window pipe on cornice with accompanyoins universal bractets


## NEMCO COMPLETE AERIAL KITS







No. NK 900
 Lataldin strip). (iromme ('lamp No. NK 902

Special Antenno Kits Made to Order.
NEMCO 7 STRAND AERIAL WIRE
 "ireater lensile structh - will mot sit
NEMCO 7-STRAND AERIAL WIRE

 No. NK 954 -i: it , coil

List \$.55

## LEADIN WIRE

 all climatic conditions.
NPW991-25 ft. mil
NPW 991- 20 it. coil
NPW 992-50
NPW 993-1
No
List
$\$ .42$ coil
$\$ .42$ coil .70 coil
1.25 coil
$\qquad$ 5010 List
${ }^{\text {No }}$
NPW 994- 510 tt (-1)il
NPW 995-1,0100 it. ail
$\$ 5.55$ coil
M ft



## WINDOW LEAD-IN STRIP



Ends soldered to convenient clips for firm contact. Flexible strip, $1 / 2^{\prime \prime}$ wide; insulated covering.
No. NK 914
List $\$ 0.22$


Glazer] pencelain. Will not erack or ubsorb mojeture
No. NK 922
List $\$ 0.17$
FORCELAIN INSULATOR

Glazed porcelain. Will not crack or absorb moieture.
No. NK 920
Llist $\$ 0.15$


## NEMCO UNIVERSAL "Ball-Jenna"

The auto radio antenna that's breaking sales records all over the country MOUNTED ENTIRELY FROM THE OUTSIDE!
Heres the revohotionary antenna that may be installed answhere on al call (old or new).
The unique dusign of the Ball-Terna permita it to le mountei on Side Cowl; Top Fender Roof; Top Cowl; Rear of car.
Eliminates Huge Inventories - Slow Movers: beautifully styled for maximum sales appeat. klends with car contour. lustre-chromed. In cludes 39 " lead.
No. NSF 26-- suction $4!9^{\prime \prime}$............ List \$4.95; No. NSF 27-3 suction $62^{\prime \prime}$

List $\$ 4.95$
List
5.9 s

## 'Ball-Tenna' DISPLAY



FREE! All-Metal Display Fully-Mounted Pay only for Aerials No. ND 9


FREE! ALL-METAL DISPLAY

Colorful all-metal display: Mensures for followiner fully mounted anitman:

No. NSF 27
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No. NCS $\$$
Side Cowl
No. NF 32
Coneraled
No. NCP 63
Side Cowl
No. ND 7
List $\$ 23.70$


CONCEALED TYPE Jena Jinn
COMPLETE REAR MOUNT AUTO ANTENNA KIT

For Inoblstructed Driving Vision
Fowtures Two NEMCO CON (E.MAFID TYPE AERIAN that are collapsible to $4^{\prime \prime}$; may be extended tw e5,
Includes all fittings for a comblate zeak-perturming installarion.

## MODEL NT 52

Individatly packed in attractive List $\$ 13.95$ cormer displays. List $\$ 13.95$


NEMCO ANTENNA BOOSTER
 strong pick-up tur elear recention. Excollest afcebsong for roar mount abtennas. fuclutes pin plug adaptor t.l (atey justallafion
 sulated coaxial lead-in; Din flum andater

List $\$ 11.95$


## NEMCO

NATIONAL ELECTRONIC MANUFACTURING CORP. 186 GRANITE STREET MANCHESTER, NEW HAMPSHIRE

## NEMCO "WHIP" ANTENNA Communication Aerial

Rugerells made for ruged use. Desimed for all types of moble application, molating police, fire, ambulance. Amateme, of
 coatares vari-abule tesirn which permits locking mast in bettimal position despite ar contours. Moistume pronf gasket
 prevents Jamage to mam from low hanering blestrmetions: absorhs heavy shocks, vibrations. Wast fits into $8 / 8$ threaded fittiner on spriner anil.

 (9) demme lumbls. Wrather rosistant finish.

| No. |  | List |
| :---: | :---: | :---: |
| NC 86 |  | \$7.98 |
| NC 87 |  | 7.42 |
| NL 730 | 11 fout lutumot cable | 5.35 |
| NC 89 | 13am- Mast fombination | 15.40 |

THE INDUSTRY'S MOST COMPLETE LINE OF AUTO ANTENNA LEADS
A NEMCO ANTENNA FOR EVERY TYPE OF CAR . . . FOR EVERY PURPOSE

## REPLACEMENT LEADS <br>  <br> uw-loss Aesirn <br> fin! Maximn!my

No. Type Length


No.

|  |  |  | Fon NII Siple (owl Antentars |  |
| :---: | :---: | :---: | :---: | :---: |
| NL 700 | IS | $30^{\prime \prime}$ |  | \$1.40 |
| NL 701 | IS | 4\%" | Sthar as atomer | 1.75 |
| NL 700B | 1 | 34\%" |  | 1.40 |
| NL 734 | 1 | 11 tt. | Same an almse | 3.50 |
| NL 724 | I) | $3!9$ |  | 1.40 |
| NL 727 | 11 | 心" | Simme as abowe | 1.75 |
| NL 735 | 11 | 11 ll | Sithee as abore | 4.00 |
| NL 736 | 11 | 1.5 ft | Sime as abowe | 5.75 |
| NL 710 | 1 | $=\mathrm{ft}$. | Fim Morlel XP 80 N NP 1 amal "dWlap" Intumats | 2.50 |
| NL 730 | . 1 | 11 \%. | Samm as abowo | 3.50 |
| NL 731 | , | 1.5 fi . | Same as abost | 6.00 |

## UNIVERSAL EXTENSION LEADS

 Homs not rut down spece! of car.
now alter intensity of imnition now alter intensity of ipnition
rpark buecanse uf viry low lo. ${ }^{\prime}$.
 bisistance (30 ohms ). emaled



 No. NW 200-For spark plur No. NW 201-6lipecity

UNIVERSAL GENERATOR

## CONDENSER


of universal application. Special bracket permits use on generators needing end installing, such as Fords, etc. Minus bracket, type generators.

List \$1.15
.............. List $\$ 1.15$

CARBON TYPE SUPPRESSORS


## DOME LIGHT AND GENERATOR SILENCER

For bobassing ammeter. dome lizht or generator,
No. NS 500-1/4 mfil.
List $\$ 0.70$

## NEMCO GENERATOR SILENCERS

Heavy duty gencrator type for effective elimina tion of intensive noise.
No. NS 501-. 5 mfd .
List $\$ 0.95$
No. NS 512-1 mfd.
List 1.25


## PRE-WIRED JUMBO FUSE HOLDER



Suitahbe for 3A.g. 20 amp . or SFE 14 amp . fuse Filiminates necestity of soldering when ohe. tim fue holdor wire is morely severed hanging fuse holder in lipe
No. NA 620
List $\$ 0.80$


## nemco's



## ALL-PURPOSE STAND-OFFS <br> All-purpose, for UlIF-Wlif flat, wal wrund lodal-ins. fant  <br>  <br> LOK-STRAP STAND-OFF <br>    No. NTV  <br> MAST STAND-OFF <br> For quick abl "asy set-ul", Assumex sway-fore lins. All-purpote. dijustable ritrap with self.lackinaz fathume fermits use on masts up to $: 4$ " <br> No. ${ }^{\text {NTV }} 1787-31 / 2^{\prime \prime}$ stamet-ot <br> NTV $1787-31 / 2 "$ אtaml-ot <br> SNAP.ON MAST STAND.OFF <br> For Cllf. Viff flat, wal ar round leinl-ins. leasily snaps on mast.  <br> No. <br>  <br> ANTENNA WALL BRACKETS <br> A useful antemba arcerisur where a vertieal wall instal lation is dosired. olfers : tight-gripping clamping astion. Suitahle for masts from $7 / 8^{\prime \prime}$ to $11 / 2{ }^{\prime \prime}$ in diameter. Made of weather, resistan plated lieavy gauge steel. <br> No. 1710. <br> 

$\$ 5.00$ 8.05 C

List
$\$ 15.83$
$\$ 19.83 \mathrm{C}$

List
$\$ 10.00 \mathrm{C}$


## THE NEMCO "REDI-MOUNT"

A fast-installing chimbe antenna mount. One pieco hamdling : heav: cauge steel. strel strap pink is perforatea. Con Sections may be apread for greater support.

No


## GUY WIRE CLAMP

dual for bet-up reguirine fuy-wire support. May be loceatend at any position un antema mast for maximum rigidity. This rugreel adjustathe strel clamy is suitable for masts ranking from 3 to $11 / 4$ " diameters. Lneludes nuts and loek washers.
No. NTV 1735
List \$0.42


## UHF - VHF

## LIGHTNING ARRESTER

U/L Approved
A single lightuine arrester What is desirined fur BOTH
 TR.ANSMLSHON JINE. Made of mobled phemelic; hon-ferrous platid hardware. noti-inculation strinuing neeessary.
No. NTV 1852 List $\$ 1.25$ hacluffes metal sitaj) for induor usc.
No. NTV 1851 List $\$ 1.00$ Fior outduor usio.

## MULTI-POSITION MOUNTING BRACKET

I'rovides many mounting nesitions on either rouftop, root-side or side-wall. Maximum adjustability eadmium plated steel. No.
 TV NV 1730 - For masts up to $1 \frac{2}{2 \prime \prime}$ (Offerts to 8 ")


$\$ 7.64$
11.80


## MULTIPLE ANGLE

## ANTENNA BASE

1 Ititers ribid support; adjustahbe in three positions for maximum antena direction. Cadminm plated, sturdy uteel omplete with hardware. for sidewall or flat mounthime for maste up to $11 /{ }^{\prime \prime}$ diameter.
No. NTV 1722

NEMCO TURNBUCKLES

sturily, steel turnbuekles that afford balaned thrision of support ing wires. lispecially suitable for antenna gny wires. Assure slack-free, risid suppurt.

No.
List
NTV 1772-3" (rlosid)
\$0.22
NTV 1773-5" (clunad)
.31
NTV 1774—7 $1 / 2$ (clused) .81


## NEMCO GROUND RODS

Rugged copper-plated steel rods that provide direct-to-earth ground. las pointed end for easy driving. Ineluder screw clamp capable of holding No. \& to 14 gauge wire.
No.
List NTV 2001-4 ft. .................. $\$ 1.25$ NTV 2002—8 ft, ................. 2.47

## DOUBLE POLE DOUBLE THROW

 SWITCHESheral for telosision merds. Black bakelite hase is
No. X 1 /8.
NTV 1840 .....List $\$ 1.50$
sume as alowe witl POR. CELAIN Buse.
NTV 1844 ......List $\$ 0.97$
DUAL TWIN LEAD CONNECTOR
Fully - insulated, luw. loss phastie, golderless connection for 300 ohm twin-lead. lermits raphal eonnecting or discombecting of set to two senarate leads.

No. NTV 1758
List $\$ 0.89$ Set


TV LINE CLIP
convenient three-way, small-size line cliy that requires no soldering. Easily attached. Heal for conneeting Llff converters and bousters. No. NTV 1870

List $\$ 0.50$

## 'DUBL-SET' ANTENNA COUPLER

l'armits operation of two TVEets with 300 ohm input Trum sets wifis single ohm input rom a simultancous operation with ne interferene from wither set: no lose in sirmal ither set, ho lose in simal srempth. Easy to matal sold for two set homes, apart mente, etc.


No. NTV $2245 \ldots$ List $\$ 5.53$

## "MULTI-SET"

## ANTENNA COUPLER

Three or four TV receivers (vi 300 ohm input) naty (re used simultaneously con neeted to a single antenna with no inter-action inter furenee or signal stremeth luse. Designed for apart. ments or multi-set instal. lations. simple to install. soldering nnnecessary.
No. NTV 2246....List $\$ 7.08$


## HIGH PASS FILTER

A highly efticient filter for the climination of televi. sion reception disturbances caused by such noise rellerators as electric shavers, diathermy machines, ete. May be installed at the set or source of disturbance. Eusy to install tolilerine required.
No. NTV 2242....List $\$ 5.50$


## PRINTED CIRCUIT FILTER

Nrmeo's printed circuit
inter-action fiter parmits with a Fiff type, requiring but a simgle iramsmising but a single iransmio sion line, Has three sets of terminals, fully bealed in Weather - resistant plastic ase casily added to anten. na cross-arm.

No. NTV 2240....List $\$ 4.72$


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# ETP/O 

Behind every TRIO antenna is the RESEARCH - ENGINEER. ING - EXPERIENCE and CRAFTSMANSHIP that has made TRIO the leader in antenna development.

## TRIO - THE COMPLETE LINE

yagis conicals "Vari-cons" radar screen types colinear arrays UHF \& REFLECTOR TYPES CONICAL-YAGIS


## AMERICA'S NO. 1 CHOICE THE TRIO " 88 "

More DB gain per dollar cost! Uses famous TRIO "VARI-CON" head and "INSTA-LOK" clamps. Completely preassembled, ready to unfold and install. Ruggedly constructed. Extra husky boom and sturdy elements of highest grade oluminum. Mycastyrene insulators for superior performance. The best buy on the market today! Available in single or two. bay models.

## THE TRIO "99"

Channels 2-13
A well-known broadband Yagi type featuring sturdier construction, higher quality materials and faster assembly resulting from the use of TRIO'S famous. "InstaLok" clamp. Higher gain and reduced side and rear pickup are enginecred into the " 99 " as a result of TRIO research and "know-how


## THE TRIO "77"

## Channels 2-13

High gain, broadband type now greatly improved by TRIO research and engineering "know-how". Exclusive "Insto-Lok" clamps. Sturdier boom and elements. Low wind resistance and bolanced for rotator opcration.


## (2) <br> CHANNEL MASTER CORP.

America's most complete line of TV antennas - more than 200 models to answer all reception needs in every signal area!

## for strong signal areas!

The

## MAVERICK

A complete line of conicals at sensational low prices!

Here's the lowest-priced, fullest conicol line you've ever seen - a complete series of 22 different models. "Movericks" provide outstanding reception wherever conical ontennas find application. Available "Super-Sembled" and non-assembled.


The "mavericks" con be atocked for greater sersifivily

## "MAVERICK 300"

(12 different models)
The first and only full line of conicals campletely "SuperSembled"! No hardware, no toals, no tightening!
"'MAVERICK 340"
(10 different models)
Feotures "Notch-Lock" clamp plate - elements can't furn or twist loose! Non-assembled - installs in minutes. Straight bar reflector elements completely preassembled.

## for weak signal areas!

## The CHAMPION

## RAINBOW

The fabulous yagi that features TriplePicture Power.

Best for black-and-whife!
No other antenna provides such outstanding long-distance reception in black-and-white. Gives brilliant performance on every channel.

## Ready for color!

No othe; antenna is so well-prepared for the exacting requirements of color TV: unique high gain, flat frequency response, extremely narrow polar pattern, highest front-toback ratios.

## Features Channel Master's famous Tri-Pole

This amazing triple-powered dipole gives excellent Low Band gain, and acts as three separate dipoles, in phase, an the High Band.


COMPLETELY PREASSEMBLED, INSTALLS INSTANTLY. ALL-ALUMINUM - SEAMLESS TUBING THROUGHOUT.
three Great models avallable
Champian RAINBOW
madel no. 330 - for suburban and fringe areas.
Challenger RAINBOW
madel na. 332-eronomy model, featuring butted tubing.
Champion SUPER RAINBOW
model no. 331-for weak signal and remate TV areas.

Write for complete catalog.

## WORLD'S LARGEST MANUFACTURER OF TV ANTENNAS AND ACCESSORIES

CRYSTAL HOLDER SOCKETS AND ADAPTERS


SINGLE CRYSTAL HOLDER SOCKET takes . $095^{\prime \prime}$ dia. pins spaced $1 / 2^{\prime \prime}$. Molded hightemperature polystyrene with phosphor bronze one plece contacts and solder lugs. Mounts behind chassis or panel up to $1 / 8^{\prime \prime}$ thick. Punching templet and mounting brass screws supplled. Cat. 50u CRYSTAL HOLDER SOCKET Amateur Net $\$ .21$ Cat. 53 3-GANG SOCKET for $1 / 2^{\prime \prime}$ spaced small pin crystal holders. Acrylic plastic.

Amateur Net 8.65 Cat. 56 6-GANG SOCKET for $1 / 2^{\prime \prime}$ spaced small pin crystal holders. Acrylic plastic.

Amateur Net $\$ 1.25$


Cat. 5-75 CRYSTAL HOLDER ADAPTER takes small pin $1 / 2^{\prime \prime}$ spaced holder and plugs into $1 / 4$ " spaced sockets or in any 5 or 6 prong sockets.

Amateur Net $\$ .35$
Cat. 75-5 CRYSTAL HOLDER ADAPTER recieves pinspaced $3 /{ }^{\prime \prime}$, and plugs into standard $1 / 2^{\prime \prime}$ spaced sockets or octal sockets.

Amateur Net 8.35

## "vest POCKET" beams Other HAM Equipment

## DIPOLE ANTENNA CONNECTORS



Solderless, strain relief type center connector for constructing your awn dipole antenna. Sturdy, low loss acrylic plastic. For standard 300 ohm line. Cat. 261 DIPOLE ANTENNA CONNECTOR

Amateur Net 8.35
Cat. 262 HEAVY DUTY DIPOLE ANTENNA CONNECTOR for use with heavier copperweld 300 ohm line. Similar to above

Amateur Net $\$ .50$

## DIPOLE END INSULATORS



Antenna end insulator for use with dipole type antenna made with standard 300 ohm transmission line. Sturdy low loss acrylic plastic. $43 / 8^{\prime \prime}$ long.
Cat. 251 DIPOLE END INSULATOR
Amateur Net \$ 30 Cat. 252 HEAVY DUTY END INSULATOR for use with heavier copperweld type 300 ohm line. Similar to above 4 5/8' long

Amateur Net $\$ .40$

# MOSLEY "VEST POCKET" <br> <br> ROTARY BEAM ANTENNAS 

 <br> <br> ROTARY BEAM ANTENNAS}

Mos.ley "Vest Pocket" beam design provides rotary arrays approximately one half the size of standard types. Sturdy, precision made loading coils in each element permit much shorter element lengths yet provide performonce often equal to many full size beams.


## 3 ELEMENT, 20 METER "VEST POCKET" ROTARY BEAM ANTENNA

Model VPA20-3, MOSLEY "Vest Pocket" 3 element 20 meter Rotary Beam is complete-ready to assemble. A TV rotor will support and turn the MOSLEY 20 meter beam under normal conditions. The driven element coil is designed to match 52 ohm co-ax line and will easily handle full KW. Pre-drilled and pre-tuned to 3 frequencies, $14 ., 14.1,14.2 \mathrm{mc} .7 .5 \mathrm{Db}$ forward gain over dipole. 28 Db Front-to-Back ratio. 1.05/1 SWR at resonant frequency. Less co-ax, rotor \& mast.---
----Amateur Net. $\$ 79.95$

## 2 ELEMENT, 20 METER " VEST POCKET"' ROTARY BEAM ANTENNA

Model VPA 20-2, MOSLEY "Vest Pocket" 2 element 20 meter Rotary Beam has the same sturdy construction as VPA20-3, above. The 2 elements are correctly proportioned to practically eliminate end-fire. Pre-tuned to 3 frequencies, $14 ., 14.1,14.2 \mathrm{mc}$. S Db forward gain over dipole. 20 Db Front-to-Back ratio. 1.2/1 SWR at resonant frequency. Less co-ax, rotor \& mast. ------ Amateur Net. 855.95

## 2 ELEMENT, 40 METER " VEST POCKET"' ROTARY BEAM ANTENNA

Model VPA40-2, MOSLEY "Vest Pocket' 2 element 40 meter Rotary Beam provides outstanding 40 meter beam performance. Heavy duty construction assures years of reliable operation. Steel element supports are factory welded to steel boom. Loading colls are precision wound and driven element coll matches 52 ohm co-ax line. Pre-tuned to 3 frequencies, $7 ., 7.1,7.2 \mathrm{mc}$. 5 Db forward gain over dipole. 19 Db Front-to-Back ratlo. 1.1/1 SWR at resonant frequency. Less co-ax, rotor \& masi. - - - - - - - - - - - - Amateur Net. $\$ 74.95$

## 3 ELEMENT, 10.15 METER "VEST POCKET" ROTARY BEAM ANTENNA

Model VPA1015-3, MOSLEY "'Vest Pocke:" 3 element 10, 11, 15 meter Rotary Beam is tuned to one band at a time. The VPA1015-3 Rotary Beam is pre-tuned to 7 frequencies, $28,28.5,29 \mathrm{mc}$.; 27 mc .; 21, 21.15 , 21.3 mc . Driven element coil matches 52 ohm co-ax line. $71 / 2 \mathrm{Db}$ forward gain over dipole. 20 Db Front-toBack ratio. 1.2/1 SWR at resonant frequency. Less coax, rotor \& mast.- $-\cdots \cdots-A^{-}$Amateur Net. $\$ 69.95$

## 2 ELEMENT, 10.15 METER " VEST POCKET" ROTARY BEAM ANTENNA

Model VPA1015-2, MOSLEY "Vest Pocket" 2 element 10, 11, 15 meter Rotary Beam has similar construction as VPAl015-3, above. 5 Db forward gain over dipole. 15 Db Front-to-Back ratio. 1.2/1 SWR at resonant frequency. Less co-ax, rotor $\&$ mast. -----

-     -         - Amateur Net. $\$ 49.95$

Here's a TV Multi-Outlet System that really digs profit out of those smaller master ontenno instollations! Complete with all omplifiers, preamplifiers, distribution equipment, top-offs, and test equipment, the Jerrold Multi-Outlet system is a motched system that gives clean, snow-free reception on every set.

Color distributes as easily as black and white.
Designed as a solid packoge, the Jerrold Multi-Outlet system has its roots in more than 8000 larger building systems. Jerrold equipment is delivering pictures to over 5000 teievision receivers connected through hundreds of miles of cable from a single antenno.

This Jerrold experience mokes possible the outstanding
IV Multi-Outlet System-and profit for the installer.

## MODEL ABD-1

High goin, low noise distribution omplifier covering chonnels 2.13. Provides the key so superior television distribution for smoll, economicol systems. Combining lotest coscode circuitry ond new mechonicol design, the ABD-1 delivers strong. snow-free pictures ond keeps instollotion costs to o minimum.

| Gain: | 25 db | Tube Complement: | 3-6BQ7A, 1-6AK5, 1-6CB6 |
| :---: | :---: | :---: | :---: |
| Impedance: | IN 72 ohms or 300 ohms OUT 72 ohms | Coble Fittings: | 72 ohms (3) C-61 300 ohms, screw terminols |
| Rated Output (Max.) | 0.1 v/chonnel (7 chonnel operotion) | Fuses: | $B+, 1 / 10 \mathrm{omp}$. Slo Blo; Pri. $1 / 2 \mathrm{omp}$. Slo Blo |
| Rated Input (Mox.): | 5500 uv | Dimensions: | $11^{\prime \prime} \times 4^{\prime \prime} \times 5^{\prime \prime}$ |
| Naise Figure: | 6 db low bond, 7.5 db high bond | Shipping Weight: <br> Power Requiremen | $\begin{aligned} & 7 \mathrm{lbs}, 7 \text { ozs. } \\ & 117 \text { V AC, } 50-60 \mathrm{cps} .35 \text { wots } \end{aligned}$ |



Each $\$ 99.50$ list

## THE DE-SNOWER PREAMPLIFIER



Chennele 2 10 13
13 ontenno, $72 \Omega$ or one 7 to 13 ontemo or one 2 to
OUTPUT: $72 \Omega$ or $300 \Omega$. 0.1 volr/ch onnel. 0.5 composit e
TUBE COMPLEMENT: 3-6BO7-A. 1-6AK5, 1.6CBS
SIZE: Preomplifier $5^{\circ \prime}$ $5^{\prime \prime}$ a $10 \frac{1}{4^{\prime \prime}}$ overoll.

SHIPPING WEIGHT: $123 / 4 \mathrm{lbs}$.
Madel DSA. 132 Each $\$ 109.50$ Lis!
PRICES SLIGHIIY HIGHER IN FAR WEST AND SOUTHWEST

## MODEL U2V, UHF CONVERTER

Pulling UHF pictures out of the snow where other converters haven't a chance, the U2V top mounted mixer head converts right at the ontenna. The UHF oscillotor is mounted at the amplifier locotion (or of the TV receiver for individual home instollations) and feeds signals for conversion up to the mixer (a technique developed in radar installotions). Signals leove the mixer as VHF so coaxial cable may be used. The U2V will convert any UHF channel to any VHF channel. Order by specifying UHF channel to be converted to a specific VHF shannel.

| MIXER HEAD | OSCILLATOR |
| :---: | :---: |
| UHF INPUT: Double covīy tuned, 10 mc bandwidth, 72 chms. | TUBE COMPLEMENT: 1.6AF4, 1-OB2 |
| VHF OUTPUT: 72 ohms | POWER REQUIREMENTS: II7 V AC. |
| MIXER CRYSTAL: CK 710 or CK 731 | $50.80 \mathrm{cps}, 25$ watts |
| DIMENSIONS: $41 / 4^{\prime \prime} \times 4 \%$ / ${ }^{\prime \prime} \times 21 / 6^{\prime \prime}$ | DIMENSIONS: $41 / 2^{\prime \prime} \times 51 / 2^{\prime \prime} \times 7^{\prime \prime}$ |
| WEIGHT: $1 \mathrm{lb} ., 13 \mathrm{oz}$. | WEIGHT: $31 / 2 \mathrm{lbs}$. |
| MOUNTING: MOSt mounted, brockets ond strops supplied. | MOUNTING: May be mounted either horizontolly on a shelf or vertically on a wall. |



OSCILIATOR

## TEST EQUIPMENT

## VHF FIELD STRENGTH METER MODEL 704 A

 A Calibrated Direct Reading Instrument For TV and FM Signal Measurements - A Must For Color!The JERROLD Model 704A Field Strength Meter is a portable, inexpensive service instrument designed and built to precision stand. ards normally found only in laboratory equipment at three to four times the price.

SENSITIVE: Reads down to 5 microvolts and up to 3 volts.
SELECTIVE: 0.6 MC band width. Seporotes color subcarrier from audio carrier - audio from adjacent video.
ACCURATE: Precise readings in db or microvalts $\pm 0.6 \mathrm{dt}$ aver entire range. VERSATILE: Reods \% modulotion of FM corriers, \% AM distartion of FM omplifiers, \% AM of RF generotors. Output jock to phones or scope. PORTABLE: Only 19 pounds. Operates from either AC or $6 V$ battery.

Model 704-A — VHF Field Strength Meter (with AC power supply)
Model 704-A - 6V Vibrator Pack (including all cables) \$47.50 Net

## APPLICATIONS

1. Field intensity surveys
2. Boloncing Television Distribution Systems.
3. Testing color response of antenno systems.
4. Determining overlood layme clippingl in RF amplifiers.
5. Checking \% AM distortion of FM omplifiers
6. Checking \% modulation of FM corrier:
7. Checking \% AM of RF signol generotors.
-. Shudying ontenno potterns
8. Measuring radiotion.
9. Measuring aftenuation of cooxial cobles.
10. Chesking random moise levels.
11. Lacaling ond prienting ontennas.
12. Meosuring and locoting interference
13. Measuring indiviaval video and oudio corrier levels.
14. Checking output of signol generotors.
15. Comparotive lesting of ontennos ar boosiers.
16. Adiusting traps or filters.

## SPECIFICATIONS

FREQUENCY RANGE: SA to $220 \mathrm{mc} / \mathrm{sec}$ covered in one band.
ACCURACY: $\pm 0.8$ db over entire range

## SENSITIVITY: 5 microvalt

RANGES: 6 fundomentol conges -0.100 uv, 0.300 uv. $0-1000$ uv, 0.3000 uv, $0.10,000 \mathrm{uv}$.
$0.30,000$ uv.
4 additional ranges through the use of the built-in precision oltenuotar-0.100,000 uv. $0.300 .000 \mathrm{uv}, 0-1$ voll, $0-3.0$ volt
SELECTIVITY: Bond width of 3 db down is 0.6 mc .

IMAGE REJECTION: AMinimem of 60 db .
POWER REOUIREMEMT: AC: 55 wolls. 105.125 volts, $50 / 60$ cycles.
DC 30 woths 15 ampa + 5.5.6.5 olts (with $704 . \mathrm{A} .4 \mathrm{~V}$ power supplyl.
TUAE COMPLEMENT: $2-5854$, 1-6AB4, 1-6T8, I-OD3IVR 501, 3-5749, i-5V4, 2au7
HYSICAL SPECIFICATIOMS: Height $12^{\prime \prime}$. Widm- $12 \%{ }^{\circ}$ Depth-8". Shapping weiqh -24 lbs. Finish-grey crockle finish on sturdy oluminom case.

## PRECISION-BUILT VARIABLE RF ATTENUATORS



The A-72 provides precise attenuation from $U$ to 82 db by simple "IN" and "OUT" switches. Designed for use with a 72 ohm coaxial cable, the attenuator is linear over a range of frequencies from 0 to 250 MC . It has a V.S.W.R. less than 1.05 when properly terminated. Accuracy is $\pm 1.0 \mathrm{db}$ at maximum ( 32 db ) attenuation. The insertion loss is less than 0.5 db at 200 MC It is copable of handling 500 milliwatts CW.
$\$ 54.50 \mathrm{Nel}$
PRICES SLIGHTLY HIGHER IN FAR WEST AND SOUTHWEST

## DISTRIBUTION EQUIPMENT

## SPLITTERS



## MODEL T-1604

Four woy reoctive splitfer with o 6 db loss to eoch output leg. Isolotion between outputs is 12 db . Pocked with five $C-52$ connectors.

Model T-1604 Each $\$ 14.50$ List

| Input impedance: | 72 ohms |
| :--- | :--- |
| Output impedance: | 72 ohms |
| Dimensions: | $3^{\prime \prime} \times 31 /{ }^{\prime \prime} \times 7 / 0^{\prime \prime}$ |
| Coble fftings: | (5) C-61 |

## MODEL 1602

Two woy resistive splitter with o 6 db loss in each output leg. Isolotion between outputs is 6 db .

Model 1602 Each $\$ 7.00$ Lisı


| Input impedance: | 72 ohms |
| :--- | :--- |
| Output impedance: | 72 ohms |
| Dimensions: | $3^{\prime \prime} \times 21 / 4^{\prime \prime} \times 7 / 0^{\prime \prime}$ |
| Cable fittings: | (3) $\mathrm{B}-59$ |

## LINE TAPS

## MODEL LT-300

|  | Combinotion line top-off ond isolotion unit designed for use with RG 59/U coaxiol coble to provide on isoloted top to 300 ohm receivers. Built into o rodiotion proof steel housing, it is designed for woll or boseboord mounting. Model LT-300 <br> Each $\$ 6.00$ List <br> LT-300T-Some os obove with built in terminoting resistor for use of end of line. <br> Model IT-300t <br> Each $\$ 6.00$ List |
| :---: | :---: |
| Input impedance: | 72 ohms |
| Output impedance: | 300 ohms |
| Dimensions: | 23/4" $\times 21 / 4 \times 1 /{ }^{\prime \prime}$ |
| Cable fittings: | 72 ohms-(2) B-59 <br> 300 ohms-Screw Terminals |

## MODEL LT-75

Line rop-off unit designed for use with RG 59/U cooxiol coble to provide o top to 72 ohm receiv. ers. Built into o steel, radiotion proof housing, it is designed for woll or boseboord mounting. Model LT-75 Each $\$ 6.00$ List

LT-75T-Same os obove with built in terminoting resistor for
 use of end of line.
Model LT-75T Each $\$ 6.00$ List

| Input impedance: | 72 ohms |
| :--- | :--- |
| Output impedance: | 72 ohms |
| Dimensions: | $3^{\prime \prime} \times 21 / 4^{\prime \prime} \times 1 / 8^{\prime \prime}$ |
| Cable fitings: | (3) $\mathrm{B}-59$ |

## RECEIVER MATCHING UNITS



## MODEL T-372

Impedonce motching tronsformer designed to motch 72 ohm ond 300 ohm devices. Provides 06 db slep up in going from 72 ohms to 300 ohms. Isolotes AC-DC type receivers from the coble. Built into o steel, rodiotion proof housing. Includes C. 52 connector.
Model T-372 Each $\$ 6.00$ List

| Frequency response: | $50-250 \mathrm{mc}$. flat |
| :--- | :--- |
| VSWR: | 1.48 |
| Dimensions: | $23 / 4^{\prime \prime} \times 21 / 4^{\prime \prime} \times \mathrm{J} / \mathrm{m}^{\prime \prime}$ |
| Cable fittings: | 72 ohms-(1) C-61 |
|  | 300 ohms-Screw Terminals |

## MODEL ST-1601

Woll terminol unit. Motches receiver to 72 ohm line. Provides termination for line to receiver ond isolotes line from AC-DC or tronsformerless receivers.

Model ST-1601 Each $\$ 4.50$ List


| Input: | 72 ohms |
| :--- | :--- |
| Outpuf: | 72 or 300 ohms |
| Dimensions: | $23 / 4^{\prime \prime} \times 21 / 4^{\prime \prime} \times 7 / 9^{\prime \prime}$ |
| Cable fittings: | 72 ohms-(1) B-59 |
|  | 300 ohms-Screw Terminals |

PRIGES SLIGHTLY HIGHER IN FAR WEST AND SOUTHWEST


## MALE CONNECTOR

For RG-59/U. Mates with C-61 Receptacle, C-81, C-101 or C-5911 Adapters. Individually packed. Full instructians.

C-51 Connector.
Each \$.80 List

## HEAVY DUTY ADAPTER

Takes RG-11/U or RG-8/U. Packed with one C. 51 connector for RG-59; U cable. Full instructions.

C-101 Adapter.
Each \$2.50 List

## FEMALE RECEPTACLE

Chassis mounting. Mates with C. 51, C. 52 or C. -6 Connectors. Threaded stem is $\mathrm{s} / \mathrm{s}^{\prime \prime}$ long. Individually packed.

C-61 Receptacle. Each $\$ .80$ List

## CABLE JUNCTION

Mates wilh C-51, $=52$ or C-56. Connectors for RG-6/U, RG-59/U or double shielded equivalents. Individually packed.

C-81 Adapter.
Each $\$ 1.00$ List

## FIXED R. F. ATTENUATOR PADS

$3,6,10,20$ or 30 db attenuation in 72 $\Omega$ line. Accuracy $\pm 2 \%$ from $0-250 \mathrm{MC}$. V.S.W.R. 1.05. Roted of 500 mw C.W.

Packed complete with mounting screws and two Jerrold C- 52 connectors.
PD-3, PD-6, PD-10, PD-20, PD-30 Pads $\$ 6.66$ List


## FEED-THROUGH ADAPTER

Chassis or cabinet mounting. Connects C-1113 (PL-259) to C-51, C-52 or C-56. Individu. ally packed. Full instructions.


C-5911 Adapter. Each $\$ 3.50$ List

## MALE CONNECTOR

For RG-59/U or double. shielded equivalents. Mates with C. 61 receptacle. Requires
 Crimping Tool PL-52. Individually packed. Full instructions.

C-52 Connector. Each $\$ .80$ List

## MALE CONNECTOR

For RG-6/U cable. Mates with C-61 Receptacle, C.81, C-101 or C-5911 Adapters. Requires
 Crimping Tool PL-52. Individually packed. Full instruclions.

C-56 Connector. Each \$1.03 List

## MALE CONNECTOR

For RG-11/U, RG-13/U or double-shielded equivalents. Requires soldering. Individually packed. Full instructions.


C-1113 Connector (PL-259). Each $\$ 1.00$ List

## TERMINATING RESISTOR

Close tolerance 72 ohm resistor in coaxial fitting. Mates with C.61, C.81, C-101, or C-5911.


TR-72 Terminating Resistor
Each $\$ 1.50$ List

## CRIMPING TOOL

Attaches C. 52 and C. 56 Connectors ta cable. Individually packed. PL-52 Crimping Tool.


PRICES SLIGHTIY hIGHER IN fAR WEST AND SOUTHWEST

# - TOP QUALITY . . IOW COST ANTENNA 

19.95 List Model R-55


Combines superior characteristics of a yagi and conical antenna in a single design which even outperforms a stacked conical for semi-fringe installation. In many fringe oreas, model CY-II, stacked, will outperform all other designs. Installs in about three minutes, completely pre-ossembled except for quick insertion of conical elements. Provides an excellent impedance match and requires just a single down-lead. All channel.

the renown RMS LA-3 $\$ 1.00$ list
lightning arrestor and static charge eliminator all in one! Takes twin lead and open line; mounts flat or to the mast. Ut approved. High conductivity, corrosion resistant contact hardware throughout.
 ROTOR

- EXCLUSIVE SIGNAL CONTROL PILOT LIGHT-"ON" DURING OPERATION "DIMS" AT END OF RO. TATION
- Featherlight touch control
- Instant braking action
- Full 370 degree rotation left and right
- Step-down tronsformer... safe 24 volts to drive unit
- Direct gear oction - no worm gears
- Lifetime oilite bronze side thrust bearing
- Flagpole-type base
- Die-cast zinc weather sealed housing
- All parts rustproof


FRINGELEADER JR.
Model EVA-100

## V. ANTENNA

 4 element end-fire array, ideal for urban and semifringe area. Completely preassembled.2-boy Model EVA-200
with stocking bars
$\$ 12.20$ List

UHF Lightning Arrestor
LA-UH3 $\$ 1.48$ list
incorporates specially designed filter networks to effectively isolate r.f. from ground potential so that the arrestor operates to discharge static and lightning. Takes regular twin lead, oval and tubular lead, 375 ohm and 450 ohm open line. Ul approved. High conductivity, corrosion resistant contact hardware used throughout. Can be mounted flat, or to mast.


## -NM: <br> \section*{HEADLINE CONICALS}

- $3 / 3^{\prime \prime}$ Alaminum Elements; dowel reinforced
- Genuine Molded Bakelite. Insulator
- Universol U.Clomp for mosts up to $1 \frac{1}{2 \prime \prime}$
- Designed for eosy Multi-Stacking


Ax-5 12
o hi-tensil Elements
PACKED 6 ARRAYS PER CARTON, 17 IBS


AX-S 12 F
8 hi.tensil Elements
PACKEO 6 ARRAYS PER CARTON, $18 L B S$


AX-S 13
8 hi.tensil Elements
PACKED 6 ARRAYS PER CARTON 19 LBS.


AX-S13R
8 hi-tensil Elements PACKED OARRAYS PER CARTON, 19 IBS.


Ax-S 13 P
10 mi-tensil Elements
packed 6 arrays per carton, 20 les.
CONICAL T-8AR


## XA-33(*)

- indicate channel

7 hi-tensil Aluminum Elements
PACKED O ARRAYS TO CARTON, 18 LBS.
\%"' Aluminum Elements; dowel reinforced

- Genuine Heovy Duty Molded Bokelite Insulotion
- Universal U.Clomp for mosis up to $11 / 2^{\prime \prime}$
- Designed for easy Multi-Stocking


XA. 44
8 hi-pensil Elements
PACKED 6 ARRAYS PER CARTON, 21 lbs.


## XA.44R

8 hi-tensil Elements
PACKED $O$ ARRAYS PER CARTON, 23 LbS.


## XA-44F

10 hirtensil Elements
PACKED o ARRAYS PER CARTON, 24 lBS.


## XA-44X

Camplete with twa XA-44 Arrays and lie-rods for stocking
PACKED 2 ARRAYS PER CARTON, $81 / 2$ t8S.


## XA-44RX

Complete with 2 XA.44R Arroys and pie-rads for slocking
PACKED 2 ARRAYS PER CAITON, 9 IES.


6 hi-tensil $\%^{\circ \prime}$ Aluminum Elements: COMPLETELY PRE-ASSEMBLED.
PACKED 2 ARRAYS PER CARTON, 8 LBS.

## AX-622

Twa AX-620 Arrays with rie-rods for stocking; PACKED 2 ARRAYS PER CARTON, $81 / 2$ LBS.


## TX-X SUPER-DELUXE

8 hi-tensil $1 / 2^{\prime \prime}$ Aluminum Elements, dowel reinforced: Universal U-Clamp for masts up to $1 / 2$.
PACKED 2 ARRAYS PER CARTON $131 / 2$ LBS.

## TX-A

Two TX-X ARRAYS with tie-rods for easy stacking: PACKED 2 ARRAYS PER CARTON, 14 LBS.

## LINE-UP ANTENNAS



AR-16
Hi and to-bands with reflector: Hi- tensil $1 / 2^{\prime \prime}$ Aluminum Elements; Universol U-Clamp for masts up to $11 / 2^{\prime \prime}$ PACKED 2 ARRAYS PER CARTON, 11 IBS.


AR-29
$\mathrm{Hi}_{\mathrm{i}}$ and to-bonds with refiector; Hi-rensil \#" Aluminum Elements; Universol U.Clomp for masts up fo $11 / 4^{\prime \prime}$. PACKED 2 ARRAYS PER CARTON, 8 LBS.

## V-TYPE ANTENNA



4 Hi-pensil 3 ." Aluminum Elements: Genuine Bakelite Insulatars; Twa $1 /{ }^{\circ}$ Afuminum Cross Arms; Universol U-Clamp; COMPLETELY PRE-ASSEMBLED.
PACKED 6 AMRAYS TO CARTON, 15 L8S.
WINDOW TV ANTENNA


4 hiotensil 3 "0 Aluminum Elements; Camplete spherical arientation;
Adiustable for windaw apenings $331 /{ }^{\prime \prime}$ to $431 / 22^{\prime \prime}$.
COMPLETE KIT INDIVIDUALIY
COMPLETE KIT
PACKED. 2 L8S.

BROAD-BAND YAGIS


## RE 2-6

broad lo-bano for all areas: 7 hi-tensil 3"' Aluminum Elements; Universol U-Clomp for masts up to $11 / 2^{\prime \prime}$; COMPLETELY PRE-ASSEMBLED. individually packed, 9 LBS.

## X MODEL

FOR STACKING IN ULTRA.FRINGE AREAS, PACKED 2 ARRAYS WITH TIE-RODS


RB7-13
broad hi-band for all areas; Q hirtensil $\%^{\prime \prime}$ Aluminum Elements; Univers al U-Clamp for masts up ta $11 / 2^{\prime \prime}$; COMPLETELY PRE-ASSEMBLED. indivioually packed, 3 lbs.

CONICAL-YAGI COMBINATION


All VHF Channels for Fringe Areas; 11 Hi-tensil $3 \mathrm{~h}^{\prime \prime}$ Aluminum Elements; 3 Perma-plastic insulators; Universol U.Clamp: Crossarm Suppart; 80 inch twin lead phasing stub.
PACKED 2 ARRAYS PER CARTON, 15 IBS.

## aX-672

DUAL-STACKED IN ULTRA.FRINGE AREAS - COMPLETE WITH TIE.RODS


AX-673
17 Hi-lensil \%" Aluminum Elements: 3 Perma-plastic insulatars;
6-Element Radar-Flector;
Universal U.Clamp;
Crossarm Suppart:
60" Twin lead Phasing Stub.
INDIVIDUAIIY PACKED, 10 LBS.

## AX-674

WITH 9-ELEMENT UNI.FLECTOR
PaCKED 2 arrays per carton with TIE-RODS, 20 LES.

## -MMロ



## AX-524 fRINGE AREA 2.BAY SUPER-DIRECTRONIC

- All channels for FRINGE AREAS
- 24 hi-tensil $3 / \mathbf{2}^{\prime \prime}$ Aluminum Elements
- I sel of tie rods; 6.Position DIRECTRONIC BEAM SELECTOR; 100' of TRI-TUBE TRANSMISSION LINE; Universal U-Clamp
COMPLETE PACKAGE 20 LBS.


AX-548 ULIRA FRINGE AREA 4.BAY SUPER-DIRECTRONIC

- All channels for ULTRA. FRINGE AREAS
- 48 hi-tensil $3 / 9$ "Aluminum Elements
- 2 sets of tie rods with Specially

Engineered Harness; B. Position

DIRECTRONIC BEAM SELECTOR; 150' of TRI-TUBE TRANSMISSION LINE; Universal U-Clamps
COMPLETE PACKAGE 30 LBS.

## GNYDAR rado/TV products

## FM TV ANTENNAS



A simple but effective antenna for FM in metropalitan areas. No orientation necessary. The " $S$ " shape makes the antenna omni-directional for signal pick-up from all directions. Low-loss Hi-Paq insulatian \& rigid mechanical construction.
INDIVIDUALLY PACKED... . 1 3/4 LBS.


## THE "DIRECTRONIC"

A high gain FM antenna for suburban \& fringe orea, utilizing the well known Directronic principle. No orientation necessary, with peak gain for any direction selected by a six position switch. Well balanced 8 rigid construction using low. loss materials. Equipped with high gain reflector design.
INDIVIDUALLY PACKED.... $21 / 2$ LBS.
 crossed folded dipoles for FM in metropoliton and suburban areas. No orienlation necessary. Has a good all-direclional pattern. Low-loss Hi-Paq insulation \& rigid mechonical construction.
INDIVIDUALLY PACKED.
4 LBS.

the "Ultimate"
The ultimate in fringe area $F M$ antennas. This antenna uses the Yagi principle for exceptional gain \& flat screen for very high front to back ratio. Minimizes interference from local FM stations when receiving fringe area $F M$ stations. Equipped with low-loss insulation, Has rigid mounting design.
INDIVIDUALLY PACKED.... $61 / 2$ LBS

## UHF TV ANTENNAS



## UHF-6 BOW-TIE

W/CORNER REFLECTOR CHANNELS 14 TO 83
factory preassembled; fold-up spacesaver design; diamond embossed aluminum elements; dual $U$-bolt installation; all welded heavy duty reflector screens. INDIVIDUALLY PACKED...
12 TO MASTER CARTON . . 45 LBS.
CAN BE STACKED IN ULTRAFRINGE AREAS. TIE-RODS ARE AYAILABEE.


## UHF-5 BOW-TIE W/REFLECTOR CHANNELS 14 TO 83

Factory preassembled; collapsible spacesaver design; diamond embossed aluminum elements; single $U$-bolt installation; all welded heavy duty reflector screen.
INDIVIDUALLY PACKED...
12 TO MASTER CARTON . 26 LBS.
CAN BE STACKED IN ULTRAFRINGE AREAS. TIE-RODS ARE AVAILABLE.

## Mike Stands

- XXX CHROME PLATED
- 2-SECTION TELESCOPIC STAFFS
(EXCEPT MODEL DM-I)
- SURE-GRIP LOCK with VELVET ACTION (EXCEPT MODEL DM-1)


OM-I DESK STAND
$6^{\circ}$ HEIGHT $_{i} 5^{\prime \prime}$ BASE, GREY CRACKLE FINISH. INDIVIDUALIY PACKED...
12 TO CARTON
BM-I BANQUET STAND
$8^{\prime \prime}$ COLIAPSED-12" EXTENDED; 6" BASE, GREY CRACKLE FINISH
individually packed ...
12 TO CARTON. $\qquad$ .36 LBS.

## MS-I FLOOR STAND

32" COLLAPSED-61"' EXTENDED; 10" STAN. DARD BASE; GREY CRACKIE FINISH individually packed..
6 TO CARTON......................... 52 LBS.

## MS-5 HEAVY DUTY FLOOR STAND

$32 \frac{1}{2} 2^{\prime \prime}$ COLLAPSED-611/2" EXTENDED; $12^{\prime \prime}$ HEAVY DUTY BASE; GREY CRACKLE FINIS'H INDIVIDUALLY PACKED...
6 TO CARTON.
.73 LBS.

## MS-2 FLOOR STAND

$321 / 2^{\prime \prime}$ COLLAPSED— $611 / 2^{\prime \prime}$, EXTENDED; BASE, OPEN READY FOR USE- $16^{\circ \prime}$; COLLAPSED- $6^{\circ}{ }^{\circ}$. HEAVY CAST IRON, GREY CRACKLE FINISH INDIVIDUALLY PACKED. 8 LBS.
MS. 6 DELUXE FLOOR STAND
ALL CHROME "TOP-TO-BOTTOM"
$32^{\circ}$ COLLAPSED-61" EX. TENDED; 11 " base INDIVIDUALLY PACKED 6 TO CARTON 56 LBS.



## 11/4"O.D. 3-COTE

 STEEL MAST SECTIONSMIO-X . . . . HEAVY DUTY . . . 18 GAUGE MIO-XX . . EXTRA HEAYY DUŤY . 16 GAUGE

- Precision Buily, SELF COUPLING
- 3-COTE: Rustproof BONDERIZED; Coat of Primer Paiaft; Coct of Eaked Heavy Plastic Enamel
- 10 foot lengits

Mio-X
WEIGHT 66 LBS. WEIGHT B5 LBS.

## HOT DIPPED GALVANIZED

| MG-10 | 20 GAUGE |
| :---: | :---: |
| MG-10X | 18 GAUGE |



NEST PACKED with REINFORCED END SUPPORT - 10 to PACKAGE


## 11/4" O.D. 2-COTE

20 GAUGE STEEL MAST SECTIONS

- 2-COTE Process Prevents Corrosion from Salt Water, Acids, Ceustics
- Tough Flexible Coating Sticks in Any Kind of Weather
- Will Not Crack or Chip if Ben During Installation
- Electro-Welded

M4 ..... ............................ $\mathfrak{\text { . }}$ fee*

- Crimped for interlocking 10 TO BUNDLE

WEIGHT 16 LBS. M5

5 feet

- Crimped for interlocking 10 TO BUNDLE M10
- Straight Tubing 10 TO BUNDLE.


## the Original



## PT-H

 VHF/UHFGold tone, diomond embossed oluminum holo element; genuine molded bokelite ball housing; heavy duty, fopl-pruf bose; wolnut crockle finish; includes 5 feet of twin-X coble with lugs. Packed individually, 12 to master corfon-24 lbs.


- ALL VHF CHANNELS
 TOPL-PRUF BASES; CRACKLE FINISH
- COMPLETELY FACTORY PRE-ASSEMBLED



## $\left\{\begin{array}{l}\text { PT-0 } \\ -T-1 \\ -T-0\end{array}\right.$

PT-L
MIRROR FINISH ALUMINUM STAFFS; 25 facarton-38/bs.

## PT-O

MIRROR FINISH ALUMINUM STAFFS; 50io carton - 47 lbs.


- INDIVIDUALLY BOXED
- PACKED IN MASTER CARTONS
- INCLUDE 4 FT. OF TWIN.X CABLE WITH LUGS
Q

$$
\left\{\begin{array}{l}
P T-X \\
P T-A \\
P T-V
\end{array}\right.
$$

## -MM:



C-3L C-3D C. 43 C.4D FC. 3 FC. 4 TC- 2 TC. 3 TC. 4 TC. 8 TC. 9 TC. 10


C-3L STANDARD COWL 3 section stoff; $243 / \mathbf{1}^{\prime \prime}$ collapsed, $64^{\prime \prime}$ extended. $36^{\prime \prime}$ low-loss polyethylene cable. Individually packed in master cartons of 25 units.

Weight 22 Lbs.

## C-3D DELUXE COWL

3 section staff; $243 / 4^{\prime \prime}$ collapsed, $64^{\prime \prime}$ extended. $36^{\prime \prime}$ low-loss polyethylene cable. Individually packed in master cartons of 25 units.

Weight 22 Lbs.
C-43 STUMPY COWL
4 section staff; $213 / 4^{\prime \prime}$ collapsed, $691 / 2^{\prime \prime}$ extended. $36^{\prime \prime}$ low-loss polyethylene cable. Individually packed in master cartons of 25 units. $\qquad$ Weight 29 Lbs.
C-4D COUNTRY COWL
4 section staff: $31^{\prime \prime}$ collapsed, 104' extended. 36" low-loss polyethylene cable. Individually packed in master cartons of 25 units.

Weight 33 tbs.

## FC-3 FENDER MOUNT

3 section staff; $71 / 2^{\prime \prime}$ collapsed, $52^{1 / 2^{\prime \prime}}$ extended. $48^{\prime \prime}$ low-loss polyethylene cable. Individually packed in moster cartons of 25 units. . Weight 35 lbs.
FC-4 SUPER FENDER MOUNT 4 section staff; $81 /{ }^{\prime \prime}$ collopsed, $671 / 1^{\prime \prime}$ extended. $48^{\prime \prime}$ low-lass polyethylene cable. Individually packed in master cortons of 25 units.

Weight 39 lbs.
TC-2 AD-TRACTION TOP
COWL
2 section staff; $203 / 4^{\prime \prime}$ collapsed, $361 / 2^{\prime \prime}$ extended. $36^{\prime \prime}$ low-loss
$36^{\prime}$ extended. $36^{\prime \prime}$ low-los:
netal shielded cable. Individuall pacted in master cartons of $25^{\circ}$ units. ......Weight 19 lbs TC-3 LEADER TOP COWL 3 section staff; $221 / 2^{\prime \prime}$ collapsed, $561 /{ }^{\prime \prime}$ extended. $36^{\prime \prime}$ low-loss metal shielded cable. Individually packed in master cortons of 25 units. its. .

Weight 22 lbs.

## TC-3B TOP COWL

3 section staff; $161 / 2^{\prime \prime}$ collapsed, $40^{\prime \prime}$ extended. $36^{\prime \prime}$ low-loss metal shielded cable. Individually packed in master cartons of 25 units.

Weight 18 Lbs.
TC-4 SUPER FENDER/COWL 4 section staff; $201 / 2^{\prime \prime}$ collapsed, $671 / 2^{\prime \prime}$ extended. $48^{\prime \prime}$ low-loss palyethylene cable. Individually pocked in moster cartons of 25 units.

Weight 35 lbs.

## TC-B TOP COWL

3 section staff; $231 /{ }^{\prime \prime}$ collapsed, $551 / 2^{\prime \prime}$ extended. $48^{\prime \prime}$ low-loss polyethylene cable. Individually packed in master cartons of 25 units
T. 9 TOP COWL/DECK

MOUNT
3 section staff; $235 / s^{\prime \prime}$ collapsed, 56" extended. 48" low-loss polyethylene cable. Individually packed in master cartons of 25 units. .

Weight 21 lbs.

## TC-10 TOP COWL/DECK

 MOUNT2 section staff; $211 / 4^{\prime \prime}$ collopsed.
$361 / 2^{\prime \prime}$ extended. $36^{\prime \prime \prime}$ low-loss
polyethylene cable. Individually packed in master cartons of 25 units.

Weight 18 tbs.

## RD-B SWIVEL TYPE REAR

 DECKTwo-3 section staffs; $13 \frac{1}{12}{ }^{\prime \prime}$ collapsed, $27^{\prime \prime}$ extended. $22^{\prime} \mathrm{Hi}$-Q COAXIAL CABLE. Individually boxed in master cartons of 12 units.

Weight 34 lbs.

## RD-8B SAME AS RD-a

Has Hi-Q Transformer (Booster). Individually boxed in master cartons of 12 units. Weigh? 35 Lbs. RD-9 BALL \& SOCKET TYPE REAR DECK
Two-3 section staffs; $131 / 2^{\prime \prime}$ collapsed, $27^{\prime \prime}$ extended. $22^{\prime} \mathrm{Hi}-\mathrm{Q}$ COAXIAL CABLE. Individually boxed in master cartons of 12 units.

Weight 34 lbs.
RD-9B SAME AS RD-9
Has Hi-Q Transformer (Rooster). Individually boxed in master cartons of 12 units. . Weight 35 lbs. RD-3B DISAPPEARING TYPE Two-3 section staffs; $B^{\prime \prime}$ collopsed, $371 / 2^{\prime \prime}$ extended. 22' HI-Q COAXIAL CABLE \& BOOSTER. Individually boxed in master cartons of 12 units.

Weigh 45 Lbs.
RD-4B DISAPPEARING TYPE Two 4 section stoffs; $6^{\prime \prime}$ col. lapsed, $481 / 2^{\prime \prime}$ extended. 22' Hi-Q COAXIAL CABLE \& BOOSTER. Individually boxed in master cartons of 12 units.


THE ALL NEW

## BASEBal/

Automobile Antenna

Yes. it's a HIT: A NEW and IM. PROVID automobile antenna with more on the hall than anything you' c ever handied designed by the same team that produces orig. inal equipment antemas for such fine manut. tacturers as Bendix. Crosley, DuMone. G.E., I.ear, Motorola, RCA, W'esting. house and \%enith

The "Baseball" is londed with new sales bunch . . . an extra rugked, quality built antennat with positive grounding action ... no danger of wet-weather shorts. . . finest triple. chrome plating ... and a price that means casy sitles and profits.

Best of all, the Baseball Antenna is made by a teann that specializes in the aum. mobile antenna field ...concentrates its merchandising and adsercising support on this one product

Yes. the "Basehall" gives you a bet. ler play for your money all the way around. sh step up to the hig leaguers - join the all. star names who use A $\$$ products - write today for complete information, catalogs and prices on the NFW' "haseball Auromohile Anremma!

Exclusive New Design

- Insures Positive Grounding
- Eliminates Wef Weafher Shorts
- Meefs or Exceeds Car Manufacturers' Specificałions
for COWL . . . for FENDER


FEATURES:

- Simple one-hole, one-man installation
- Swivel base permits mounting on any curved surface with a slant up to $35^{\circ}$
- Full spring-action pin plug on lead
- Supplied completely assembled
- $56^{\prime \prime}$ telescopic whip made of triplechrome shatterproof heavy-wall brass tubing
- Precision-made anti-rattle telescopic qube assembly
- Lead is replaceable without loosening or removing antenna mount


## ALSO AVAILABLE IN SIX STRIKING AUTOMOTIVE COLORS



Here's Why The "Baseball" Is Your Best Antenna Buy!

POSITIVE GROUNDING - Special taper makes Rocker Suppors (A) bite firmly into edge of mounting hole when assembly is drawn tight, insuring positive 4 -point grounding. TRIPLE-CHROME PLATING - Important extra protection. Gleaming chrome over nickel over conner over high quality hrovy wall brass.

WATER SHORTS ELIMINATED - Mounting tube (B) is full-length ontenna support, eliminating corrosion problems and water shorts at mounting. Polyethylene coaxial lead (C) coated with heavy weatherproof vinylite. Rubber washer (D) prevents whip shorts.

AVAILABLE IN TWO LEAD LENGTHS

| Model | Freq. <br> Mc |
| :--- | :---: |
| AS-1 | $.5-1.5$ |
| AS.AI | $.5-1.5$ |


| Description | W4. <br> Ibs.-02. | Std. <br> Pkg. | Suggested Prices <br> List | Dealer |
| :---: | :---: | :---: | :---: | :---: |
| 3-section $56^{\prime \prime}$ <br> with $36^{\prime \prime}$ <br> whip lead | I | 1 | 12 | $\$ 5.90$ |

TERMS: 30 days net, $2 \%$ 10th Prox. F.O.B. Cleveland. Ohic, on orders less than 100 lbs . Freiaht prepaid on orders for 100 lbs . or more. Prices subject to change without notice.


ANTENNA RODS - Special stainless strel: $3 / 8-24$ thread mounting adapters. ASP-3B: with pressed on chrome-plated beass adapter. ASP-3BL: With setscrew. tyse plated steel adaptors, standard replacement for: Motorola Series P-9553 ard P7253; Philco Series 76-3664; West em Electric Series KS-15526; General Electric Series M-7483915; RCA Series MI-31427. ASP-66 to 69 are standard replacement for Link and DuMont mountings. ASP-59. 2 -section telescopic red, adiustable from $85^{\prime \prime}$ to $103^{\prime \prime}$, with special locking adjustment.

NOTE: When ordering, specify model and length.


## TRANSMITTING ANTENNAS

"Disguised" antennas designed to look and mount like ordinary car aerials, on fenders, cowl or rear deck. For detectives, cab spotters, utilities, etc. 25-50 Mc., 144-174 Mc. Exclusive cable receptacle design eliminates electrical discontinuity, corrosion problems, water shorts. Order coble and plua separately.
ASP-BO: With $56^{\circ "}$ chromeplated pseudo-telescopic whio. (Joints permanently connected).

ASP-85: With tapered $56^{\prime \prime}$ stainless steel whid.


| Model | $\begin{aligned} & \text { Frea. } \\ & \text { Mc. } \end{aligned}$ | Deseription | $\underset{\text { Wt.0. }}{\text { Wt. }}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | List | ested Dealer | Model | $\begin{aligned} & \text { Fren. } \\ & \text { Mc. } \end{aligned}$ | Description | $\begin{gathered} \text { Wt. } \\ \text { Lb. } \\ \text { inz. } \end{gathered}$ | $\begin{aligned} & \text { Std. } \\ & \text { Pkg. } \end{aligned}$ | $\underset{\mathrm{List}}{\mathrm{Sug}}$ | $\begin{aligned} & \text { ested } \\ & \text { Dealer } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ASP-1 | 144-1i0 | \% ${ }^{\text {" Hole Rooftop }}$ | 0-12 | 12 | \$8.50 | \$ $5.10^{*}$ | ASP-66 | 25-50 | Spee. stnls. Whin (5) | - $\quad$ 的 | 1 | \$13.75 | $8.25 *$ 9.00 |
| ASP-3 | 24-50 | Tnik: Swivel Mount |  | 12 | 13.25 | 7.95* | Asp-67 | \% 0.50 | Spere stms. Whip (6) |  | 1 | 16.25 | 9.75 |
| ASP-3A | 924.50 | Shock Mounting Spring | 2-12 | 12 | 7.90 | 4.74* | ASP-68 | 25.50 | Sreec. Stms. Whip ( $\mathrm{s}^{\prime}$ ) | $1-6$ | 1 | 17.50 | 10.50 |
| ASP-3B | 21-50 | Stainless Steel Whip | $1-6$ | 12 | 11.50 | $6.90{ }^{\circ}$ | ASP-69 |  | Stue Sharit Meg |  |  |  |  |
| ASP-3BL | 21-50 | Stainless steel Whip | 1-6 | 12 | 11.50 | ${ }_{3}^{6.90}$ | ASP-70 |  | suring | 2-12 | 1 | 20.00 | 12.00 |
| ASPAIO | 144.174 | Insulated l'ark Set Whip |  | I | 19.90 | 11.90 | ASP. 73 | 2.1-50 | Rooftop Sount |  | 1 | 12.50 75.00 | 45.00- |
| ASP- ${ }_{\text {ASPA1, }}$ | 144.154 | Ground llane Antenna | $3-0$ $10-0$ | 1 | 77.40 | 46.40 | ASP-74 | 25-50 | Base Loaded Rooft | 1. |  | 8.50 | $5.10^{-}$ |
| ASP-12 | 144-174 | 1rolating Skirt for |  |  | 9.75 | 5.85 | ASP-75 | 1414780 14.174 | Stirlne buse 1'ack |  |  |  |  |
| ASP-13 |  |  | $2-0$ | 1 | 9.75 | 5.85 |  |  | set Antenna | $\begin{gathered} 0-10 \\ 0 \end{gathered}$ | 1 | $\begin{aligned} & 21.00 \\ & 25.00 \end{aligned}$ | 13.95 15.00 |
| ASP-14 | - |  | 1-0 | I | 69.60 29.00 | 3.96 17.40 | ASP-78 4 SP- 80 | 1445-174 | Asseudo Teleseopic | 1-8 | 12 | 22.50 | 13.50 * |
| ASP-15 |  | $\%^{\text {a }}$ " Airline Adaptor | 4-0 | 1 | On Apd | patiom |  |  |  | $1-8$ |  |  |  |
| ASP-16 | 162 | Hailroad Amenna | 5-4 | 1 | 69.00 | 46.00 | ASP-81 | 25-50 | nlw. Base. Hardware | 3.4 | 12 | 19.10 | 10.45 |
| ASP-19 | 111-174 | IRG-58'U Lead, 1'L-259 Earh End | 0-12 | 1 | 5.90 | 3.54* | ASP-85 | $25-17$ | Stuls. Whip Disguise |  | 12 | 22.50 | 3.50 |
| ASP-20 | 25-50 | HG-58, C l base Ioaded |  |  |  |  |  |  | 3 Turn Loading Coil | 0-8 |  | 13.00 | 7.80 |
| ${ }^{(72 ")}$ |  | LCesal. | 0.8 | 1 | 22.50 | 13.50 | ASP-877 | 25-50 | 4 Turn loading loil | 0.8 | 1 | 13.00 | 7.80 7.80 |
| ASP-33 | 144-174 |  | 1-8 | 1 | 16.00 | $9.60{ }^{*}$ | ASPB887 | 25-50 | ${ }_{6}^{5}$ Turn Loading Coil | 0.8 |  | 13.00 | 7.80 |
| ASP-34 | 25-50 | RG-8/T Mase Loaded |  |  |  |  | ASPC87 | 450-470 | Speelal linofton ant. | 0-11 | 1 | 27.00 | 16.25 7.95 |
| ${ }^{\left(722^{\prime \prime}\right.}{ }^{\text {c }}$ |  | $10^{\text {Lead }}$ dinior Antena | 1-0 | 1 | 22.50 34.00 | 13.55 20.25 | ASP-91 ASP-92 | 144-174 | Suction (cup 1tooftop | 1.0 | 2 | 13.25 10.50 | ${ }_{6.30}{ }^{7}$ |
| ASP-38 | 25-50 | L.ow 13and 1ndustrial |  |  |  |  | ASP-93 | 25-50 | Sterial I'lated spring | 2-12 |  |  |  |
|  |  | Ampnna | 5 |  | 30.00 | $18.00^{*}$ | 19 |  | Replacement $A N^{2}-\times 0$ |  | 1 | 1.50 | 6.90 |
| ASP-58 ASP-59 | 20-50 | Spec, Iort. Stnls. Whip | -5 | 1 | 22.50 | $13.50^{*}$ | 198116 |  | Remacement whin | 1.6 |  | 11.50 | 6.90 |
| ASP-63 | 25-30 | Base Loaded 1'ort, Whip | 1-4 | 1 | 12.00 | 7.20* |  |  | ANP-8 |  |  |  |  |

TERMS: 30 Days Net, $2 \% 10$ h Prox., F.O.B. Our Plant on Orders Less Than 100\#. Freight Prepaid on Orders for $100 \#$ or More. PRICES SUBJECT TO CHANGE WITHOUT NOTICE. INDIVIDUAL CATALOG SHEETS ON REQUEST.

## Excellent Insulation

-Even at High Frequencies. Reduces Hazards of Operating Under Live Wires, Around Sub Stations, etc.

## Will Not Corrode

-Even When Exposed to Solt Water, etc.

## High Flexural Strength

## High Impact Strength

STANDARD WHIPS
54" - 5.75
$90^{\prime \prime}-6.95$

BASE EXTENSIONS
$18^{\prime \prime}-3.95$
$36^{\prime \prime}-4.70$

- prices amateur net

Standard prices are for white fiberglass whips with $3 / B^{\circ}-24$ thread chrome plafed brass fiffings at base. special rod colors on request on quantity orders.
We solicit orders for custom-built antenna for industrial applications. Prices for special lengths and special base fittings on request.
This Wonderod is o reinforced fiberglass antenna for mobile radio equipment... for commercial and private installations. Made by the pioneer manufacturers of fiberglass fishing rods. Thoroughly tested under extreme conditions.

## Will Not Take a Set

—The Best Impedence Match Requires a Somewhat Shorter Wonderod Antenna Than Is Required With Steel.

## Shorter Resonant Length



Light Weight
—Reduces Road Noises

## COLUMBIA PRODUCTS COMPANY <br> COLUMBIA, SOUTH CAROLINA, SUBSIDIARY OF SHAKESPEARE CO.



PREMAX ALUMINUM ANTENNAS

| fremax "felescobing Adjustable Aluminum Amtennas for marine, mobile amateur and commorrial installations are hailt wo of specially-drawn, seamless. temmered aluminum tubingr. "ngimecred (1) withstand wind veloeities up to for mip.h. Sture eollet locking devire. Polished finish. |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AL-518 <br> AL-3:4 <br> AL-530 <br> Al- -E 3 y |  |  | 1:x1d | 1 M11 | liase | liswe | W!1. |
|  |  | Des-ription | 1.nitl. | 1.8911. | 11.11. | 1.11. | L.1s. |
|  |  | 2-Sere Tele. | 12'4" | $6^{\prime} \mathrm{l}^{\prime \prime}$ | - \%!" | ":3'3" | /20 |
|  |  | 3-Sere Tele. | 18'5' | 6'1" | --, 110 | .5s " $^{\prime \prime}$ | , |
|  |  | 4-S'r. Tele. | $\because 1^{\prime \prime}$ | $1 i^{\prime} f^{\prime \prime}$ | 1.1140" | .s:i.f" | 5 |
|  |  | 5 -Sec. Tele. | $30{ }^{\prime \prime}$ | $66^{\prime \prime}$ | 1.350" | 1.0s4" | , |
|  |  | 6-Sec. Tele. | 3.7 's" | 6'5" | 1. 2100 | $1.310^{\prime \prime}$ | ) |
| PREMAX STEEL ANTENNAS <br> These are low-cost, adjustable Antemnas for amateur. conmercial, municipal. Civil Defense and other installations. Made of high-tensile, copper-nickel steel tubing, heavily cadmium plated and resistant to corrosion. Fully telescoping and adjustable. In 5 lengths. | STEEL ANTENNAS |  |  |  |  |  |  |
|  | These are low-eost, adjustable Antennats for amateur. conmercial, municipal. Civil Defense and other installations. Made of high-tensile, copper-nickel steel tubing. heavily cadmium plated and resistant to corrosion. Fully telescoping and adjustable. In 5 lengths. |  |  |  |  |  |  |
|  |  |  | Est'd | (0) ${ }^{\text {d }}$ | liase | batse | Wgt. |
|  | No. | Description | Iofth. | 1.gth. | 0.10. | 1. ${ }^{\text {D. }}$ | l.ls. |
|  | 112-M | 2 -Suc. Tele. | $11^{\prime \prime} 8^{\prime \prime}$ | $6^{\prime \prime} 0^{\prime \prime}$ | di.jt" | . 5.5 tim | 4 |
|  | 318-M | 3-Sec. Tele. | $17^{\prime} 3^{\prime \prime}$ | $6^{\prime \prime} 2^{\prime \prime}$ | .s75" | .775" | 7 |
|  | 224-M | 4 -sec. Tele. | 22'9" | $6^{\prime} 3^{\prime \prime}$ | $1.1063{ }^{\prime \prime}$ | . 963 " | 11 |
|  | 130-M | 5 -Sec. Tele. | 28'3" | $6^{\prime \prime} 4^{\prime \prime}$ | 1.250" | $1.150^{\prime \prime}$ | 15 |
|  | 136-. M | G-Ser. Tele. | $33^{\prime \prime}{ }^{\prime \prime}$ | $6^{\prime} 5^{\prime \prime}$ | $1.5100^{\prime \prime}$ | $1.400^{\prime \prime}$ | 20 |

## STAINLESS STEEL ANTENNAS

Stainless Steel Antennas made of a special grade of tubing, hard-drawn for tensile and yield strength. Fully telescoping and adjustahle. Polished finish. Secure locking device. Fine for marine use.

| No. | Description | Wxt'd <br> Leth. | Col's <br> Lgth. | litse (1.1). | Hise 1.1. | Wgt. Jobs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SS-1118 | 3-Sec. | 18'4' | $6^{\prime} 3^{\prime \prime}$ | .750" | .680" | 6 |
| SS-1124 | 4-Sec. | $\underline{2} 4^{\prime \prime}{ }^{\prime \prime}$ | 6'3' | 1.000 " | $.900^{\prime \prime}$ | 9 |
| SS-1130 | 5 -See. | $30^{\prime} 0^{\prime \prime}$ | $6^{\prime} 4^{\prime \prime}$ | $1.950^{\prime \prime}$ | $1.120^{\prime \prime}$ | 13 |
| SS-1135 | 6-Sec. | $35^{\prime \prime}$ | $6^{\prime} 4^{\prime \prime}$ | $1.500^{\prime \prime}$ | $1.370^{\prime \prime}$ | 10 |

## TAPER WHIP ANTENNAS

Type $E-1 / 4 "$ base, taper-ground to $3^{3} z^{\prime \prime}$ tip for high flexibility and strength. Easily cut to exact freguency. In Chrome Silicon Steel. cadmiumplated, or in Stainless Steel with polished finish. Fits any Premax Mounting.

| Length | Chrome-Silicon | Stainless |
| :---: | :---: | :---: |
| Overall | Steel | Steel |
| $60^{\prime \prime}$ | EC-660 | ES-760 |
| $72^{\prime \prime}$ | EC-672 | ES-772 |
| $84^{\prime \prime}$ | EC-684 | ES-784 |
| $96^{\prime \prime}$ | EC-696 | FSS-746 |

## TYPE A WHIP ANTENNAS

Type A-Made of sections uf varying diameters, securely joined into solid step-tapered Whip $1 / 4$ " at the base and $1 \Leftrightarrow$ " at the tip. In highararbon, oil-tempered steel. cadmium-nlated. or in polished stainless sted. The finest low-enst antenna you can buy.

| Length <br> Overall | Stainiess <br> Stecl | Candmiun-Plated |
| :---: | :---: | :---: |
| $60^{\prime \prime}$ | AS-160 | Steel |
| $72^{\prime \prime}$ | AS-172 | AC-160 |
| $84^{\prime \prime}$ | AS-154 | AC-152 |
| $96^{\prime \prime}$ | AS-146 | AC-144 |



## GROUND RODS

For All Radio and Television Installations

Practical and efficient Ground Rods, costing so little that it doesn't pay to fuss with makeshifts. Of smooth, hard-drawn steel, chisel pointed for easy driving and heavily copper-plated for rust prevention and to insure clean electrical contact. $4^{\prime}$ to $8^{\prime}$ lengths in $3 / 8^{\prime \prime}, 1 / 2^{\prime \prime}$ and $5 / 8^{\prime \prime}$ with screw clamp (illustrated) or in 6 ' and $8^{\prime}$ lengths in pigtail wire, drilled hole or plain style, $1 / 2^{\prime \prime}$ and $5 / 8^{\prime \prime}$ only.
Size Screw Clamp Hole Pigtail Plain

|  |
| :---: |
| 年"x |
|  |  |
|  |

$\mathrm{J}-64$
$\mathrm{~J}-66$
$\mathrm{~J}-68$
$\mathrm{G}-86$
$\mathrm{C}-88$
$\mathrm{C}-1$
$\mathrm{i}-108$

| G-86 | H-86 | P-86 | X-86 |
| :---: | :---: | :---: | :---: |
| (-88 | H-88 | P-88 | X-88 |
| (-106 | H-106 | P-106 | X-106 |
| (i-108 | H-108 | P-108 | X-108 |

## PREMAX MOUNTINGS

## BASE MOUNTINGS



Type 1-Galvanized malleable iron or chrome plated brass hardware with heary-duty porcelafn cones. 1 to height to post basc. Wt. 8 lbs. Available for all Premax Vertical Antennas. Spec ify antenna number or post dameter This is also availahle in hinge post type. Type 2-LLight design with brown glazed porcelain and removable top pist. In steel only. Height to post base 6", For Premax Antennas up to $24^{\prime}$. Specify
 Antenna number or post diameter.

## DECK OR ROOF MOUNTING

Type 6-6" flange in galvanized malleable iron with studs and bolts for $1 / 2^{\prime \prime}$ to $6^{\prime \prime}$ deck. Lead-thru contruction permits connections below roof or deck avaito post base $3^{\prime \prime}$ to $5^{\prime \prime}$ Weigh $1 i^{2}$ vailable for all Premax Antennas. Specily An enna number or post diameter.


## TYPE 10-C MOUNTING CLAMP

Type $10-\mathrm{C}$ Mounting Clamp has porcelain split bush ing in stamped steel frame. Height to center 2" Wt. $3 / 4 \mathrm{lb}$. Sizes to fit $5 / \mathrm{s}^{\prime \prime}, 3 / 4,7 / 8^{\prime \prime}$ and $1^{\prime \prime}$ only.


TYPE IO-S STANDOFF INSULATOR
Type $10-\mathrm{S}$ is a heary-duty insulator in chrome-plated bronze with brown slazed porcelain. Solid or hinged clamp. Height to center about $4 \frac{1}{\prime \prime \prime}$ ". Wi. 3 lbs. Available in sizes to fit $7 / s^{\prime \prime}$ to $1 / / /^{\prime \prime}$ tube diameter.

TYPE 13-S STANDOFF INSULATOR
Type 13-S-In heavy cast aluminm or brass. plain or chrone-plated. with brown glazed porcelain. $3^{\prime \prime}$ diameter, Height to center $4 \%$."Wt. 2 lbs. In sizes to fit "," to $11 /{ }^{\prime \prime}$. Specify size and material; also whether solid or hinge cap.

PREMAX PRODUCTS Div. Chisholm-Ryder Co. Inc., Niagara Falls, N. Y.

[^57]
## (PREMAX) antennas-MOUNTINGS-ACCESSORIISS

## SERIES C CENTER-LOADED MARINE ANTENNAS

Center-I.oaded Collapsible Marine Antenna for 』3 to 3 ne, with power gain of 6 db . Two telescoping base sections with top whip. Extended length 17 ft .. collapsing to 7 ft . In aluminum, monel and stainless. Fits standard Premax Mountings shown on preceding page.

| No. | Type | $\begin{aligned} & \text { Hase } \\ & \text { O.D. } \end{aligned}$ | $\begin{gathered} \text { Hase } \\ \text { I.I. } \end{gathered}$ | $\begin{aligned} & \text { Wとt. } \\ & \text { Lbs. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| CLA-619 | Aluminum | $1.000^{\prime \prime}$ | .834" | 5 |
| CLM-319 | Monel | .893" | .799* | 7 |
| CI.S-1119 | Stainles | $1.000^{\prime \prime}$ | .909" | 7 |

## SERIES B LOW-COST CENTER-LOADED ANTENNAS FOR MOBILE AND MARINE

Center-Laded Whip-Type Antennas consist of at standald base section or spring-type on which is mounted a special Premux coil. The top is a taperfround stainless steel whip 6 ft . in length, giving a total orerall height of 9 ft . Various coils are vaitable or the standard 75 -meter coil can he adapted ly shorting out turns on the coil. Antennas ev:l lue used with any of the Standard Premax "onntings shown below, or will fit any 3/8"x24thread mounting.

| Freatency | Less Spring | With Spring | Coil Only |
| :---: | :---: | :---: | :---: |
| $14.000 \mathrm{kr} .(20 \mathrm{M}$. | BXS-14 | BSS-14 | B-14 |
| $2374 \mathrm{kc},(\mathrm{CAP}$ ) | BXS-23 | HSS-23 | B-23 |
| $3105 \mathrm{kc} .(\mathrm{APT}$ ) | BXS-31 | HSS-31 | B-31 |
| $3 \times 100 \mathrm{ke}$. 176 M ) | BXS-38 | HSS-38 | B-38 |
| 4325 ke ( CAP) | BXS-43 | 3SS-43 | B-43 |
| $4585 \mathrm{kc} .1 \mathrm{CAl} \mathrm{\prime}$ | BXS-46 | HSS-46 | B-46 |
| 2000 to 3000 kc . (Marine) | BXM-25 | BSM-25 | -2 |

## CIVIL DEFENSE, PUBLIC SERVICE, FIRE, POLICE ANTENNAS 100 TO 162 MEGACYCLES

FCDA is insisting on adequate communications in Civil Defense and cities everywhere are installing RACES equipment that calls for outstanding ground plane and UHF Antennas. Premax meets this meed with several profitable numbers to cover this new market.


CP31:

## GROUND PLANE ANTENNAS

For point-to-point installations, Premax has two VHF Antennas: The Style GI'-3 which has elements of heavily-plated spring steel with skirt wires that can be bent down to any ansle to match coas cable Mountto match coax cable, Mounthousing that fits standard 1/2" pipe. Cable carries down thru pipe. Style (iP-312 for 10 s to 120 Me. For aireraft and CAP. Style GP-315 for 152 to 162 Mc . For police and taxi.

## ADJUSTABLE GROUND PLANE ANTENNAS

Another low-cost type Ground Plane Antenna is adjustable from 20 to 40 mc . or 40 to 60 mc . Standing wave ratio matching to 52 -ohm line is 1.07 to 1.13 and to 72 -ohm line is 1.27 to 1.23 depending on type of transformer cable. All-alumnum construction employing adjustable tubular elements. Style GP-430-Adjustable 20 to 40 Mc .
Style GP-450-Adjustable 40 to
60 Mc. 60 Mc.


## CAR-TOP OR MOBILE ANTENNAS

Premax Mobile or Car-Top Antennas are made of heavily-plated, highlytempered spring steel wire in elements of precise diameters and precise diameters and
lengths. Mountings are well insulated and so designed that one man can signed that one man can single small hole in a car roof.

STYLE CD-114 for 144 me. For 2-meter amateur and CD. Porcelain insulator. One nian installation thru $1 / 2$ rooftop hole. STYLE CD-112 for 108 to 120 mc . For aireraft and CAP. Similar to CD-114.

CD. 114


STYLE CD-214 for 144 mc mergency type with rubber uction cup base. No hole reauired. Can be installed in matter of seconds. lqeal for CD.

STYLE CD-215 for 152 to 162 mc. For pulice and taxi. Simiar to CD-214.
STYLE CD-212 for 108 to 120 me. For aircraft and CAP Similar to CD-214.

MOBILE
SERIESC For $1 /$ P " Diam. Whips $^{\text {D }}$


TYPE R.t


TYPE RS. 2


TYPE S. 1

TYPE R-2 - Universal Mounting. Solid aluminum split-ball can be adjusted to any angle. Has shielded coax connection.

TIPE RS-2-Similar to spring as shown under Type SA-1.

TYPE S-1 - Spring Mounting, heavy - duty spring, phenolic insulation with rubber gasket and steel back-plate with shielded co-ax fitting. Ht. $5^{\prime \prime}$.

TYPE SA-1 - Spring Adaptor (similar to Type S-1 and RS-2 which can be attached to Type Mounting. Ht. $43 / 4$ ". Dia. 1\%".

TYPE F- $30^{\circ}$ Adjustable Mounting for fender, cowl or gravel pan, Chrome - plated brass with phenolic insulation


IYPE 5


TYPE XLX - Panel mounting similar to L-1 less bumper bracket and mounting tube. Recommended for

## E-Z WAY <br> TOWERS, INC.

## BUILDING ATTACHED OR GROUND POST MOUNTED

## DESIGN AND SPECIFICATIONS

E-Z Way Tawers give a combination of the greatest strength possible with the least wind resistance, no guy wires are necessary in most cases. All Steel Construction . . Round steel, made to our specifications ( $10: 38$, tensile strength). "A" SECTION $71 / 2^{"}$ triangle ... 20 ft . long with $1 / 2$ " solid rod legs, continuous diagonal bracing of $1 / 4^{\prime \prime}$ rod on two sides ... 12" spaced ladder bracing of $3 / 8$ " rod on face side ... "B" SECTION . . . $91 / 2$ " triangle ff. long with legs of $1 / 2^{\prime \prime}$ structural pipe; continuous
diagonal bracing of $1 / 4$ " rod on two sides . . . $12^{\prime \prime}$ spaced ladder bracing $3 / 8$ " rod on face side ... "C" SECTION ;. $111 / 2^{\prime \prime}$ triangle ... 21 ft . long with legs of $3 / 4$ " structural pipe ...continuous diagonal bracing of $5 / 16^{\prime \prime}$ rod on two sides ... $12^{\prime \prime}$ spaced ladder bracing of $3 / 8^{\prime \prime}$ rod on face side.
 RORTAELE WINCH
NOT INCLUDED WITM CTMPE TOWERS ustico as accessory
$-30$

> E $30-40$--Supports ${ }^{3}$ VHF antenna at $30^{\prime}$ and a UHF antenna at $40^{\prime}$. No guy wires necessary. $71 / 2^{\prime \prime}$ A. Section.
> E $40-50$ - Same as the E 30 with a $21^{\prime}$ mast section plus guy wire ring and collar. Will support a rotor and VHF ant. at $40^{\prime}$ and a UHF ant. at $50^{\prime}$ Must be guyed at rotor. $71 / 2^{\prime \prime}$ A section.
> E $20-$ The do-it. yourselt tower. A $20^{\prime}$ triangular tower sec. tion only. $71 / 2 " A ~ A$ Section.


U 35-40 -- Designed for the close-in UHF fringe area to support a VHF ant. at $35^{\prime}$ and a UHF ant. at $40^{\circ}$. No guy wires. $71 / 2^{\prime \prime} \quad A$ section, crank up winch, safety rest and tri cage.
$\checkmark$ 40-50 - Will sup port a VHF ant. at $40^{\prime}$ and a UHF ant. at $50^{\circ}$. No guy wires. When rotor is used, tower should be guyed at rotor. $71 / 2^{\prime \prime}$ A section, crank up winch safety rest and tri cage
$\checkmark 50-60$-This is the $\checkmark 40-50$ tower plus $10^{\circ}$ ant. mast and guy ring. Must be guyed.



Portable Winch-Pins on $E$ Tower to crank mast section up or down. Makes for easy installation or service.


GP One Hole Ground Posts vary in size, diameter and wall thickness, according to the tower used. Requires a small hole $41 / 2$ to 5 ft . deep into which the underground portion of the ground post is placed, plumbed, return earth (tamping and watering as earth is returned) and immediately the tower can be bolted to a hinge on the ground post, the tilt-over cable connected to the tower and the tower cranked to a perpendicular position. No concrete or special tools required. Occupies only one square toot of space.



| RETAIL PRICE LIST <br> ALL TOWERS SHIPPED FOB, TAMPA, FLORIDA, COMPLETELY ASSEMBLED READY TO INSTALL, WITH ACCÉSSORIES 'FOR MOUNTTING CLASSIFICATION SELECTED |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| FIRST, SELECT THE MOUNTING CLASSIFICATIONER SUCH AS "GP", THEN CHOOSE THE FIST, SELECT THE MOUNTING CLASIFICATION SUCH AS "GP" THEN CHOOSE THE TOWER COMBINATIONS |  |  |  |  |
| Mounting | "BA" | "GP" | "Yp" | GIN" |
| Classifica | Building Attached Price includes | One Hole | Tilt-Over | Fold-Ore |
|  | Price | Tilt-Over | With | With |
|  | and Hinge | Ground Post | Yard Pedestal | Gin Pole |
| D 50-60 | $\begin{aligned} & \text { 8AD } 50-60 \\ & \$ 112.50 \text { Wt. } 170 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GPD } 50-60 \\ & \$ 149.95 \text { Wt. } 255 \end{aligned}$ | $\begin{aligned} & \text { YPD } 50.60 \\ & \$ 149.95 \text { Wt. } 225 \end{aligned}$ | $\begin{aligned} & \text { GIND } 50-60 \\ & \$ \$ 57.50 \text { Wt. } 240 \end{aligned}$ |
| D 60-70 | $\begin{aligned} & \text { BAD } 60.70 \\ & \$ 142.50 \text { Wt. } 205 \end{aligned}$ | $\begin{aligned} & \text { GPD } 60.70 \\ & \$ 187.50 \text { Wt. } 290 \end{aligned}$ | $\begin{aligned} & \text { YPD } 60.70 \\ & \$ 187.50 \\ & \text { Wt. } 260 \end{aligned}$ | GIND 60-70 $\$ 187.50$ Wt. 295 |
| D 70-80 | $\begin{aligned} & \text { BAD } 70.80 \\ & \$ 157.50 \text { Wf. } 220 \end{aligned}$ | $\begin{aligned} & \text { GPD } 70.80 \\ & \$ 210.00 \text { Wt. } 320 \end{aligned}$ | $\begin{aligned} & \text { YPD } 70.80 \\ & \$ 210.00 \text { Wt. } 275 \end{aligned}$ | $\begin{aligned} & \text { GIND } 70-80 \\ & \$ 210.00 \text { Wt. } 310 \end{aligned}$ |
| E 20 | $\begin{aligned} & \text { E } 20 \\ & \$ 32.95 \mathrm{Wr} .55 \\ & \hline \end{aligned}$ | $\begin{aligned} & \hline \text { GPE } 20 \\ & \$ 54.95 \mathrm{Wt} .125 \end{aligned}$ | wer section only.M inge extra. Listed | ounting bracket and der sucessories. |
| E 30-40 | $\begin{aligned} & \hline \text { BAE } 30-40 \\ & \$ 45.95 \text { Wr. } 80 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GPE } 30-40 \\ & \$ 79.95 \mathrm{Wt} .160 \\ & \hline \end{aligned}$ | Not Available |  |
| E 40-50 | $\begin{aligned} & \text { BAE } 40.50 \\ & \$ 49.95 \mathrm{Wt} .95 \\ & \hline \end{aligned}$ | Not Available | $\begin{gathered} \text { Not } \\ \text { Available } \end{gathered}$ | Not Available |
| S 60.70 | $\begin{aligned} & \text { BAS } 60-70 \\ & \$ 165.00 \text { Wt. } 200 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GPS } 60-70 \\ & \$ 210.00 \text { Wt. } 310 \end{aligned}$ | $\begin{aligned} & \text { YPS } 60-70 \\ & \$ 210.00 \text { Wt. } 260 \end{aligned}$ | GINS $60-70$ $\$ 210.00$ Wt. 290 |
| S $70-80$ | $\begin{aligned} & \text { BAS } 70.80 \\ & \$ 229.50 \text { Wt. } 300 \end{aligned}$ | $\begin{aligned} & \text { GPS } 70.80 \\ & \$ 289.50 \mathrm{Wt} .455 \end{aligned}$ | $\begin{gathered} \text { Not } \\ \text { Arailable } \end{gathered}$ | $\begin{aligned} & \text { GINS } 70-80 \\ & \$ 2.39 .50 \text { Wt. } 435 \end{aligned}$ |
| S 85-95 | $\begin{aligned} & \text { BAS } 85-95 \\ & \$ 265.00 \text { Wt. } 350 \end{aligned}$ | $\begin{aligned} & \text { GPS } 85.95 \\ & \$ 325.00 \text { Wt. } 505 \end{aligned}$ | Not Available | $\begin{aligned} & \text { GINS } 85-95 \\ & \$ 325.00 \text { Wt. } 485 \end{aligned}$ |
| U 35-40 | $\begin{aligned} & \text { BAU } 35-40 \\ & \$ 64.95 \text { Wt. } 90 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GPU } 35.40 \\ & \$ 99.95 \text { Wt. } 170 \end{aligned}$ | Not Available | $\begin{gathered} \text { Not } \\ \text { Arailable } \end{gathered}$ |
| $\checkmark$ 40-50 | $\begin{aligned} & \text { BAV } 40-50 \\ & \$ 74.95 \text { Wt. } 120 \end{aligned}$ | $\begin{aligned} & \text { GPV } 40.50 \\ & \$ 112.50 \text { Wt. } 200 \end{aligned}$ | $\begin{gathered} \mathrm{Not} \\ \text { Available } \end{gathered}$ | Not Available |
| V 50-60 | $\begin{array}{lll} \hline \text { BAV } 50-60 \\ \$ 79.95 & \text { Wt. } 135 \end{array}$ | Not Available | Not Available | Not Available |
| W 40-50 | $\begin{aligned} & \text { BAW } 40.50 \\ & \$ 89.50 \mathrm{Wt} .150 \end{aligned}$ | $\begin{aligned} & \text { GPW } 40-50 \\ & \$ 124.95 \text { Wr. } 245 \end{aligned}$ | $\begin{aligned} & \text { YPW 40-50 } \\ & \$ 12495 \text { Wr. } 205 \end{aligned}$ | $\begin{aligned} & \text { GINW } 40-50 \\ & \$ 127.50 \mathrm{Wt} .220 \end{aligned}$ |
| W 50.60 | $\begin{aligned} & \text { BAW } 50-60 \\ & \$ 94.95 \mathrm{Wr} .165 \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { GPW } 50-60 \\ & \$ 129.95 \text { Wt. } 260 \end{aligned}$ | $\begin{aligned} & \text { YPW 50-60 } \\ & \$ 134.95 \text { Wt. } 220 \end{aligned}$ | GIINW 50.60 $\$ 134.95$ Wt. 235 |

## ACCESSORIES

GIN 1 Gin Pole for W-40, W-50 \& D-50 $\$ 45.00$ GIN 2 Gin Pole for D-60, D. $70 \&$ S. 60 52.50 GIN 3 Gin Pole for $5-70 \&$ S-85 60.00 GP 2 Ground Post for E 20 Tower ---........... GP 3 Rotary Ground Post for E, U \& V Towers ....- 45.00 GP 35 Ground Post for D. 50, D. 60 , W. 40 \& W. 5045.00 GP 4 Ground Post for D. 70 \& S. 60 52.50 GP 5 Ground Post for $5-70$ \& $5-85$ $\qquad$ - 60.00

HB Hinge for all Towers
Except S-70 \& S. 85 ......- 1.50
HBL Hinge-Large for $5-70 \& 5-85$
3.00

HGP Hinge Ground Pipe
for All Towers Except
5.70 \& 5.85
4.50

HUM Heary 10 ft . of 1" UHF
Antenna Mast Extension-- 4.2
LUM Light 10 ft . of 1" UHF
Antenna Mast Extension -- 2.25
MTS Mast Top Seat -.-- 12.00
PW Portable Winch ---- 15.00
VB VEE DX Rotor --.-.-. 44.95
VE Mounting Bracket for D \& W Towers \& S 60 .- 5.40 VEL Mounting Bracket for S. 70 \& S-85 -..-.-.---- 7.00 VES Mounting Bracket for U \& V Towers --....... VEX Mounting Bracket for E Towers
3.75

YP Yard Pedestal ......... 52.50

EXTRA FOR GALVANIZING

Towers Arailable Hot Dipped Galvanized After Fatrication at an Exirs ChargeAdd to List.


Quotations on Special Towers or Equipment on Request.

# JONTZ "Really Bultl" TV INSTALLATION ACCESSORIES <br> Safe <br> Easy to Install <br> Long Lasting 



## MODEL 200 - "Super" Kwick Climb SELF-SUPPORTING TOWER

|  | Rus?mmillicled 1 . ist |
| :---: | :---: |
|  | \$129.75 |
| 10' ton sections. with mountimers | 28.75 |
| 10' mid sections | 25.25 |

## MODEL 100 - Kwick Climb GUYED TOWER

litut wempht qualits construction. Tpriohts at $1^{\prime \prime}$



| Rucom. | Ship. |
| :---: | ---: |
| menlerl | Wt. |
| 1. ist | Lhs. |
| $\$ 69.95$ | 69 |
| 20.95 | 19 |
| 19.75 | 18 |

## KWICK-UP TELESCOPING MASTS

A complete lino of temgeopine masts offering every sectional combination ami of the finest weather-proof coating. The be Luse 100 series is fnade from hot-ililped eatimizerf tubine: The standard 200 and 300 serins are made from tuhing which is rolled from trilanizell strif.
 with thll hardu:are
DeLuxe Series - 16 ga. m tubing O.D. Standard Series- 16 ga. fubing O.D.

 Monlel
$\mathrm{N} \%$
320.
330.

## 330. 340.

$\qquad$

## MITEY-MITE SELF-SUPPORTING

## ROOF MAST BASE

Model 300

## ROO MAST BASE

-3ip. wo $\frac{1}{6}$ lhis
lhis.
Kecor
Nodel 500-is. completely acommonded list \$6.95 1o a carton. Ship. wi. 10 thes.

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\text { His. } \text { Himmended List } \$ 9.95
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## KRANK-UP MAST

Model 115—27. With base that arus finus ship. we 30 lios. Recom. List $\$ 29.95$


ROOFMOUNTS


Model A-S foras swivel helaptable til any true ment $\$ 2.15$.


| Model U-S $=1$ | (ach | 1.55 |
| :---: | :---: | :---: |
| Model U-S $=2$ | (ach | 1.75 |

Model U-S $=3$

$$
\text { Models U-S }=1,=2,=3-\text { Win:-1YM. fulls aripuahle in }
$$



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AL1. SIZES. each Werommented Tisi \$ . 15

## TUBING

 Hot djphed galianlzed for :ulak d weather resistanter (1) alo alailathe swadgul.

# Mene 

40 ft . Tower Includes: 1 \# 750 I : 1 $=751 \cdot \mathrm{H} ; 2$ \# $760 \cdot 11$ tower sections and all connecting hardware. Shipping wt. 126 tbs. Order concrete base or roof mount sep. arately
50 ft . Tower 1 inctucte: : $=750 \mathrm{~J}: 1$ $=751 . \mathrm{H} ; 2$ \# $760 \cdot \mathrm{H}$ and $1 \# 761 . \mathrm{H}$ tower sections: all connecting hardware. Shipping wo. 164 lbs . Order concrete base or roof mount separately.
. plus sections and accessories as you need'em


并 750.1 Top Section. Equipped with $21^{\prime \prime}$ spaced mast socket tings to rake $11 / 2^{\prime \prime}$ diag. mast. Threaded external receptacle securely welded to each ring gives extra bearing for $2^{\prime \prime} \times 1 / 2^{\prime \prime}$ set screw. Hi-tensile bolts, washers, hex nus and set screws furnished. Overall length 10 ft . Wit. 28 lb,

$=763-\mathrm{H}$ Rob f Mount Assures a strong, accu rarely vertical installa. cion of one or more tow. er sections. Adjusts up to 45 roof pitch. Takes full advantage of Kush. ne's lateral load support. Wee. \& lbs.
$=-61 . \mathrm{H}$ straight Section. Used as button of freestanding 50 ft . tower and in other applications. Legs of 16 ga, cold rolled steel triangularly spaced on $10 \%$ centers. Gird. around cross ties spaced at $12^{\prime \prime}$ intervals. Overall length 10 ft . Complete with hard. ware 38 lbs. \#y 760.14 . Same quality, but cross ties are spaced at $15^{\prime \prime}$ intervals. W' 34 lbs. $=-51 . H$. Cross ties spaced $20^{\circ}$ apart. Wet. 30 !bs.

$=-0,11$ will or Roof Bracket Adjustable to $20^{\prime \prime}$. Thick live rubber cushions inside hears steel L' straps grip tower legs firmly. Wt. per pair globs.
\# 752 "Girl Pole" For easy tower as. sembly. Has 11, heavyeduty sect tubing with pow: craal strap-stect grab brackets, Fits all tower sections. With forged ring and iron pulley. Length 12 t. Wit.. 18 lbs
Gird-Around Cross Ties Originated by KUEHNE

Bigger, safer stronger. Ac. tuallygrif "round vertical
 tubing. Take all outward strain. The
tower itself


## Porcelain Product's televsion \& anaol ussuluroas



## TV-FM LEAD-IN TUBES

Provide essential insulation and neatness of appearance for lead-ins going through walls, partitions, etc.
Type $=890$ Tubes -
Handles the conventional $3 / 8$ " wide $\mathbf{3 0 0}$ Ohm common fist lead-ins. Outside diameter $\frac{1}{1}$ : use a $3 / 4^{\prime \prime}$ drill.
Type 8891 Tubers
UHF Tubes with the round holes, two slots or key-wayn, for Amphenol Cable \#14-271 or equivalent. Outside diameter tit: use a $3 / 4^{\prime \prime}$ drill.
Type $=895$ Tubes -
For the round (but hollow) UHF cable equivalent to Feceral's Rand Tubular UHF. Outside diameter th: use a $3 / 4^{\text {" }}$ drill.
Tyue 2896 Tubex -
For oval UHF cable made under many trade names a ad numbers. Examples: Belden $\# 8235$. The wide oval hole requires a larger outside diameter. Outsice diameter $3 / \mathbf{4}^{\prime \prime}$ : use H" drill.

| Length | Wt. per M | Length | Wt. per M |
| :---: | :---: | :---: | :---: |
| 4" | 143 Lbs. | $8^{\prime \prime}$ | 275 Lbs. |
| 5" | 175 Lbs. | $10^{\prime \prime}$ | 330 Lbs. |
| $6{ }^{\prime \prime}$ | 210 Lbs. |  |  |

## TV-IM LEAD-IN SUPPORTS

Tbe perfect insulator. Easy to install, Holds leao-in positively and rigidly. Size - 2" high, 1-1/4" wide, 3/4" wide. Supports lead in 1-7/16" from surface. Weight 170 lbs. per M
$\qquad$
SCREW TYPE
No. 9418
HOOF: TYPE
No. $\mathbf{0 4 1 8}$ - H
For lieht-weight $3 / 8^{\prime \prime}$ wide flat 300 Ohm twin l:ed-in.
No. 9422 No. 422-H
For heavy-weight $1 / 2$ " wide oval 300 Ohm twin lead-in.
No.
No. 423 -H
For $1 / 4^{\prime \prime}$ round 72 Ohm Coarial Cable.
No. 9424
No. 1424 -

For 3/8" round Coaxial Cable

## ANTENMA INSULATORS

Made of highest quality electrical Poxcelain. Presare molded to assure dense strong body. Glazed.

No. 811:- Round, White glaze. Size 2-1/2" long, $\mathbf{1}^{\prime \prime}$ diameter $1,4^{\prime \prime}$ holes. Weight 146 Lbs. per M.

No. 8118 - Same as No. 8117 but brown glaze. Weight 146 Lbs. per M.

No. 8119 - Oval, White glaze. Size 2-1/2" long, $I^{\prime \prime}$ diameter 1,4" holes. Weigbt 130 Lbs. per M.

No. 8120 - Sgme as No. 8119 but brown glaze. Weigit 130 Lbs. per M.
No. 8130 - Small airplane type, ovsl, white glaze. Size 1-1/2" long. $3 / 4^{\prime \prime}$ diameter, $2 / 32^{\prime \prime}$ holes. Weight 60 Lbs. per M.
No. 8131 - Large airplane type, "vali, white, glaze. Size $2^{\prime \prime}$ long. 7/8" diameter, $9 / 32^{\prime \prime}$ boies. Weight 90 Lbs. per M.
No. 500D - Strain type, brown glaze Size $2.1 / 8^{\prime \prime}$ Jong, $1-9 / 16^{\prime \prime}$ diameter, $3 / 8$ holes. Weinh 235 Lbs. pe: M.

## INSULATED SCREW EYES

No. 1925 - Seven and one-quartar inches long over-all. White glaze insulator with $3 / 8^{\prime \prime}$ hole. Weight 110 Lbs. per M.

No. 1926 - Same as No. 1925 but 3" long over-all. Weicht 90 Lbs. per M.

No. 1961 - Split bridle-ring type. Jasulator has diagonal alot 1/4" wide to facilitate quick threading of conductor. Over-all length $3-7 / 16^{\prime \prime}$. White glare irrsulator has $5 / 8^{\prime \prime}$ hole. Weight 1 CO Lbs. per M.

No. 1962 - Same as No. 1961 but 2-7/8" long cver all. Weight 90 Lbs. per M.
ANTENNA

|  |
| :--- |
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| ASBURY PARK $1, N . J . ~$ | ANTENNA

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VHF-COMPLETE SPECTRUM
ANTENNAS
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# UHF-VHF ANTENNAS 

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MODEL NO.

## AMERICA'S LARGEST MANUFACTURER OF "CONICAL-V-BEAMS"

## VHF-YAGI ANTENNAS ALl-aluminum CONSTRUCTION

## NEW "THUNDER BIRD" "BEAMED POWER" ARRAYS FOR ALL-CHANNEL TV

"THUNDER BIRD" Antennas are loop phased, multi-element. "Beamed Power" Arrays for fringe and "sub-fringe" area TV recepticn. Element functions are duplexed by means of variable impedance phasing loops to produce effective high gain Yagis for Hi and Lo channel VHF Bands in an all-in-line array which actually produces superior gain and directivity - element for ele-ment-- than equivalent separate units.


MODEL T120
T120-List 23.60 T122 - List 48.60


MODEL T130
T130 - Lisi 23.60 T132 - List 48.60


MODEL T100
T100 - List 23.60 T102-List 48.60


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## PRE-TUNED, MATCHED AND CALIBRATED!

MODEL NO. 503A illustrated
AMATEUR NET \$136.20

NOW! 41 models to meet any requirement on the $2,6,10$. 11. 15. 20 or 40 meter bands. Of minimum bulk. low wind drag design, with best quality materials for allweather durability.
Completely integrated mechanically and electrically precision machined and calibrated for easy assembly and duplication of our laboratory and field-checked specifications at your site!
YOU CAN BE SURE of optimum performance per element at your site with the highest $\mathrm{S} / \mathrm{N}$ ratio, $\mathrm{F} / \mathrm{B}$ ratio and minimum interference (TVI. BCI and QRM) pattern ever provided or available before.



MODEL DB-10/11 Am. Net 118.50 Full Size 10-11 Meter on one boom. 3-el. on 10; 2-el on 11. Wt. 30 lbs . Turning Radius $111 / 2 \mathrm{ft}$. MODEL DB-10/15 Am. Net 179.50 Full Size 10-15 Meter on one boom. 3-el. on 10; 3-el on 15. Wt. 60 lbs . Turning Radius 15 ft .
MODEL TB-3 Amat. Net 248.00 Full Size 10-15-20 Meter on one boom. 2-el. on 10; 2-el. on 15; $2-\mathrm{el}$. on 20 . Wt. 86 lbs . Turning Radius $191 / 2 \mathrm{ft}$.
MODEL DB-15/20 Am. Net 250.00 Full Size 15.20 Meter on one boom. 3-el. on 15; 3-el. on 20 . Wi. 72 lbs . Turning Radius 22 ft .

## 40 METER ROTARIES



MODEL 403 Amateur Net 330.00 3-element Full Size ( $100 \%$ Aperfure). Wt. approx. 92 lbs . Turning Radius $35 \frac{1}{2} \mathrm{ft}$.
MODEL 402 Amateur Net 275.00 2-element Full Size ( $100 \%$ Aperture). Wi. approx. 60 lbs . Turning Radius 33 ft .
MODEL 420 Amateur Net 180.00 2-Element "Mini-Beam" $64 \%$ Aperture). Wt. approx. 44 lbs. Turning Radius $171 / 2 \mathrm{ft}$.
"MINI" AND "SUPER


MODEL 520B Amat. Net 62.50 2-Element 20-Meter "Super Mini-Beam " ( $82 \%$ A perture). Wt. approx. 14 lbs . Turn. Rad. $121 / 2 \mathrm{ft}$. MODEL 530B Amatur Net 92.00 3-Element 20-Meter "Super Mini-Beam " ( $82 \%$ Aperture). Wt. approx. 25 lbs . Turn. Rad. 15 ft . MODEL 1520 Amateur Net 55.50 2-Element 15-Meter "Super Mini-Beam " ( $86 \%$ A perture). Wi. approx. 12 lbs . Turn. Rad. $91 / 2 \mathrm{ft}$. MODEL TBM-3 Amat. Net 190.00 Tri-Band "Super Mini-Beam" 10. 15-20 Meter on one boom. 2-el. on 10; 2-el. on $15 ; 2 \cdot \mathrm{el}$. on 20 . Wt. 47 lbs . Turn. Rad. $151 / 2 \mathrm{ft}$.

WRITE FOR CATALOG. Mention models or bonds in which you ore interested. Prices and specificotions subiect to chonge without notice.


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# POLYSTYRENE ROD - TUBING - SHEET 

For radio and electronic applications, because of its very low loss factor at ultra high frequencies. Polystyrene is the ideal material for insulators, coil forms, shields, etc. It has excellent arc resistance, is non-tracking and has splendid insulating properties. Because its water absorption is practically zero it has excellent dimensional stability.

## POLYSTYRENE ROD - Transparent

Available in $12^{\prime \prime}$ or $48^{\prime \prime}$ lengths

| Catalog <br> Number | Diameter | Net Price |  |
| :---: | :---: | :---: | :---: |
|  |  | 12" Igth. | 48* Igth. |
| JB-100 | 1/8" | \$ . 03 | \$ . 12 |
| JB-101 | 3160 | . 07 | . 28 |
| JB-102 | 1/4" | . 12 | . 48 |
| JB-103 | $5110^{\prime \prime}$ | . 18 | . 72 |
| JB-104 | $3 / 8{ }^{\prime \prime}$ | . 26 | 1.04 |
| JB-105 | 7160 | . 36 | 1.44 |
| JB-106 | $1 / 2 \prime$ | . 48 | 1.92 |
| JB-107 | 5/8" | . 72 | 2.88 |
| JB-108 | $3 / 4$ " | 1.00 | 4.00 |
| JB-109 | 7/8" | 1.42 | 5.68 |
| JB-110 | $1 \prime$ | 1.90 | 7.60 |
| JB-111 | $11 / 8^{\prime \prime}$ | 2.50 | 10.00 |
| JB-112 | $11 / 4 \prime$ | 3.00 | 12.00 |
| JB-113 | $13 / 8^{\prime \prime}$ | 3.60 | 14.40 |
| JB-114 | $11 / 2^{\prime \prime}$ | 4.30 | 17.20 |
| JB-116 | $13 / 4{ }^{\prime \prime}$ | 6.00 | 24.00 |
| JB-118 | $2^{\prime \prime}$ | 7.50 | 30.00 |

POLYSTYRENE TUBING - Satin Finish
Available in $12^{\prime \prime}$ or $48^{\prime \prime}$ lengths.

| Catalog Number | O.D. | I.D. | Net Price |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | 12" lgth. | 48" Igth. |
| JB-201 | 1/4" | 1/8" | \$ . 10 | \$. 40 |
| JB-202 | 5/16" | $3 / 16^{\prime \prime}$ | . 14 | . 56 |
| JB-203 | $3 / 8{ }^{\prime \prime}$ | $1 / 4 \prime$ | . 18 | . 72 |
| JB-205 | 1/2" | $3 / 8{ }^{\prime \prime}$ | . 26 | 1.04 |
| JB-206 | $5 / 81$ | $1 / 2^{\prime \prime}$ | . 32 | 1.28 |
| JB-207 | $3 / 4$ " | $5 / 81$ | . 40 | 1.60 |
| JB-208 | 1 1' | $7 / 8^{\prime \prime}$ | . 56 | 2.24 |
| JB-220 | $11 / 2^{\prime \prime}$ | $11 / 4^{\prime \prime}$ | 1.50 | 6.00 |
| JB-222 | $2^{\prime \prime}$ | $13 / 4{ }^{\prime \prime}$ | 2.20 | 8.80 |

## POLYSTYRENE SHEET

The following sheets are all crystal clear with smooth surfaces fully protected against abrasion by masking paper on both sides.

| Catalog <br> Number | Thickness | Sheet <br> Size | Net <br> Price |
| :--- | :---: | :---: | :---: |
| JB-125 | $1 / 16^{\prime \prime}$ | $12^{\prime \prime} \times 12^{\prime \prime}$ | $\$ 3.50$ |
| JB-126 | $3 / 32^{\prime \prime}$ | $12^{\prime \prime} \times 12^{\prime \prime}$ | 3.75 |
| JB-127 | $1 / 8^{\prime \prime}$ | $12^{\prime \prime} \times 12^{\prime \prime}$ | 4.25 |
| JB-128 | $316^{\prime \prime}$ | $12^{\prime \prime} \times 12^{\prime \prime}$ | 5.00 |
| JB-129 | $1 / 4^{\prime \prime}$ | $12^{\prime \prime} \times 12^{\prime \prime}$ | 5.75 |
|  |  |  |  |
| JB-245 | $11 / 6^{\prime \prime}$ | $12^{\prime \prime} \times 24^{\prime \prime}$ | 6.85 |
| JB-246 | $3 / 32^{\prime \prime}$ | $12^{\prime \prime} \times 24^{\prime \prime}$ | 7.25 |
| JB-247 | $1 / 8^{\prime \prime}$ | $12^{\prime \prime} \times 24^{\prime \prime}$ | 8.35 |
| JB-248 | $3 / 16^{\prime \prime}$ | $12^{\prime \prime} \times 24^{\prime \prime}$ | 9.90 |
| JB-249 | $1 / 4^{\prime \prime}$ | $12^{\prime \prime} \times 24^{\prime \prime}$ | 11.35 |
| JB-300 | $1 / 32^{\prime \prime}$ | $20^{\prime \prime} \times 20^{\prime \prime}$ | 9.20 |
| JB-301 | $1 / 16^{\prime \prime}$ | $24^{\prime \prime} \times 24^{\prime \prime}$ | 11.15 |
| JB-302 | $3 / 32^{\prime \prime}$ | $24^{\prime \prime} \times 24^{\prime \prime}$ | 11.85 |
| JB-303 | $1 / 8^{\prime \prime}$ | $24^{\prime \prime} \times 24^{\prime \prime}$ | 13.60 |
| JB-304 | $3 / 16^{\prime \prime}$ | $24^{\prime \prime} \times 24^{\prime \prime}$ | 16.25 |
| JB-305 | $1 / 4^{\prime \prime}$ | $24^{\prime \prime} \times 24^{\prime \prime}$ | 18.60 |
| JB-306 | $5 / 16^{\prime \prime}$ | $20^{\prime \prime} \times 20^{\prime \prime}$ | 16.85 |
| JB-308 | $3 / 8^{\prime \prime}$ | $20^{\prime \prime} \times 20^{\prime \prime}$ | 18.75 |
| JB-309 | $3 / 8^{\prime \prime}$ | $24^{\prime \prime} \times 24^{\prime \prime}$ | 27.65 |
| JB-310 | $1 / 2^{\prime \prime}$ | $20^{\prime \prime} \times 20^{\prime \prime}$ | 25.00 |
| JB-311 | $1 / 2^{\prime \prime}$ | $24^{\prime \prime} \times 24^{\prime \prime}$ | 36.10 |
| JB-312 | $5 / 8^{\prime \prime}$ | $20^{\prime \prime} \times 20^{\prime \prime}$ | 40.00 |
| JB-313 | $3 / 4^{\prime \prime}$ | $20^{\prime \prime} \times 20^{\prime \prime}$ | 47.75 |
| $11^{\prime \prime}$ | $20^{\prime \prime} \times 20^{\prime \prime}$ | 64.75 |  |

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## Serving Industry Since 1910

GRANCO PRODUCTS INC.
Long Island City 5, N. Y

## UHF CONVERTERS•TUNERS•TEST EQUIPMENT

## GRANCO LOW-COST HIGH-QUALITY FM






 fon a talle radin, Mond Tr-1til is an FM Thuer for use with existing radio, TV or phono, or aurain for separate amplifier and spabace, for
 much. "Mhsis Hall" inomels arn strictly pachateon merchandise without installation lumadiofs.

## FM RECEIVER Model 610

- Only table radio in its price class with big Extended-range, $6^{\prime \prime}$ oval speaker.
- Granco exclusive coaxial tuning. Outstanding selectivity, sensitivity, stability.
- Audio output of $11 / 2$ watts for full room volume. Amazing tone.
- Built-in antenna. No installation. Just plug
- "Music Hall" plastic cabinet with smart paragrid styling. Fits anywhere.

Model 610E (Finny*) Aulimhile net $\$ 29.95$


FM TUNER Model T-160

- FM tuner for use with existing audio and speaker facilities. The low-budget approach to hi-fi
- Standard "Music Hall" plastic cabinet. Smart paragrid styling. Ultra-compact.
- Self-contained antenna. No installation. Just plug in.
- Granco exclusive coaxial tuning. Excellent selectivity, sensitivity, stability.
- Shielded interconnection cable and shieldplug termination.
Model T-160 (Whlnut*) Audiophile net $\$ 34.95$


## GRANCOUHF

F.aturiur Gıanco coaxial tuning-the most efficient IFIF tunine thstem howw. Extreme mechanical and plectrioal prexion. Vo
 +rabilits"
Fine tuning. No "on-again off-arain" tunintr. Xo slippintr bast dw-



## CONVERTERS

Preselection. Rejects unwanted sitnals and spurions interference. Only Desired sirnal tumed in, A "must" in areas with two or more channels, "ither VIFF or VHF
Amplification. Low-luss tuning and assoriated circuitry. phos hirlusain amplifination of alesiren signal, moans cleaner, hitithter, more -njoyalile pictures.
Works with any TV set. Foods : 3un-ohm input to amy VIFr set tumed to ('hanmel \% of 4


## "SUPER' Model MTU

Superlative performance because of three cavity drameo maxial tuner. The logical choice for low-sirnal-strencth areas. Smartest styling for metal-and-plastic cabinet. trimmed in rich rold finish.

List Price: Mahogany, \$39.95; Blond, \$42.95


## GRANCO UHF HIDEAWAY TUNER

Easu-st, cheaqust. neatest ioncealed lour comBersion jew. Inatialled without pulling out heaw phassis: Without fussing with turret tumer: withoul realimument bothrs; without yettine therfirerice from adjacent chanmels.
Fompact meatal-|cousen unit mounts at rear of TV eahimet. Sliviferite dial shows slightly atove cabinet tep. Turine knol and selector switeln -liyhtly at right of cabinet. Mounting hrackets rupplied. Installed in a jiffy

Model HT-2 Selt-powered. List Price, $\$ 18.95$

- Complete, self-powered, simplified-installation UHF converter.
- Mounts at rear or on tod of TV cabinet
- Featuring the exclusive Granco two cavity coaxial tuner. Preselection for clear pictures.
- Provides continuous coverage of UHF band.
- High sensitivity, selectivity, stability.


## B-7 pros proluts for BETTER TELEVISION

by BLONDER-TONGUE LABORATORIES, INC., Westfield, N. J.

## B-T Add-A-Unit SYSTEMS

Low cost, easy-to-install TV systems for VHF and UHF. These units are designed to cope with virtually any problem of TV distribution.


## MIXER AMPLIFIER

Model MAf-1-Mixing circuit with built-in power supply. Receptacles for 4 plus-in VHF amplifier strips (CS-1) or 2 UHF converter strips (UC-1) pus throush-line. Converter arice (less plug-in strips) -...... $\$ 52.50$ Model CS-1-Single channel amplifier strip Cor above. Suecify VHF channel. List Price $\qquad$ ..... $\$ 21.50$

Model UC*-Single channel UHF converter strill for above. Occupies sinace of t wo CS-1. Specify UHF and VHF channels.



## DISTRIBUTION AMPLIFIER

Model DAs-I Ei rht "no-loss" isolated re ceiver outlets and 1 throurh-line. Broad ceind cicuit (ain control Salf-powered. band circuit. (ain control. Self-powered.


## COMMERCIAL ANTENSIFIER

Model CA-1-Broadband VHF amplifiec with 26 db LO-band and 24 dh HI-band gain. Gain control. Ideal preamplifier or line amplifier. Self-powered. UL Approved. Lint Price ...-. --......................................... 77.511

## B-T ACCESSORIES FOR MASTER TV SYSTEM

## WEATHER-PROOF HOUSING

For outdoor installation of any B-T Add-A-Unit. Heavy gauge steel and aluminum. Universal mounting bracket and straps. Measures $984^{\prime \prime} \times 7^{\prime \prime} \times 5094^{\prime \prime}$. List Price

## RESISTOR OUTLET BOX

Model ROI-B-7, from RG-11/U or RG-5y/U, 17 db isolation. VHF and UHF, with .5db insertion loss. loor recessed or wall mounting. List Price $\qquad$ - $\mathbf{~} 5.5 .00$

## LINE SPLITTERS

Model LS1-1 ........................ 75 ohm lines from one 75 ohm line. Model LSt-2 .........................Four 75 ohm line from one 300 ohm line.
 from one 7 tr ohm line
Model LSS1-1 ................... lion ohm lines from one fitw ohm line.
List Price (each) ......................................... $\$ 7.50$


## Model TVC-1

A newly developed, high quality TV camera designed for closed circuit applications ir. business, industry, research, education, science, etc. Interlaced scanning system and crystal-controlled output.

Supplied with eompact 15 -tube control unit which consists of syne generator, modulator, and power supply. Employs Vidicon camera tube and 25 mm ( $1^{\circ \prime}$ ) 1.9 lens in standard "C" mount. Operates at average room light level.

Model TVC-1-TV camera complete with Vidicon, lens, control unit and 25 -foot control cable.

NET IRICE \$1495.00


## BOOSTER

Model HA-3-Broadband cascade circuits. Covers all VHP channels without tunings. improves nicture and sound. More than 6db (6x) rain. Automatic "on/off" with TV set. Self-powered.
List Price $\qquad$
.. .839 .50

Model BTU-2-All-channel UHF converter with maximum gain and stability. Features BT Ultratuner with dual speed channel selector. Self-powered. Automatic "on/of"" with TV ret. Operates on VHF channels fo and 6.
List Price
and
set. Operate
\$39.9.3


Mod
Todel 99 - Ali-ctannel UHF converter for class A signal arear. Tuned input track VHF channel: 5 and 6 .
List Price ...................................................................... 19.9.

# Bang prolucts for BETTER TELEVISION <br> by BLONDER-TONGUE LABORATORIES, INC., Westfield, N. J. 



Model MLA-Extremely powerful broad band line or antenna amplifier. Cascode circuit with more than 37 db (70x) amplification on all VHF channels. Separate LC-band and HI-band sain controls. Output flat within $2 d b$. Self-powered.
Lilt Price ....................................................... $\$ 119.50$


AUTOMATIC GAIN CONTROL
Model MAGC-Designed for MLA amplifier. Maintains constant output level over 20 db range flat within 1.5 db . Also compensates for AC line variation. Draws power from MuA.
Li t Price
$\$ 59.50$


## MIXER SEPARATOR

Mudel MMS-Combines separate VHF signals into one common line or separates VHF chanrels from a common line. Plugin 0 to 24 db attenuators permit single channel equalization. Non-powered and pre-tuned. Low mixing loss ( 1 to 3db). Built into weather-proof case with mount ing bracket.
ing brack $\qquad$ $\$ 59.50$


CHANNEL AMPLIFIER STRIP
Model MCS-Provides $32-36$ db single channel gain. Cascode circuit with builtin automatic and manual gain controls. Can be cascaded or inter-connected to mix channels. Specify VHF channels.
crannels. Specify VHF channels.

## VAF CONVERTER STRIP

Model MVC-Changes any high VHF channel to any low VHF channel. Crystal controlled. Self-powered. 30 db gain. Availalile on special order only. Specify VHF channels.
List Price

## UHF CONVERTER STRIP

Model MUC-Changes any UHF channel to any VHF channel. Crystal controlled. Self-powered, 20db gain. Available on suecial order. Specify UHF and VHF channels.
List Price $\qquad$ $\$ 177.50$

## B-T Masterline TV SYSTEMS

Designed for larger Master TV System Installations requiring more powerful units and utilizing coax connectors. Easy to install. Versatile.


## RADIATION-PROOF HOUSING

Model MRH-Completely weather-proof and radiation-proof outdoor enclosure. Maximum veritiation. Has front openins. cealed door aind hasp. P'erforsted mounting surface facilitates installation of units. Universal mounting bracket and straps.
List Price ............................................................

CABLE CONNECTORS FOR MASTERLINE UNITS


COAX COLPLER MC-1-Correct 75 -ohm match for spliscing, adapting or terminating RG-11/U and RG-59/U. Also feed through connextor for model MRH housing.
List Price $\longrightarrow \longrightarrow \quad$ — $\quad$ 2.50


TERMINATING PLUG MTP-7S

Correctly terminates RG-11/U or RG-59/U Fits MC-1. Can be used with MP-11 or MP-59 in conjunction with MC-1. List Price $\qquad$ $\$ 2.50$
RG-11/U CONNECTOR MP-11-Matched 75-ohm UHF male fitting. List Price $\qquad$ $\$ 1.15$
RG-59/U CONNECTOR MP-59-Matched 75-ohm UHF male fittink. List Price $\qquad$ $\$ 1.30$
MINIATURE RG-59/C MK-59A-Matched $7 \overline{0}$-ohm male fitting.
List Price
MASTE日 TV CABLE TAPOFFS


OLTDOOR TAPOFF MTO-11-Spliceless weather-proof tap from RG-11/U cable. Uniform 17 db isolation. Lowest shunt capacity. Less than . 5 db insertion loss. List Price
INDOOR TAPOFF MTO-59--Spliceless tap from RG-59/U cable. Has wall mounting face plate. Uniform 17 db isolation with less than . 5 db insertion loss.
List Price

## "EXACT-MATCH" ACCESSORIES

 BAEUN

Model MB-Precision impedance match between 7.5 -ohm unbalanced and 3411 -ohm balanced lines. Weather protected. 7 i -ohm coax fitting. List Price ..................... $\$ 7.50$

## ALL-CHANNEL EQUALIZER

Model ME-1-Compensates for less on hirh VHF channels through 1,0101 feet of RG-11/U or 500 feet of RG-59/U cable. Attenuate from 17 db on channel $\because$ to 1db on channel 13. Weather motected. List Price ....................................................... $\$ 14.50$

## LOW-BAND EQUALIZER

Model ME-2-Attenuates from 9db on channel $\because$ to less than 1 db on channel 6 . Compensates for 2,000 feet of $\mathrm{Rr}-11 / \mathrm{U}$ or 1,000 feet of RG-59/U. Weather 1 motected. List Price....

## OIRECTIONAL COUPLER

Model MDC-2-Two outlets for TV sets or branch coax lines. 14 db to 30 db interisolation with only
Weather protected. List Price.......$~$ 12.50

## TUNABLE FM TRAP

Model MWT-1-More than ?odb attenuation on any FM channel. Coax fittings. Weather protected. List Price ......... $\$ 19.50$

## TUNABLE LO-BAND VAF TRAP

Model MWT-2-Attenuates any VHF low band channel. Coax fittings. Weather protected. List Price $\quad \$ 19.50$

## DUPLEXERS



Remote control of TV amplifiers, 2-way audio or AM transmission, One line carries VHF signal plus any other frefuency from $0-2 \mathrm{mc}$.
Model MDX-300-for 300 -ohm line.
List Price - $\$ 17.00$ Model MDX-75-for 75 -ohm cable. List Price


## POWER LINE FILTER

Model MLF-Effective RF isolation between amplifier and power line. Mounts in MRH housing. List Price $\quad \$ 14.50$


Model MAT-Uniform, all-channel attenMation. Provides 0 db to 45 db attenuation of VHF signals in 3 db steps.
List Price

## ALLIANCE TV PRODUCTS

## ALLIANCE TENNA-ROTORS • UHF CONVERTERS • BOOSTERS

## ALLIANCE TENNA-ROTOR

The Alliance Tenna-Rotor, available in three models illustrated below, is a TV or FM antenna rotator. Designed to rotate all conventional type antennas. It consists of a fully enclosed electrically driven rotor into which the antenna center-post is clamped. Four-conductor "zip" cable connects rotator with plastic control case placed near receiver, which plugs into any 60 cycle 110 -volt $A C$ house circuit. A selector switch controls rotation clockwise or counter-clockwise to point antenna in any direction for optimum reception.
Alliance Tenna-Rotor reduces interference, improves quality of picture, eliminates ghosts, aids fringe reception. It is especially useful in multi-station areas and wherever there are signals from the more critical UHF stations. Will add distance to your reception.


Most Widely Advertised Rotator on the Market


## FULLY AUTOMATIC MODEL U-83

"SET IT AND FORGET IT"
This deluxe Model U-83 is fully automatic rotator on the market.
BEAUTIFUL NEW STYLING
Simply set the pointer - antenna automatically turns by itself and stops at the direction shown on the indicator dial. New styling plus the exclusive automatic feature makes Model U. 83 the ultimate in rotators!

## MODEL T-10

This finger-tip electrically controlled Alliance Tenna-Rotor is noted for extreme accuracy, compactness and smart styling. Pressing attractive tilt bar controls rotator and a pointer on the control case dial shows compass direction to which antenna is pointed.
Both new Model Alliance Tenna-Rotors, the U-83 automatic, and the $\mathrm{T} \cdot 10$, have increased speed of rotation and incorporate features that make for faster installation, trouble-free operation and unsurpassed performance. The new rotator unit has doubleaction magnetic anti-drift brake plus smoother synchronization with control units. Alliance Tenna-Rotors are pre-sold through TV advertising!

## MODEL K22

New, lowest-priced rotator in the field, Alliance Model K-22 Tenna-Rotor features a fingertip control bar. When pressed on one end the antenna rotates in one direction, reverses when other end is depressed. Center disc signal light indicates when limit of travel is reached. Neat, compact, modern design; product of Alliance high-standard precision manufacturing. Fully guaranteed.


Model K-22
List Price ..................... $\mathbf{\$ 2 4 . 9 5}$

## ALLIANCE MANUFACTURING COMPANY• Alliance, Ohio

## ALLIANCE TV AND ELEGTRONIC PRODUCTS ALLIANCE TENNA-ROTORS - UHF CONVERTERS - BOOSTERS ALLIANCE LIFT-A=DOR



Model BY-90
Lisi Price ...... ........... $\mathbf{\$ 2 9 . 9 5}$


Model UC-2
Lisi Price

## ALLIANCE BY-90 UHF CONVERTER

Adds all the new UHF channels to VHF sets. The recognized quality converter built for top performance, long trouble-free service. Selector dial covers Channels 14 to 82 . Handsome, durable case, harmonizes with any setting.

## ALLIANCE "HIDE-A-WAY" CONVERTER

The "Hide-A-Way" mounts out of sight on back of set. Only slide rule tuning dial shows slightly over cabinet top. Quickly, easily installed. Alliance quality, "economy" model UHF converter.


Model UC-1 List Paice ...... $\$ 18.95$

## ALLIANCE UC-2 UHF CONVERTER

Modern, graceful styling features this UC-2 Alliance UHF Converter. One simple control provides continuous tuning. Uniform reception is obtained on all channels. Unusual value.

## ALLIANCE LIFT-A-DOR automatic garage door operators

The first quality low-cost, automatic garage door operator! Opens, doses, locks garage door, turns on and off automatically! Now available in three styles: Radic Control, Hydraulic Control, Key-Switch Control. Featuring: New Lifl Mechanism, with exclusive Wobulator, for longer motor life, instant safety stop; automatic reversible motor, permanently lubricated, with built-in thermal circuit breaker; pressure reliet clamp, to permit manual operation, no need to disassemble mechanism; lightweight, sturdy construction, fewer moving parts; work on overhead


Available in seven Genie Models
List Prices.....from $\mathbf{\$ 6 9 . 9 6}$ to $\mathbf{\$ 2 1 9 . 9 5}$ plus installation
doors up to $16^{\circ}$ wide, $8^{\circ}$ high, curved and straight track types; assembled, thoroughly tested at factory.


Madel TBB
List Frice $\$ \mathbf{\$ 4 . 9 5}$

## AILIANCE THRUST BEARING BRACKET

The Alliance Thrust Beariag Brackel, accessory to Allicnce Tenno-Rator, is mace to provide arlded support for all heovier conventional type antennas. Used with mlliance Tenna.Rotor, it makes an ideal irsiullation. Especially suited for mulibay and stacked array an-
tenno types. The Thrust Bearing takes the weight off the rator unit and transfers it to the ground. It assures extra rigid support and maximum esistance to high winds.

For catalogue sheets, folders and more detailed information of Alliance Converters, Boosters and Tenaa-Rotors, write the factory.

## ALLIANCE MANUFACTURING COMPANY•Alliance, Ohio



TV PICTURE TUBE BRIGHTENER - Restores brightness to dim TV pic. tubes, including electro.
static. A convenient slide switch permits instontone Ous use for either series or parallel wired sets.
MODEL UB ............................25 LIST


PICBOOST DELUXE TELEVISION PICTURE TUBE BRIGHTENER - Restores brightness to all tubes in. cluding electrostatic types. Variable valrage cantral permits gradual increose of valtage as needed. stretching picture tube life to on obsalute maxi. mum.
MODEL 1P - Brightener for parallel wired sets. MODEL 2P - Brightener far series wired sets.


## HI-FI INTER-CONNECTING CABLES



CBC offers you a fine qualivy interconnecting cab:e for every high fidelity installatian requirement Cables have such fea. tures as an exclusive hexaganal gripper, shielding grounded without saldering io protect insulation, and or extremely cable is fully tested elect-ically and mechanically before leaving the foctory.


## Oars HIGH-FIDELITY SOUND RECORDING TAPE

## PLASTIC BASE MAGNETIC TAPE

Superior in quality and performance. Sound-Engineered by Specialists.

Brings forth the best tone quality from your tape recorder.

Quality is uniform from reel to reel. No magnetic weak spots.
Outstanding high frequency response and permanent micro-polished red oxide coating to really insure high fidelity.

Maintains a constant high output with extremely low background noise.

Look for the attractive black and gold box with the Oak Leaf emblem for assurance of sound quality.


0 OKSPEAKER SWITCH

For Use in Autos, with Remote TV or Jukebox Speakers, And Many Other Purposes.
Does all that the old style 3 Way Speaker Switch could do ... PLUS: Sound Distribution as you want it.
EITHER SPEAKER CAN BE MADE THE LOUDER, WHILE BOTH CONTINUE TO PLAY TOGETHER. Either speaker can be played alone, of course. Additional advantage of the BEST IMPEDANCE MATCH BETWEEN SPEAKERS AND RADIO at any volume setting used.

## 1 SWITCH POSITIONS

- Front Speaker
- Rear Speaker
- Both Speakers In Parallel
- Both Speakers In Series


Patent Pending

## OAK ELECTRONICS COMPANY•BUFFALO 3, NEW YORK

## rCA ELECTRONIC COMPONENTS

## TELEVISION PARTS



A


B
C

| Horiz. Coils |  | Vertical Coils |  | For Kinescopes |  | Mtg. Fig. | $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | Sugg'd List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | In. ductance mil | $\underset{\text { Resist. }}{\text { DC }}$ ance ohms | Typical Type | Horizontal Deflection Angle |  |  |  |
| 8.3 | 13.5 | 50 | 64.6 | $\begin{aligned} & 108 P 4-A \\ & 12 \mathrm{KPt} \end{aligned}$ | 50-510 | A | 201 D12 | \$ 9.00 |
| 8.4 | 11.5 | 55 | 70 | $\begin{aligned} & 10 R P 4-A \\ & 16 A P 4-A \end{aligned}$ | $50-57^{\circ}$ | A | 207 D1 | 10.00 |
| 10.3 | 13.2 | 41.5 | 48.7 | $\begin{aligned} & 16(9 P 4-1 \\ & 16 \mathrm{KP} 4 \end{aligned}$ | 66-70 $0^{\circ}$ | A | 206 D1 | 9.00 |
| 11.7 | 14.7 | 46.3 | 43.6 | $2 \mathrm{MP4} 4$ | $41^{\circ}$ | A | 219 D1 | 19.00 |
| 12.5 | 17.1 | 50 | 68.8 | $10 \mathrm{BP} 4-\mathrm{A}$ 12KP4-A | $50-57^{\circ}$ | 1 | 205 D1 | 9.00 |
| 13.3 | 18.2 | 41 | 18 | $\begin{aligned} & 16 \mathrm{GP} 4-\mathrm{B} \\ & 16 \mathrm{KP} \end{aligned}$ |  | A | 209 D1 | 10.00 |
| 13.3 | 33.5 | 41 | 48 | $\begin{aligned} & 16 \mathrm{GP} 4-\mathrm{B} \\ & 21 \mathrm{AP4} \end{aligned}$ | 66-710 | A | 211 D2* | 8.75 |
| 18.5 | 26.5 | 42 | 48 |  | $66-70^{\circ}$ | A | 222 D1 ${ }^{\text {\% }}$ | 10.00 |
| 28.5 | 50 | 3.3 | 3.3 | $\begin{aligned} & 16 \mathrm{CP}_{4-\mathrm{B}} \\ & 21 \mathrm{AP} 4 \end{aligned}$ | $66.70^{\circ}$ | . | 214 D1* | 9.80 |

## DEFLECTING YOKES (For Use with Camera Tubes)

Horizontal Coils Vertical Coils for Camera Tubes

| Induc. tance $\qquad$ | DC <br> Resist. ance thums | Induc tance mh | $\qquad$ | Typical Type | Mtg. Fig. | $\underset{\text { Type }}{\text { RCA }}$ | Supgid User Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.9 | 8.5 | 50 | 161 | 618 s | C | 216 D1 | $\square$ |
| 2.2. | 9 | 25 | 100 | 1850-1 | - | 201 D76 | - |
| 5.5 | 19 | 28.3 | 31 | $5 \times 0$ (1. 58: 6 | - | 210 D1 | - |
| 5.5 | $1!4$ | 28 | 68 | 2FO1. 1694 | - | 201 D77 | - |
| 8 | 12 | 50 | (i) | 5WP15, ¢7\%19 | f: | 212 D1 | - |

HORIZONTAL-OUTPUT TRANSFORMERS

| For Cathode-Ray <br> or Camera Tubes <br> Typical Type | Deseription | $\underset{\text { Mio. }}{\text { Mig. }}$ | $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | Sugiond Price |
| :---: | :---: | :---: | :---: | :---: |
|  | Fore use with Vidicuns. | L. | 233r1 | - |
| +Surgested loser Price |  |  |  |  |



G




## RCA ELECTRONIC COMPONENTS

## TELEVISION PARTS



## HORIZONTAL-BLOCKING.OSCILLATOR TRANSFORMERS

| Turns <br> Ratio <br> jrimary/ <br> Secoriplary | DC Resistance |  | Inductance Primary Hanrírs | Mounting Fig. | RCA Type | Sugg'd List Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \text { 1'וitary } \\ \text { oh ms } \end{gathered}$ | semondary ohms |  |  |  |  |
| 1:2 | 3 \% | 8. 5 | 11.1119 | II | 208 Tl | \$4.35 |
| 1:2 | 3.5 | K.\% | (1, 1) 1 i | 11 | 20873 | 3.05 |

## VERTICAL.BLOCKING.OSCILLATOR TRANSFORMERS

| Turns Ratio | DE Resistance |  | Inductance Primary Ampies | Mounting Fig. | $\begin{aligned} & \text { RCA } \\ & \text { Type } \\ & \hline \end{aligned}$ | Sugg'd Price Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| primelary/ scremblary | Pribary ohtis | sccondaly |  |  |  |  |
| 1:4.2 | 244 | 1:311 | 1.15 | $\cdots$ | 20812 | \$3.25 |
| 1:4.2 | 24.4 | 1310 | 1.1.5 | X | 20819 | 4.00 |
| 1:4.2 | 268 | 1166 | 1.15 | 1 | 20911 | 2.75 |

## VERTICAL-DEFLECTION-OUTPUT TRANSFORMERS

 Turns|  | DE Resistanc | Inductance |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| [mary/ | Fif | ma | Mounting | RCA | List |


| Y'rimary/ <br> Kerontary | Primary <br> ohms | Fepondary <br> ohms | Primary <br> ohms | Mounting <br> Fig. | RCA | Type |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | | List |
| :---: |
| Price |


| scrotrtary | olmes | ohms | ohms | Fig. | Type | Price |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3:1 | 7113 | 70 | 110010 | 1 | 23411 | - |
| 10:1 | 「こ! | 13.9 | 1 xictil | 1 | 204T9 | 5.50 |
| 10:1 | 5:10) | 6.4 | 1:**\|\% | 1 l | 204 T2 | 6.00 |
| 11.4:1 | 12:00 | 11 | 179001 | P | 222T1 | 4.25 |
| 1:3:1 | 14i) | 4.4 | 27000 | P | 226T1 | 5.75 |

tNuggested Ugir Irire

| HORIZONTAL SYNC-DISCRIMINATOR TRANSFORMERS |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DC Resistance |  | Inductance at 1000 cos |  |  |  | Mtg. <br> Fig. | $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | $\begin{aligned} & \text { Suqg'd } \\ & \text { List } \\ & \text { Price } \end{aligned}$ |
| Ter- | Ter- | Terminals A-C |  | Terminals D-F |  |  |  |  |
| $\begin{gathered} \text { minals } \\ \text { A. C } \\ \text { ohms } \end{gathered}$ | $\begin{gathered} \text { militals } \\ \text { D-F } \\ \text { ohms } \end{gathered}$ | Max. mh | Min. mh | Max. mh | Min. mh |  |  |  |
| 42.3 | 44.0 | 9.0 | 5.0 | 10.0 | 5.5 | Y | 20818 | \$2.45 |

FOCUSING AND ALIGNMENT COILS

| $\underset{\substack{\text { Desist } \\ \text { ance }}}{\text { olnms }}$ol | $\begin{gathered} \hline \mathrm{DC} \\ \text { Cur } \\ \text { rent } \\ \text { ma } \end{gathered}$ | For Cathode-Ray or Camera Tubes |  | M19. Fig. | $\begin{gathered} \text { RCA } \\ \text { Type } \end{gathered}$ | $\begin{aligned} & \text { Suqgid } \\ & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Typical Tube Type | Anode. Voltage kv |  |  |  |
| 140 | 111 | 4198 | - | s | 21801\% | - |
| 1.50 | 30 | 58: ${ }^{\text {a }}$ (5806 | -- | - | 204D75* | - |
| 275 | 1:11 | 101\% ${ }^{\text {P }}$-A, 121P4-A | 111 | T | 202 DI | 8.35 |
| 38.5 | (i) | 6ifss | - | 1 | 21701 | - |
|  | 10 | 1 +2.14 | 12 |  |  |  |
| 470 | 1190 | 16iPd-s | 12 | W | 202D2 | 12.25 |
|  | 101! | 17614 | 14 |  |  |  |
| 20010 | 85 |  | - | - | 202075 | - |

tsumereted liser Prive *Alinament cois

## ION.TRAP MAGNETS

| Description | Mig. Fis. | $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | Sugg'd List Price |
| :---: | :---: | :---: | :---: |
| Ikouble pok. field-coil type. DC current ratime. 200 ma . | - | 20301 | \$6.50 |
| Souhle-pole, ring-slaped permanent magnet, "universal" type. Field strength: large magnet, 55 gausses: small magnet, 1.5 gausses. The Re, i-203113 ean be used as a single-pole magnet by remowing the small ring-shaped magnet. | Z | 20303 | 2.10 |

HORIZONTAL OSCILLATOR AND SYNC.STABILIZER COILS

| DC Resistance |  | Inductance at 1000 cos |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{gathered} \text { Ter- } \\ \text { minals } \\ \text { A-F } \\ \text { ohms } \end{gathered}$ | $\begin{aligned} & \text { Ter- } \\ & \text { minals } \\ & \text { chD } \\ & \text { ohms } \end{aligned}$ | Terminals A.F |  | Terminals C-D |  | $\begin{gathered} \text { Mig. } \\ \text { Fig. } \end{gathered}$ | $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | $\text { Sugotd }{ }^{\text {Sild }}$Price |
|  |  | max. $\mathrm{mh}$ | Min. $\mathrm{mb}$ | Max. | Min. |  |  |  |
| 117 | - | $3 \times .0$ | 21.0 | - | - | Y | 203R1 | \$1.90 |
| \$1 | 47 | 33.0 | 13.5 | 11.0 | 7.35 | Y | 205R1 | 2.40 |

POWER TRANSFORMERS*

| PRIMARY WINDING <br> Current amms | SECONDARV WINDINGS |  |  |  |  |  |  |  | Mcunting Fis. | $\begin{aligned} & \text { RCA } \\ & \text { Type } \end{aligned}$ | $\begin{aligned} & \text { Suag'd } \begin{array}{c} \text { List } \\ \text { Price } \end{array} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\underset{\substack{\text { Pulate } \\ \text { Voltage } \\ \text { Lolte } \\ \text { volt }}}{\text { Winding }}$Max. DC <br> Current <br> amps |  | $\underset{\substack{\text { Filament } \\ \text { Voltage } \\ \text { rolts }}}{\text { Current }} \text { ampl }$ |  |  |  | $\underset{\substack{\text { Filament } \\ \text { Voltage } \\ \text { volts }} \underset{\text { Current }}{\text { Eamp }}}{\substack{\text { amp }}}$ |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 2.20 | 770138.5 | 0,2:30 | . 5 | 3 | 6.3 | $9.1)$ | -. 0 | 2.0 | 12 | 201 T7 | 23.35 |
| 2.18 | -20/360 | 0.250 | j | 3 | 6.3 | 8.0 | 5.0 | 2.0 | 4 | 20178 ${ }^{\text {+ }}$ | 21.10 |
| 2.48 | 730/34.i. | 0.2 mo | 5 | 9 | 6.3 | 8.8 .5 | 5.0 | 2.0 | 0 | 201 T9 | 23.35 |
| 2.48 | 730/360. | 0.240 | 5 | 7) | 6.3 | 8.8 .5 | 6.3 | 1.2 | 12 | 201710 | 23.35 |

*For 117 -solt. 60-eycle operation. $\dagger$ Type 201 T8 has an additional filament winding: 6.3 volts 0. ampere.


TELEVISION ACCESSORIES
ELECTRONIC COMPONENTS


## ROOF - THRU

Polystyrene bushing and copper flashing provides direct roof entrance of TVtransmission line. Permits shorter lead-in, protects line from exposure to weather and eliminates messy wires on side of house. Model 624 also accommodates rotator cable

Cat. 624 ROOF-THR U for flat line.---List Price $\$ 5.84$ Cat. 623 ROOF-THRU for tubular line.-List Price $\$ 5.84$

## WALL - FEED



Installs under eve of house to bring leadin into attic. Completely weather-proof, For any popular 300 ohm line. Also ideal for use in house trailer. Supplied with aeoprene gasket and wood screws. Brown or ivory.

Cat. 626 WALL-FEED - - - - - - List Price $\$ 1.26$ Cat. 626-PK WALL-FEED with Universal TV Socket and mating plugs - - - - - - - - - - List Price $\$ 2.31$


For any wall up to $13^{\prime \prime}$ thick. Completely weather-proof polystyrene bushing for al. popular types line. Outside plate provides anchor polnt for open-wire line. Rubber grommet supplied for tight weather seal. Unlversal TV socket may be mounted on inside plate. In brown or ivory.
Cat. 625 WALL-THRU- - - - $-\cdots-$ List Price $\$ 1.95$ Cat. 625-PK WALL-THRU with Universal TV Socket and mating Plugs - - - - - - - - - - - List Price \$3.00


## SURFACE MOUNTING SOCKETS

No wall opening required to install this attractive TV lead-in socket. Mount on wall or baseboard with wood screws supplied. In brown or ivory polystyrene.

Cat. S:101 WALL PLATE SOCKET - -- - List Price $\mathbf{\$ 1 . 3 5}$ Cat. SM-1PK Above, with mating plug-.-List Price \$1.65 Cat. SM-11 DUAL SURFACE MOUNTING SOCKET--.
Cat. Sm-11PK Above, with mating plug-- - List Price 81.84
Cat. Sil-111 TRIPLE SURFACE MOUNTING SOCKET--
Cat. SM-111PK Above, with mating plug--List Price $\$ 2.09$ Cat. SM-14 SINGLE LEAD-IN and 4-TIRE SOCKET-...
-- List Price 82.09
Cat. SM-14Pk Above, with mating plugs--List Price $\$ 3.51$ Cat. SM-114 DUAL LEAD-IN and 4-WIRE SOCKET .....
-. - List Price $\$ 2.09$
Cat. SM1114PK Above, with mating plugs--List Price $\$ 3.14$ Cat. SM-15 SINGLE LEAD-IN and 5-WIRE SOCKET -...... …-List Price $\$ 2.09$
Cat. SM-15PK Above, with mating plugs -- List Price $\$ 3.51$ Cat. SM-115 DUAL LEAD-IN and 5-WIRE SOCKET ....... ----List Price $\$ 2.09$
Cat. SM-115PK Above, with mating plugs--List Price $\$ 3.20$ Cat. SM-18 SINGLE LEAD-IN and 8-WIRE SOCKET ….... ----List Price $\$ 2.25$
Cat. SM-18PK Above, with mating plugs - List Price $\$ 3.60$ Cat. SM-118 DUAL LEAD-IN and 8-KIRE SOCKET-......

$$
\text { --List Price } \$ 2.25
$$

Cat. SM-118PK Above, with mating plugs--List Price $\$ 3.55$

## FLUSH TV SOCKETS



SINGLE LEAD-IN. For installations reGuiring single line and not uillizing rotator. Low loss, constant mpedance socket with attractive ivory or brown wall plate. Solderless. Install with Cat. F-9, Mounting Brackets, Cat. F-8, Plaster Ring, or standard outlet box.
Cat. F-1 SINGLE FLUSH SOCKET - - - - List Price $\$ 1.67$ Cat. F-1PK SINGLE FLUSH SOCKET with mating plug and Mounting Brackets - - - - - - - - - - List Price $\$ 1.95$ MULTIPLE SOCKETS (not Illus.) Similar to F-1, above but provides temination for more than one separate lead-in line.
Cat. F-ll DUAL FLUSH SOCRET- - - - List Price $\$ 2.09$ Cat. F-1lPK DUAL FLUSH SOCKET with mating Plug and Mounting Brackets - - - - -- -- -- List Price $\$ 2.67$ Cat. F-111 TRIPLE FLUSH SOCKET - - L List Price $\$ 2.09$ Cat. F-lllPK TRIPLE FLUSH SOCKET with meting plug



## COMB. FLUSH SOCKETS

COMB. ROTATOR CABLE \& TV LEAD-IN FLUSH SOCKETS. Provides pluq-in ter mination for one lead-in line plus polarized connection of rotator cable. Multiwire socket takes approprlate line plug. following page.
Cat. F-14 COMB. SOCKET for 4 -WIRE CABLE $-\boldsymbol{- l}^{-}$---- List Price $\$ 2.09$ Cat. F-14PK Above, with necessary mating Plugs, mounting hardware - - - - --- - -- --- - List Price 83.51 Cat. F-114 DUAL LEAD-IN and 4-WIRE SOCKET $-\ldots-$
----List Price $\$ 2.09$
Cat. F-114PK Above, with necessarymating Plugs, mounting
 Cat. F-15 COMB. SOCKET for 5-WIRE CABLE … -- - List Price $\$ 2.09$ Cat. F-15PK Above, with necessary mating Plugs, mounting hardware - - . - . . .-.-. .-. .-- List Price 83.51 Cat. F-115 DUAL LEAD-IN and 5-WIRE SOCKET -----
--- - List Price $\$ 2.09$
Cat. F-115PK Above, with necessary mating Plugs, mounting hardware - - - - - - - - - - - - - - - List Price 83.51 Cat. F-18 COMB. SOCKET for 8-TIRE CABLE --

-     -         - Lier Price $\$ 2.25$

Cat. F-18PK Above, with necessary mating Plugs, mounting hardware - . . ...................-- List Price $\$ 3.60$ Cat. F-118 DUAL LEAD-IN and 8-WIRE SOCEET ------- List Price $\$ 2.25$ Cat. F-118PK Above, with necessary mating Plugs, mounting hardware - - . - - . . . . . . . . . . - - List Price $\$ 3.60$

## TV ANTENNA SWITCHES

chenIdeal UHF/VHF antenna selector switch. Low loss rotary type making silver-to-silver contacts. In ivory or brown polystyrene case. Solderless, easy to install. Exiension knob supplied for easy access when mounted behind set.
Cat. F-20 3-HAY TV ANTENNA SWITCH--List Price $\$ 3.75$ Cat. F-40 2-WAY TV ANTENNA SWITCH-List Price $\$ 1.95$ Cat. F-10 Socket Switch $\ldots \ldots$.......... List Price $\$ 3.75$ Cat. F-10PK Above, with mating plug and mounting brackets

-     -         - List Price $\$ 4.40$


## INPUT ADAPTER

ideal plug-in connection for TV and FM sets, boosters, etc. Attaches to screws on antenna terminal strip of set. Mates with Cat. 311 Line Socke:. Solderless.
Cat. 304 INPUT ADAPTER - - - List Price $\$ .30$

## TRANSMISSION LINE PLUG

Solderless constant impedance 300 hm transmission line plug. Mates with all MOSLEY Transmission Line Sockets. Precision molded polystyrene. Plated brass pins, set screws. Phosphor bronze contact strips.
Cat. 301 TRANSMISSION LINE PLUG --.--
----List Price $\$ .30$


## TRANSMISSION LINE SOCKET

Constant impedance 300 ohm transmssionline socket for use where mounted socket not feasible. Made of same low loss materials as Plug, above. Mates with Cat. 301 Plug, Cat. 304 Input Adapter, first page, and with Cat. 344 TV Receptacle. Solderless.
Cat. 3 Il TRANSMISSION LINE SOCKET--List Price $\$ .30$

## UNIVERSAL TV SOCKET

Compact molded polystyrene terminal socket or line ap for single TV lead-1n. Mounts on wall, baseboard, metal chassis or direct on Wall-Thru. Constant Impedance, low loss. In brown or Ivory. With wood screws.

Cat. 343 UNIVERSAL TV SOCKET----Lisi Price $\$ .80$ Cat. 343-PK Above, with mating Plug---List Price $\$ 1.05$ Cat. 344 Similar to No. 343 , above, but with male pins-.. --- List Price $\$ .80$
Cat. 344-PK Above, with mating Line Socket-------- - - List Price \$1.05

UNIVERSAL TRANSMISSION

## LINE CONNECTORS

Maintains impedance and polarity when used to connect 300 ohm transmission line. Made of low loss materials. Solderless.
 Use ir pairs
Cat. 321 POLARIZED TRANSMISSION LINE CONNECTORS
List Price (per pair) \$ . 60

## TUBJLAR TO FLAT TRANS_ MISSION LINE SPLICER

Solderiess, constant impedance splicer for comnecting round or oval 300 ohm line to standard fiat line. Slot in splicer wall
 permits molsture to escape ellminating drip loop in tubular line. Molded polyatyrene with non-ferrous set screws. Cat. 29-S TUBULAR TO FLAT LINE SPLICER-----
— - - Liat Price \$. 20

## FLAT LINE SPLICER

Low loss, constantimpedance splicerfor join Ing sections of standard 300 ohm flat transmission line. Molded polyatyrene with nonferroue set screws. Solderless.


Cat. 27-S FLAT LINE SPLICER------Liat Price $\$ .18$

## OPEN-WIRE SPACER BARS



Acrylic Plastic spacer bars assure proper spacing of open-wire lines. Sturdy. Low Loss.
Cat. 450-3 1" OPEN-WIRE SPACER----List Price \$ . 10 Cat. 450-32 $2^{\prime \prime}$ OPEN-WIRE SPACER----List Price $\$ .28$ Cat. 450-34 4" OPEN-WIRE SPACER---Liat Price $\$ .37$ Cat. 450-3 $6^{\prime \prime}$ OPEN-WIRE SPACER----List Price $\$ .42$

## OPEN-WIRE SPLICER

Ideal l' splicer for joining 450 ohm open-wite line sectlons. Also 300 ohm flat line to openwire line. Low loss Polystyrene.
Cat. 450-1 OPEN - WIRE SPLICER-----List Price 8.16


## MULTI-WIRE LINE PLUGS

Compact, polarszed molded polystyrene plugs for many low voltage uses. Mates with appropriate Flush, Line or Base Socket. No Individual set screws. Solderless. Plated brass pins. For flat or round cable. In brown or ivory.
Cat. 374 4-WIRE PLUG -------------List Price \$ . 75 Cat. 375 5-WIRE PLUG --------------List Price \$. 81 Cat. 378 8-WIRE PLUG------------List Price $\$ 1.00$

## MULTI-WIRE LINE SOCKETS

Polarized line sockets to mate with above Plugs. Solderless. No Indivdual set screws. Phosphor bronze contact strips. In brown or ivory.
Cat. 364 4-WIRE LINE SOCKET------List Price $\$ .96$ Cat. 364-PK Above, with mating Plug----List Price $\$ 1.71$ Cat. 365 5-WIRE LINE SOCKET -------List Price $\$ 1.03$ Cat. 365-PK Above, with mating Plug---List Price $\$ 1.84$ Cat. 368 8-WIRE LINE SOCKET ------List Price $\$ 1.25$ Cat. 368-PK Above, with mating Plug---List Price $\mathbf{8 2 . 2 5}$


## MULTI-WIRE BASE SOCKETS

Compact, sturdy polarized sockets for mouniling on wall, baseboard or metal chassis. Highest quallity construction. Molded polystyrene with phosphor bronze contacts. In brown or Ivory. Wood screws supplied.

Cat. 354 4-WIRE BASE SOCKET--- - - List Price $\$ 1.37$ Cat, 354-PK Above, with mating Plug -- - List Price $\mathbf{\$ 2 . 1 2}$ Cat. 355 5-WIRE BASE SOCKET $-\cdots-$ L $^{-}$Liat Price $\$ 1.50$ Cat. 355-PK Above, with mating Plug - - - List Price \$2.31 Cat. 358 8-WIRE BASE SOCKET - - - - - List Price $\$ 1.75$ Cat. 358-PK Above, with mating Plug--- List Price $\$ 2.75$


## MOSLEY "'Y-TY'"

Unlque strain rellef connector ellminates leadin breakage where line connects to TV antenna elements. Sturdy clomplng member grips line insulation securely.
Cat. 263-S "Y-TY" for all antennes with 4 " or lesa distance between terminals--.-. - - - -- - - List Price $\$ .80$

Cat. 263-L "Y-TY" for all antennas with 4 " to $6^{\circ "}$ between


## MOSLEY ORIENTOR

The MOSLEY "Orientor" is an isolation device that enables the installer on the roof to utilize the television transmasion line to bring the video
 signal back up to him where it can be read in relaitive value by means of an ordinary volt-ohmeter. When using the Orientor, It is not necessary that an extra man be stationed at the TV set to relay information to the installer adfusting the antenna. Cat. 903 "Orientor" complete with set of leads, less meter - - - - Net. Price $\$ 7.50$


Efficient, compact bridging-pad coupler permits $2-s e t$ operation from one TV antenna without interaction. Mary be installed outside in semi-protected area. Solderless connections to 300 ohm line. In sturdy polyatyrene case.
Cat. 902 DUAL-MATCH 2-SET COUPLER-List Price $\$ 3.95$ Cat. 912 "TINY-MITE" Coupler \& Socket-List Price $\$ 1.75$

| LTV WORKMAN TV, INC. | TEANECK, N. J. NTM |
| :---: | :---: |
| GLOBAR RESISTOR <br> 20 Ohms HOT. 600 ma . replaces G.E. Parl \#RRWOS 1 <br> FR1 <br> ust 1.35 | JET PROBE <br> New lype test probe. Hook lip. spring action. Short circuit proaf. Pat. No. 3006312 <br> Model GB <br> LISt 3.30 |
|  | Model H32 <br> "WISSH" CONTACT CLEANER A kit consisting of quart con and three (FREE) refillable dispensers. Cleans and lubricates TV iuners, conlact points, band switches and carbon controls. <br> LISt 4.80 |
| GLOBAR RESISTOR <br> 31 Ohms HOT-300ma. zeplaces G.E. Pari \#RRW097 <br> FR31 <br> ust 1.43 |  |
| GLOBAR RESISTOR <br> 35 Ohms HOT-600ma, replaces G.E. Porl \#RRW054 <br> ust 1.43 |  |
|  <br> GLOBAR RESISTOR <br> 43 Ohms HOT-600ma. Replacement for Crosley | $\qquad$ HIGH VOLTAGE FILTER RESISTOR FOR DOUBLER CIRCUITS <br> Long life composilion carbon barnot a carbon film-non inductive. 2 megohms. 3.5 watts. <br> Model 2MEG <br> ust . 95 |
|  | POWDERED IRON CORES <br> A kit of 7 assorted pieces. $80 \%$ replacement all TV cores. <br> Model PS10 <br> ust 95 |
| FUSIBLE RESISTOR <br> Replacement for Motorolo, Crosley. Emerson, Raytheon, Philco, Hoffman, Hallicraflers, Trutone, Sears, Mont Ward, Sentinel, Arvin, etc. 7.5 ohms - 3 amperes. <br> Model R7 <br> LISt. 72 | PICTURE TUBE BRIGHTENER <br> Use slide switch to operate on series or parallel. Isolation transformer. Corrects low emission and cathode to flament short. Full socket with six leads. <br> Model W9 <br> ust 4.15 |
|  | PICTURE TUBE BRIGHTENER <br> Corrects low emission and cathode to filament short in parallel circuit Isolation transformer. Full sockel with six leads. <br> Model W4 <br> ust 3.70 |
|  |  |

## CHIMNEY MOUNTS*



## THRIFT CHIMNEY MOUNT

Heavy gauge " $Y$ " type chimney mount in an everlasting, rustproof, Hot-Dip galvanized finish. Snap-in type mast holder with rounded wide-flared lips facilitates antenna mounting. Two $12^{\prime}$ lengths of $3 / 4$ " galvanized, or stainless steel straps. Four eyebolts provide a ready means for tightening the banding evenly. Will accommodate masts to $15 \mathrm{~s}^{\prime \prime}$ O.D. Furnished complete with installation hardware. Individually packaged.

Steel.Banding)
Model T-15 ST (Stainless Steel Banding)

A mounting of embossed, heavy sauge, steel, Hot-lip galvanized for everlasting rust resistance. Two 12 lengths of $3 /{ }^{\prime \prime}$ galvanized, or stainless sterl strapping are provided to encircle the largest chimneys. Will accommodate masts to $11 / /^{\prime \prime}$ O.D. Furnished complete with installation hardware. Two to a set. Individually packaged.

Two to a set



## Model Tam (Galvanized <br> Steel Banding) <br> Model ZM ST (Stainless

Steel Banding)
The Challenger Chimney Mount is an embossed, heavygauge, steel mount in a golden irridite finish. Two serrated " $U$ " boits provide a ready means of attaching the mast to the mounting bracket. Will accommodate all sizes of masts up to $11 / 2^{\prime \prime}$ O.D. Two $10^{\prime}$ lengths of \%" galvanized, or stainless steel strapping are sufflcient to encircle most chimneys. Furnished complete with installation hardware. Two to a set. Individually packaged.

CHIMNEY MOUNTS WITH HEAVY GAUGE ELECTRD-GALVANIZED STEEL STRAPS $y_{4}^{* *}$ WIDE

| MODEL No. | DESCRIPTIO* | cist PRICE | STAMDARD CARTON OF | WEIGHT |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| SN-50 | Snop-In Type Chimney Mount with Thrift Clip (Hat-Dip Galvanized) | 3.00 | 20 | 70 lbs. |  |
| T. 15 | Now Thrift Chimney Mount with Thrifi Clip (Hat-Dip Galvanized) | 2.50 | 12 | 37 lbs. |  |
| ZM | Challenger Chimnoy Mount wish Thrifi Clip [Golden Irridite Finish) | 2.25 | 20 | 54 lbs. |  |
| CHIMNEY MOUNTS WITH HEAVY GAUGE STAINLISS STEEL STRAPS $y_{4}{ }^{\prime \prime}$ WIDE |  |  |  |  |  |
| SN-50-St | Snop.In Type Chimney Mount with Thrift Clip 12 F. Straps (Hot-Dip Golvonixed) | 3.95 | 20 | 70 lbs. |  |
| T.15-ST | Z.Type Chimnoy Mount with Thrift Clip 12 F. Strops (Hot-Dip Galvanized) | 3.85 | 12 | 37 lbs. |  |
| ZM.ST | Challenger Chimney Mount with Thrif CEip 10 F. Strops (Goldon Irridite Finish) | 3.65 | 20 | 54 lbs. |  |
| FOR EXTRA LARGE CHILMRIEYS |  |  |  |  |  |
| XL | 18' straps are furnished insteod of 12 strape thon "XL" is affixed to the Model \#. EXAMPLE: T-15 XL (Not furnished for Model ZM) | $\begin{array}{r} .58 \\ 1.05 \end{array}$ | d. for Galv. <br> I. for St. Ste | onding band. |  |

 using a plioble bard are Inringumants of Potent No. 24masts, and Canodion Potent No. 4321.

## SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey PIONEER MANUFACTURER AND OUTSITANDING PRCDUCER OF THE FINEST LINE OF ANTENNA MOUNTING ACCESSORIES

# South Diver WALL Brackets <br> (With "U" bolt type mast sockets) 

## 3" WALL BRACKET

(Factory Assembled)
Model WB-3-Made of non-rusting. non-staining aluminum, extruded and embossed for extra strength. Designed especially for use on new homes being constructed with very small or no eave overhang. Furnished with special serrated " 0 " bolts to accommodate masts up to $142^{\prime \prime}$ O.D. The gripping teeth in the bolt, together with the serrated surfaces on the bracket, insure a positive, nonsllp grip that prevents the mast from turning in high winds. Complete with installation hardware. Individ. ually packeged.


## 6" WALL BRACKET

(Factory Assembled)
Model WB-6 - Destgned for the average wall Installation on homes with small eave overhang. Is made of heavy gauge steel, rlveted for extra strength. Everlasting, Hot-Dlp galvanized finish prevents rusting and the stainling of walls. special serrated "U" bolt designed to fit all stae masts up to $11 / 2^{\prime \prime}$ O.D. The gripping teeth In the bolt tasure a positive non-slip grip that prevents the mast from turning in high winds. Complete with installation hardware. Individually packaged.


## $9^{\prime \prime}, 12^{\prime \prime}, 15^{\prime \prime}$ \& 18" WALL BRACKETS

## 24" WALL BRACKET


(Factory Asserabled)
Models WB-9, WB-12, WB-15 \& WB-18 - Constructed of heary gauge, embossed steel and iurnlehed with a tubular, alumalnuas. tripod leg. The steel is HotDipped la an everlasting, nustproo? galvanized fintih. The unlque, preassembled one-plece constructioa tions quick and easy. Takes masts to $1 / 2$, $0 . \mathrm{D}$. Complete mlth intallation hardware. Individualliz packaged.

- A heavy gauge steel leg. emborsed and galvanized, substituted when aluminum is unavallable. Extra legt are avallablo for tae with unurualls high and heavy manta.

(Factory Assembled)
Model WB-24 - Made of heavg gauge stee with two aluminums tripod legs. The steed nides of thls wail bracket feature a relnYorced emborsed construction for extra stirdiness. 3teel sections are Hor-Dip galvanizod in an everiatiog, rustyroor rimish coastruction und lis. nne-pleca coske it east to lastill spreac vide a simple mears of fastion ing to wail studs of homes Takes masts to 1 ith 0 D. Com plete with instaliation hardware. Individually packaged.
- Heavy gauge ateel leet, emborsed and ramenired ars mbettuted and galvanired. art absituted when alumioum fo dospallable.




# Sonto Diver <br> COMBINATION PEAK \& FLAT ROOF MOUNTS 

| Model PFM-1 <br> (fits Mosts ap to $\left.1 / 2^{\prime \prime}\right)$ | Model PFM-1 LM <br> (Fits Morts up to 2") |
| :---: | :---: |



A low priced walk-up type rool mounting for feak, flat or pitehed roois. Constructed of steel, plated in a golden irr:dite finish for rust protection. Factory assembled.

Model PFM-2<br>(Fits Mosts up to $1 / 2^{\prime \prime}$ )

This all aluminum roof mounting can be used on any type of peak, pitched or flat roof. Ingeniously designed of alrcraft type extruded aluminum. Features the exclusive South River "DropLock" mast socket for bringing the mast from a horizontal to vertical position. The flaps can be adjusted to conform to the pitch of the roos. Flaps lock securely to the body by means of serrated teeth extruded the length of both locking members Comes completely assembled. Individually packaged.


## Model PFM-90

(Fits Masts up to $1 \frac{1}{2}$ ")
Model PFM-90 LM
(Fits Masts up to 2")
Economically priced swivel roof mounting. Of steel. finlshed in golden irridite. Factory assembled.
$\underset{\text { (Fits Mosts up to 21/4") }}{\substack{\text { Model } \\ \text { (Fin }}}$

This roof mount is ruggedy constructed to accommodate large and heavy mast installations. One plece body and oversize adjusting flaps are of heavy gauge steel. Hot-Dip galvanized for everlasting rust protection. The tube socket is of heavy walled plpe and will accommodate masts up to $2 \%{ }^{\prime \prime}$ O.D. Furnished completely factory assembled.

COMBINATION PEAK \& FLAT ROOF MOUNTS


## SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey pIonetr manufacturer and outstanding producer of the finest line of antenna mounting accessories

Featuring Reverse "C" Bolt and Clamp Mast Holder


Models NT-3, NT-4 - These $3^{\prime \prime}$ and $4^{\prime \prime}$ wall brackets are fabricated of heavy gauge $11 / 4^{\prime \prime}$ width steel. Embossed for extra strength and rigldity. Hot-Dip galvanized to provide an everlasting, non-staining. rustprool $\operatorname{tin} 18 \mathrm{~h}$. Reverse " U " boit and clamp, mast holder, provides simplified conventent means of securing mast. Complete with installation hardware. Individually packaged.

Featuring Reverse "U" Bolt and Clamp Mast Holder


Model BR-3 - Model BR-3 is a low priced $3^{\prime \prime}$ wall bracket designed for light duty installations. It is constructed of $1^{\prime \prime}$ width steel stock, plated for rust protecthon. The reverse "U" bolt and clamp. mast holder, facliftates installation of antenna mast. Individually packaged.

Designed to provide a mounting on buildings utilizing the eaves where a roof installation is undesirable and the walls are of brick.

Model EM-1 (Unassembled Model) Constructed of heavy gauge steel, embossed for extra strength. Hot-Dip galvanized for an everlasting, rustproof, non-staining fin. 1sh. The 4" upper bracket provides ample clearance from eave, insuring no mast contact with the roof overhang. Lower bracket has a bridge type truss construction for extra strength and rigldity. The generou $48^{\prime \prime}$ spread of lower bracket provides ample spacing petween brackets insuring good mechanical support. Complete with installation hardware. Note: Model EM-1 to packaged unassembled and is quickity and eastly assembled in a few minutes. Indi. vidually packaged.

Models EM- 48 and EM-60 - The EM-48 and EM.60 Eave Mounts are one plece assermbles. Upper bracket extends $3^{\prime \prime}$ from eave on EM-48, and $4^{\prime \prime}$ on EM-60. Lower bracket is constructed of heavy gauge steel, formed into an angle and embossed for extra strength. Hot-Dlp galvanlzed finish provides an everiasting rustproof protective coating. Upper and lower brackets are furnlshed with reverse " $U$ " bolt and clump, mast holder for qutck, simple installation. Complete with necessary mounting hardware. Individually pačeged.

$\begin{array}{ll}\text { EM-48 } & \text { 48" Eave Mount } \\ \text { EM-60 } & 60^{\prime \prime} \text { Eave Mount }\end{array}$


Model EM-30 - One plece assembly of heavy gauge angle Lron. Upper bracket extends $3^{\prime \prime}$ from roof provialing anple clearance for mast. Finished in a fot Dip galvanked coating for enduring ruis protection. Both brackets feature reverso "U" bolt and clamp, mast holder for quick, simple installation. Complete with necessary mounting hardware. Individ. ually packaged.

| MODEL No. | DESCRIPTION | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ | STANDARD <br> CARTON OF | WEIGHI |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| EM-1 | 48" Eave Mount with Unassembled Lower Bracket | 4.50 | 12 | 62 lbs . |  |
| EM-30 | 30' Eove Mount with One Piece Lower Brocket | 3.95 | 12 | 47 lbs, |  |
| EM-48 | 48" Eave Mount with One Piece Lower Bracket | 5.85 | 12 | 71 lbs. |  |
| EM. 80 | 60" Eave Mount with One Piece Lower Bracket | 7.25 | 12 | $35 \mathrm{lbs}$. |  |
|  | 3" ANO 4" WALL BRACKETS, STEEL, HOT.DIP | VANIZ |  |  |  |
| NT. 3 | $3^{\prime \prime}$ Wall Bracket of $11 / 4^{\prime \prime}$ width enbossed steel | 1.25 | 24 | 36 lbs. |  |
| NT-4 | 4" Wall Bracket of $11 / 4^{\prime \prime}$ width embossed steal | 1.35 | 24 | 43 lbs. |  |
| BR-3 | 3" Wall Bracket of $1^{\prime \prime}$ width steel | 1.10 | 25 | $2316 s$. |  |

SOUTH RIVER METAL PRODUCTS CO., INC., South River, New Jersey pioneer manufacturer and outstanding producir of the finest line of antenna mounting accessories

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| - Aluminum | - Ground Rods |
| :--- | :--- |
| Ground Wire | - Guy Wire |
| - Aluminum | - Guy Wire Clamps |
| Guy Cable | - Guy Wire Rings |
| - Aluminum Masts | - Insulators |
| - Aluminum | - Magnesium |
| Telescoping Masts | Ladders |
| - Banding Kits | - Nuts |
| - Chimney Mounts | - Peak Roof Mounts |
| - Combination | - Screws |
| Wall Brackets | - Stand-offs |
| - Eave Mounts | - Steel Masts |
| - Extension Ladders | - "U" Bolts |
| - Eye Bolts | - Vent Pipe Mounts |
| - Flat Roof Mounts | - Wall Brackets |

## Solath Riwer surerlicht

 MAGNESIUM LADDERSThe Perfect Material for Ladders More Than $1 / 3$ Lighter Than Aluminum In Existence
The Ideal Ladder for
SUPERLIGHT MAGNESIUM EXTENSION LADDERS
Strong, rigid and durable, yet amazingly on the I-beam side rails and are strongly secured by continuous outside welds Interlocking sections on Extension Lad. ders for maximum safety and sliding ease. The top sections are attractively rounded to avoid the possibility of wall marking.
Two-section Extension Ladders are avall able in standard sizes up to and tacluding $44^{\prime}$ in length
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| Type | size | Approx Weight | SIde <br> Rall <br> Wloth | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| A | 20-28 H. incl. | 1.1/6\#/tt. | ${ }^{3}$ | 82.70 f |
| - | 30-40 H. incl. | 1.3/8\#/4 | $31 / 2^{\prime \prime}$ | 3.10 |
| c | 12.44 ft . inct | 1-3/8\# / $/$ th | $31 / 2^{\prime \prime}$ | 3.0 |
| - | $\begin{array}{\|c\|} \hline \begin{array}{c} \text { UD }+0.50 \mathrm{Ht} \text { inct. } \\ (3-\text { section }) \end{array} \\ \hline \end{array}$ |  | $31 /{ }^{14}$ | 3.40 |
| E | 52-60 44. incl. | 1-3/8\#/4 | 3/24' | 4.0 |
| F | 61.72 ft. incl. | 1-4/5\#/H. | 31/2 | 5.00 |
| G | $\begin{aligned} & \text { Stroight Lodders } \\ & \text { to } 20 \mathrm{t} \text {. incl. } 1-1 / 10 \pm / 4 t . \end{aligned}$ |  | $312^{\prime \prime}$ | 2.50 |
|  | Stroight and Extension Lodder Safety Feet: |  |  | 3.00 |



For extension ladders LESS THAN $20 \mathrm{ft}, \mathrm{A}$ there is an additional charge of $\$ 3.00$.

NEW BUD FILTERS TO REDUCE: OR ELIMINATE: TEILEVISION INTERFLBRENCE:

The suntres of television interference are most often short wave
brondeasting stations, amateur ratio transmitting stations, dibroadeasting stations, amateur radiu transmitting stations, di-
atherms equipment. X-ray equipment, automotive ignition noises
or simitar sutarees, The hasie problem of eliminating this inter-
ference is that of rejoction of the signals received from these sumrces


## LF'GOI I, OW PASS FILTER



 from tha tramsintter fumdatmental ran lie curcel at the tobvision reneivag with a lad Hw- 600 high pass flicu Harthonifes lath lies grealty reduced or chiminatiod at tut


The LF-fol high attenuation low asas tilter has the following charamteristias

1. Minimum attimmation of ab docibels on all freforoncous above 54 mergeycles and a minimum of 93 decibets nhove -0 megacycles.
2. Moximum rejection is andustallife from f5 to 90 mestareles. Thls tunable foalure providos two slotm at least 100 deribels down.
3. The eut-of frequency is 42 megacycles The unit will easily handle a full kilowatt modnlated mil a rensonably flat line.
'I'he insernion loss is less thath one Dut
since lha dosign of this flter provilles ath adjustable feature, the whit ran ter uscrit witt rither 52 ohm of 78 ohme raltx.
 ment.
All éapatotor:a Hised atre variable
1.1'-601

Ho:iler fonst \$13.50

## WIRBLEESE PHONO OSCILLATOR WG-GA

This compact unit is designed to enable any standard record player to be easily converted
 to wireless operation. Record reproduction is then possible through a regular radio raceiver without the necessity of cumbersome inter-collnecting wires. Installation is simple accordins to the complete instractions furnished with each unit.

The circuit incorporated in the Wireless Oscillator is of such design that faithful reproduction is assured. The unit comes eompletels wired and tested inchading thbes and is fin ished in black enamel. Operates from 115 volts AC or DC. Fraquency range is approximately $1100-2150$ K.C. Actual weight 1 lb ,

W0-6A
Deater Cinst \$9.00

## COMHINATION ANTENNA MOUNT



This now Combination Mount is the latest addition to Bud's eompleti line of television antenna mounts for eondition.

Made of two shecten of extia heavy gauge, tough sted. the upright portion is welded togrther for a perme. nent bond, Spread portion is aceurately formed for peak or wall installation. Sturdy construction guarantees per. manent, trouble-frew mast installat. tion.
The Combination Mount has a Lalked. blicelk enanmol finish to frevernt rust.
Furnishad Furnishod comapletc "ith plated
nomoting hardwatre will mounting hardware. Will acoonmmo
date up ro $1 / 4 / 4$ nast.
A. $1 \mathrm{~L}-\mathrm{xi}$

Dealer Cusit \$1.50)

## GUYING CLAMIPS and MAST COUPIERS <br> (arces <br> GTT-68 Cuytie-A vise grip clamp to hold guy wire at any point. <br> AMI-6G Mast Coupling - Ustell to external antenna liejght. <br> GT-68 <br> AM-66 <br> Dealer Cost \$.33 Dealer Cost $\$ .60$

## HR-600 IHCOH PASS FILTER



The Illo-fol high laiss filter is designed to have in eut off frogumary at 42 megucycles, thus this
filter rejects signals froni o to 42 megacycles. It is within this range that the majority of signals is within this range that the majority of signals
causing interference would be received. Since cansing interference would be received. Since
there is no attenuation above 42 megacycles. there is no attentation above 42 megacycles bicture strencth or gutity is not nffected
This unit is easily installed and complete installation instructions are included. The filter is housed in an uttractive uluminum case $31 /{ }^{\prime \prime}$ $\begin{array}{ccc}x & 21=x \\ \text { HF-600...... }\end{array}$

Tealer Cost \$3.57

## ADJUSTABLE CHIMNEY MOUNTS



Very easy to install on any size chimney without usu of spccial tools. The NFIV BUD S'lisAP CiLAMI simplifes and speceds up installation. A rugged an temon instangation is assured. The rwin monnts dealgn nllows unthus provialing maximum strengtlet: AM-8\{-Hfory Ihaty Chimuey Mount - Made from $1 / 4$ steel - $2 y$ mounts emabling the rvorlanping of noore than ond briek and aita be band to support
 any", size inter
AM-K8 - Weonomy Model Chimney doumt - Gonstriction and dosi\&n mame as AM-8G +xocpt for tlio width of the bricket which is $1 y^{\prime \prime}$. Also nurde from $1 /{ }^{\prime \prime \prime}$ streel and will support

 black rust-resisting paint and all hatjoware is platod, asanring hiark ruat-resisting panitit
ing lasting installation.
AM-86..... Deater Cust $\$ 2.10$ AM-8x. . . . . Dealer Cost $\$ 1.61$
HEAVY DUTY WALL MIOUNTING BRACKETT


For an Instafation rectuiring maxpmuns wrength and weather resistance. Thi If/ spacing on the wall allows las bolts to enter ${ }^{2} \times 4$ joists under the wall siding, making : sotid support for the antenthat, Made uf $1, \mathrm{~K}^{\prime \prime}$ steel $2^{\prime \prime}$ wide. Fainted with il black rust-resisting paiste A strel brare is furnished for use is a britec on the upper bracket sath pertuits the suprorting of heavy teluvision itntumnt birackets are ad-
 In diathrter. 'Ihe AM-fio will allow a
12" spare. betwern the inat and the wall. The AM-89 will separate the mast from the wall by a space of $16^{\prime \prime}$. Supplied complete with lag sorews and all other hardware.
AM-60 ....Dealer Cost $\$ 3.00$ AM-89 .... Dialer Cost $\$ 3.60$

Pripen nubject to change mithout motice.
Prices on above alightly higher weat of the Miatauippi tiver.
(Dnly a few of many HID Produrta ure ahown. Write for compleie calaluge

## EPCO ELECTRONICS, INC.

## $=$ <br> epco

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MODEL AS-1 hellO ANTENNA SWITCH List Price $\$ 2.75$

## -QO accessories

MATCHING TRANSFORMER
List Price $\$ 3.00$

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FM. WAVE TRAP List Price $\$ 3.95$

HORIZONTAL BAR GENERATOR
List Price $\mathbf{\$ 2 . 0 0}$
MODEL AS-4
4 WAY ANTENNA SWITCH
List Price $\$ 4.50$
MODEL IGF-1 IGNITION FILTER
List Price $\mathbf{\$ 2 . 0 0}$

MODEL PTS-I
CRT TEST ADAPTOR
List Price $\$ 1.50$
MODEL AC. 1
ANTENNA COUPLER
List Price $\$ 3.95$

## SQUELCH \& NOISE SUPPRESSOR

Net Price $\$ 10.80$

SELF-POWERED PHONO PREAMPLIFIER
List Price 517.95

The MODELS TS -2 \& TS-4 ore designed to operate $2 \& 4 T V$ sets from 1 antenna through o network of bifilar impedance divider rranstamers. These units will give excellent results in either fringe or strong signal areas.


- No Inter -Set Coupling
- Mi-Pass filter Action
- No Soldering
- Easily Installed with o Screw Driver


MODE: HPF-300 HI-PASS FILTER List Price 55.75 Each section is individually shielded, designed to cut off cl 50 mc with o high allen--cion of $\angle 5 \mathrm{me}$


CRT－K CRT
EXTENSION UNIT In lucit，porket－case．：© 6
 breakionn：Yoke．lo：？ate twhe ry recelvers：＂मFT Sirket． $\left.\begin{array}{l}\text { i－witc } \\ \text { weture } \\ \text { fubes．}\end{array}\right)$

F． 1 to F． 5
ANTENNA WAVE TRA．PS
Removes most interferetice in lix and sound caused isy amateur radio，shib－to－shore
transmissints，foreikn broari－ casts，diatherny．elc．Hi－l colls used for maximum $1 e$－ duthen of interferint siff nals．

## AT－K TUBE SOCKET

 ADAPTER KITIn lucite ease． 3 units in check all socket voltages rom cabinet．20＂extension unbered tex extersion cherking simple

A－131 HI－FI AMPLIFIER
I＇ush－gull sound Amplifler glues into Tl of radio re ceiver．Output matehed for most hi－fitelity speakers 3 ． or 8 ohms．Fiat within 1.8

C－1 ECONOMY 2－SET COUPLER
Low－mst．l＇ermits mnnection of two Try sets to menection no in normal signal areas， May he used in tandem for eunbling $2-3-1$ sets to single


## C－2 2－SET COUPLE

 For most receivers， 72 of Bind ohm intut．Slith off－ efterts of lowal oscilation ra－ diation from one TV set in another．Filter action re－luces interferenee at 1 F Prequen cies．SIGNAL ATTENUATOR
For TV sets troubled with For TV sets troubled with multisle imazes，buzz soundi，heats in preture．irc． Virnier adjusiments fur ali signal areas．$\quad$ chan to
change in signal reachion change in signal reaching
antena posts．


ES－200
EXTENSION SPEAMER
Rrines TV sound to yout fllow，control adjusts vellime tevel；elther sneaker or tant may may．With 20 fi．of


KT－1 CRT TESTER sinnultanmousls checks：Fum ment voltare，first amele woltage，bias voltare．vider
signal at jix．tube soment
 is defertiven areurately．

CK－10 DUAL SPEAKER CONTROL KIT Installs．auto，home or buat Rustjromo speaker．Heary－duty for זh はis or TV connection．

A． 3 ECONOMY
SIGNAL ATTENUATOR
Filminates overloading due most eruss－mintulation effects conneets with only 2 leads mout＊with 2 strews．


TE－1－2 ELIM－A－TRACE Filiminates vertical retract lines in picture with hright ness comture life on weak nis－ pirvere life on weak pis－


K－123 K－5 TUBE BRIGHTENERS
rip－o－switch units，（＇ITT Bnosters and Hejuwenafor：－ h low thy divigned for the Ciblow whate aride or where

C． 5 2．SET ANTENNA POLE MOUNT COUPLER Fir hettir balanee between pass ana miri erectrinimum pass mefter hefton，mindimes biflar transformers．＂ompletely weatherturcifel


CP－4
PICTURE CLARIFIER
Antenna halanee sulth－ 1 positions．Lon－loss switeh for minimum sicnal atiem－ mition．Redures effert of poin for use with re ohm or auo ohm transmisslon limes

LU． 10 LINE VOLTAGE BOOSTER
 Ac line wottake 10 betts where high current use causes switela for Normait or 10 andit

C． 3.4 2－4 SET
COUPLERS
hi－kflefithey：One antenna
to serve de ot 4 TV sets，Re－
tares efter of heal nsefllath
tathation Promo＂ne for set
of ズミ chan keds．
LF－1－2－3－4 LINE FILTERS
$\begin{gathered}\text { low－pass devices－pass all } \\ \text { fiedumeles below } \\ \text { io } \\ \text { Ki }\end{gathered}$
fieduenelus below 10 Ki ．
$\begin{aligned} & \text { aftenuate all ahove．Coni－} \\ & \text { pletely shilelderi．prevents }\end{aligned}$
stras signal bickup．No tun
ing adfustments necessary．



ANTENNA SWITCH
ponitiom－switches any one four IHE or VHF anten－ uhs in one termination－ suitches ome antenna to any ane of 4 TV scts．Completely shitelited．


ANTENNA MATCHING TRANSFORMER filter action increases signal if nolse ratio or use in tre varse－ 300 ohm line con－ neres to 3 ？obm load．

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The Most Complete Line of TV Antennas and Hardware in the Industry




8MA－138
Eburdy lindersal It as Alobit，made of＂BREN： reststant．j＇atented fiearing lekks in any mesition wih lurn of Hes Ilead lholt． loatented tongues womorts
 master earton．Nhimpilty wi 22 115．List Price $\$ 4.25 \mathrm{ea}$ ， stet of 1 the＂wind Eerems


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Tiniversal Bas Mount made
 hearine locks ith．Patented
 helt，Patented tothive sub－ ports matts un to 1 l．a． （o．I）Induduady Ifuxed
 Set of List Price $\mathbf{\$ 3 . 5 5} \mathrm{ea}$ ．



PRA－148

 Gins tented brarintes lock कt ans anhle hitch MIth turn
of Mex Ifrad lhales．l＇atented trmgue，sujucerte masts ar to a＂（0．11．Imdinduarly Shironite to master carlon． Sut List Price $\mathbf{\$ 5 . 2 5}$ en．

Lronomy floating Kuy wire King amid＂ollar．＂Pennalloy＂collar rins made of leaty eet screus，
 Zine plated，Lusteron dipused． patked in individual cellophane hatos． 100 to master cartone Shingince Weipht 21 lhis．

TS－551 HILOSWITCH
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inetall－cuts installation inie no solderinge．nostive montacts minimum lerkazt．Indwiduall Lurad．It to master carcela．silp－ ting Wright is 12 lhes


TS．587 HILOSWITCH

## position Anterna suitch

 － C ． 3 antennas in uns mombination Fifficient VHF FM．，a rewiser． receivery to for anitrbing any insasil－cut：antenna．Fincs to o soldertint－rosilive coutacts minimum lrakace．Indirictualls Ine wey to matar cartor，thirCMA－500 s．5．


PRA－150

 weithict resjotall！．1＇atentrid

 tritilye sulporta masts up hoosed Ig ta master carton，
 Set of $1^{1 / 2}$ Moond forews

List Price $\mathbf{\$ 2 . 7 5}$ ea．List Price $\$ 3.75$ ea


TC． 374 TWINTENA
I）elduxe 2. Set $^{\text {en }}$ （＇oupler desirned to permit simul． tameous operation under suitable． conditions，of 2 TV receivers from a common anten－ matclied colls onty：therefore cannot affect implat colls onl：There canmot affect 1kesult：humdpass response of lime remaino
 raliation bisitive contacts ．miniznum lakaine dividually loxed is Shiv．Wi． $31 \%$ lhs．List Price $\$ 4.95$ cation．


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ALL KENCO ITEMS AVAILABLE AT COMPETITIVEPRICES!
KENWOOD KENILORTH, NEWING JRSEY CO., INC.

## JAMES KNIGHTS COMPANY

PRECISION GLASS ENCLOSED

## CRYSTALS over

complete ranse of 800
sycler to $\$ \mathrm{mc}$.


3K G-12A - with o proven stobility postentiol of one port in 100 million of 1000 kc .


PRESSURE MOUNTED

A complete line of commercial and militory types.

## MILITARY TYPES

Hermetie sealed, metal cased,
in frecuency ranges from 16
ke to 100 mc .


JK H-17


JK•H-3

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for technical selolos

MINIATURE PRECISION GLASS ENCLOSED
CRYSTALS
over a complefe range of 10 mc to 150 me .

JK G-3
ACTUAL SIZE
No need to insulate the G. 3 case even
in the most compact wiring assemblies


A Wide Range of
TEMPERATURE CONTROL OVENS


- Custom Oscillators, Crystal Filter Networks.
- Suppliers of Quartz for Ulire Sonic Transducers.
- Complete customer ensineer. ing service provided for quarts crystal applications.

SANDWICH, ILLINOIS


## TYPE XL100

Exact 100 Kc ., used
extensively in frequency standards. Mounts in $3 / 4$ " crystal socket or standard 5-prong socket.

## TYPE CM5

Frequency range 1,500 to $30,000 \mathrm{Kc}$. Fixed air gap, standard . $486^{\prime \prime} \times .093^{\prime}$ or standard octal socket.

## TYPE DFS

Features separate 100 and $1,000 \mathrm{Kc}$. crystals in one mounting, with accuracy $\pm .005 \%$ over
range of $-10^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$ when used in recommended circuits.

## TYPE VC0-1

Temperature controlled oven, mounts two VR6. CM1. CM5 crystats. 18 W . heater $6,10,28$, or 115 V fits standard octal socket. Pilot lamp connection to thermostat

## TYPE VCO-2

Temperature controlied oven mounts two JAN HC 6/U or $13 / \mathrm{U}$ or VR6 crystals. 4 W . or 6 W . heater $6,12.6$, or 28 V. Fits standard octal socket. Pilot lamp connection to thermostat.


Hermetically sealed in compact metal case, 1500 Kc to $75: 0 \mathrm{Mc}$ frequency range. (Jan type $\mathrm{HC} \cdot 6 / \mathrm{u}$ ) Pin is $.050^{\circ \prime}$ diameter spaced .486*.

## TYPE CM1

Fixed air gap, 850 to $20,000 \mathrm{Kc}$ frequency range. Ava lable in standard $3 / 4^{\prime \prime}$ and G.R. $3 / 4^{\prime \prime}$, 5/8" $7 / \mathrm{a}^{\prime \prime}$ or $.850^{\prime \prime}$ spaced pins

## TYPE CBC-O

Frequency range 60 to $10,000 \mathrm{Kc}$. Available with 6. 8, or 10 volts $\pm 1 / 2$ degree C. temperature stability. Standard 5 prong socket.


## COMMERCIALTYPES-SPECIFICATIONS

|  | Type | Frequency Range | Pin Spacing | Pin Diameter | Height Above Pins | Width | Depth |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2-1 | Fundamental | 900 Kc. to 12000 Kc. | .486" | .093" | 1-3/16" | 13/16" | 7/16" |
| Z-1 | Harmonic | 12001 Kc. to 30000 Kc . | .486" | .093" | 1-3/16" | 13/16" | 7/16" |
| 'Z.1A | Fundamental | 500 Kc . 102000 Kc. | 3/4" | .125" | 13/8" | $13 / 8^{\prime \prime}$ | 1/2" |
| Z-1B | Fundamenial | 1000 Kc . to 12000 Kc . | 3/4" | .125" | 13/8" | 1-3/16" | 1/2" |
| 2-1B | Harmonic | 12001 Kc .1030000 Kc. | $3 / 4{ }^{\prime \prime}$ | .125" | 13/8" | 1-3/16" | 1/2" |
| Z.1D | Same as 2-1 | Same as Z-1 | 1/2" | .125" | 1-3/16' | 13/16" | 7/16" |
| Z-1E | Same as Z-1 | Same as Z-1 | $1 / 2^{\prime \prime}$ | .125" | 11/4" | 11/8" | 7/16" |
| Z-1H | Single or dual unit Fundamental | $500 \mathrm{Kc}$. to 12000 Kc. | $\begin{aligned} & \text { 3.Pin } \\ & \text { W.E. } \end{aligned}$ | .157' | 2-1/16" | 1-19/32" | 1-3/16" |
| Z.1K | Same as Z-1A except has .157" dia. pins | 500 Kc . to 12000 Kc . | 3/4" | .157" | 13/8" | $13 / 8{ }^{\prime \prime}$ | 1/2" |
| 2.1M | Fundamental | $1000 \mathrm{Kc}$. to 10000 Kc . | 7/8" | Std. Banana | 2-3/32" | 1-19/32" | 3/4" |
| 2.1R | Fundamental | 500 Kc. to 1600 Kc. | $1 / 2^{\prime \prime}$ | .093" | $11 / 4^{\prime \prime}$ | 1-3/32" | 7/16" |
| 2.4 | Fundamental | 1601 Kc . to 12000 Kc . | $3 / 4$ " | .125" | .650" | Diameter | .995' |
| 2.4 | Harmonic | 12001 Kc. to 30000 Kc. | 3/4" | .125" | .650" | Diameter | .995' |
| 2-7 | Fundamental | Same as 2.1 Fundamental | $3 / 4$ " | Sid. <br> Banana | 1.660" | 1.192' | .518" |
| 2.8 | Fundamental | $500 \mathrm{Kc}$. to 1600 Kc. | $3 / 40$ | 1/8" | $13 / 4{ }^{\prime \prime}$ | 1-9/16" | 1-11/16" |
| 2-9 | Fundamental | 1000 Kc . to 15000 Kc . | 1/2" | .050" | .758" | .720" | .309" |
| 2-9A | Hermonic | 15001 Kc. to 50000 Kc . | $1 / 2^{\prime \prime}$ | .050" | .758" | .720" | .309" |
| E. 1 | Fundamental | 500 Kc. to 7000 Kc . | Interchangeable with FT-164 and AC.95 |  |  |  |  |

- Can ha G…… a ...ith Standard Banana Pins.


Every PR Crystal is Guaranteed Unconditionally. by the Makers of Fine Crystals Since 1934.

## PETERSEN RADIO Company, Inc., Council Bluffs, Iowa

 FOR AMATEUR SERVICE



Type 2-1, AIRCRAFT
3023.5 Kc.. . $005 \%$ $\qquad$ .. $\$ 3.95$

## Type 2-1, MARS and CAP <br> Calisrated to . $005 \%$

Official assigned transmitter frequencres in the range.


## Type 2XP

Suitable for converters, experimental, etc. Same holder dimensions as Type 2-2.
1600 to 12000 Kc . $\quad 5 \mathrm{Kc} . \ldots \ldots$
12001 to $25000 \mathrm{Kc} . \quad \pm 10 \mathrm{Kc} . \ldots \ldots$

Type Z-1, TV Marker Crystals

| Channels 2 thro 4.5 Mc. Intercarr <br> 5.0 Mc. Signal |  |  |
| :---: | :---: | :---: |
|  |  |  |
|  |  |  |




VHF Type Z-9A
For LEAR, NARCO and similar equipment operating in the 121 Mc . region, requiring crystals in 30 Mc . range. Each...

## Type Z-9A Radio Controlled Objects

27.255 Mc.. . 04 \% $\$ 3.95$

## ACCESSORIES

Single Sockets, Z-9 and Z-9A.................................................. 156
Single Sockets 2-1, 2-2, and Z-3.............................................
Dual Sockets..................................................................................................
Adapters, to adapt 2.1 and 2-2 to $3 / 4^{\prime \prime}$ Socket..........35c

## BROADCAST CRYSTALS REGRINDING SERVICE

Any Frequency, 550 to 1600 Kc .
$\$ 20.00$

## PETERSEN RADIO Company, Inc., Council Bluffs, lowa

## Bliley FOR 25 YEARS

## the dependable source for AMATEUR CRYSTALS

Now available for your amateur rig, a completely packaged oscillator unit designed and engineered to utilize the many advantages of crystal control on two and six meters. Output is obtained directly on six meters; operation on

TYpE cco-2L CODE No. E16 A two meters requires only a tripler stage.
The CCO-2L is the ideal oscillator for an efficient two band transmitter, or as a basic unit in new construction. Features include: adequate drive for V. H. F. medium power beam tubes, no self-oscillation under any operating conditions.
The CCO-2L is semi-enclosed in a metal case with power input and r.f. output terminals in the back for short direct external connections. The oscillator tube specified is a 12 BH 7 .




SR 10


KV3
CODE NO. E22A EI3A CODE NO. EIO


MS433
CODE NO. Ell


MC9
CODE NO. EIIA EIJ E22 DIMENSIONS


| CODE | TYPE | LENGTH | WIDTH | THICKNESS | PIN SIZE | PIN SPACE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| E10 | KV3 | 1\%8 | $11 / 4{ }^{\prime \prime}$ (dio.) | .... | . $093{ }^{\prime \prime}$ | . $486^{\circ}$ |
| E1I | MS433 | 111/2" | 124.4. (dio.) | .... | .093* | OCTAL |
| ElIA | MC9 | $1{ }^{1 / 4}$ | $13 / \mathrm{m}^{\prime \prime}$ | 7/4* | .093" | .486" |
| E13 | MC9 | 114" | 13/8" | 76* | .093" | .486" |
| El3A | SR10 | ${ }^{31} 4^{4}$ | 1/4" | 11/2" | .093" | .486" |
| E14 | CF3 | $13 / 2^{\prime \prime}$ | $13 / 4{ }^{\prime \prime}$ | 1/4* | .125" | .750* |
| E15 | CF6 | 1720" | 13/4" | .695" | . . . | . . |
| E16A | CCO-2L | 4" | 21年" | 21/4" | .... | .... |
| E17 | A 22 | 13/4" | 11/4* | 7/4" | .093" | 486* |
| E18 | Ax2 | 19/4" | 114* | 76" | .093" | .486 ${ }^{\circ}$ |
| E19 | AX2 | 13/4" | 11/4* | \%/4* | .093" | . $486^{\prime \prime}$ |
| E20 | AX2 | 13/4" | 11\%" |  | .093" | . $486{ }^{\circ}$ |
| E22 | MCP | 11/4" | $13 / 4{ }^{*}$ | $7 / 4 *$ | .093" | 486* |
| E22A | SR 10 | 300" | 1/4* | $11 /{ }^{\prime \prime}$ | .093* | .483 |

BLILEY ELECTRIC CO., UNION STATION BUILDING, ERIE, PA.

## Bliley CRYSTALS for: tv service - ship-to-shore

## DIATHERMY - SINGLE SIGNAL FILTERS - CITIZEN'S BAND and EXPERIMENTAL



NOTE: Prices Are Bosed On "Standard" Specificotions As Shown. Quototions Will Be Made On Any Speciol Requirements.
TV SERVICE CRYSTALS, SOUND AND PICTURE CHANNEL MARKERS (Sub-Multiple Frequencies $\pm .05 \%$ )

| CODE | TYPE | CHANNEL No. | CHAN. FREQ. (mc) | SOUND CHAN. (mc) | CRYS. FREQ. (ke) | PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| E2 | SRIO | 2 | 54.60 | 59.75 | 19916.666 | \$6.95 |
| E2 | SR10 | 3 | 60-66 | 65.75 | 16437.500 | 6.95 |
| E2 | SR10 | 4 | 60-72 | 71.75 | 17937.500 | 6.95 |
| E2 | SR10 | 5 | 76.82 | 81.75 | 16350.000 | 6.95 |
| E2 | SR10 | 6 | 82-88 | 87.75 | 17550.000 | 6.95 |
| E2 | SRio | 7 | 174-180 | 179.75 | 17975.000 | 0.95 |
| E2 | SR10 | 8 | $180-186$ | 185.75 | 18575.000 | 0.95 |
| E2 | SR10 | 9 | 186-192 | 191.75 | 19175.000 | 6.95 |
| E2 | SRIO | 10 | 192-198 | 197.75 | 19775.000 | 6.95 |
| E2 | SR10 | 11 | 198-204 | 203.75 | 18522.727 | 6.95 |
| E2 | SRIO | 12 | 204-210 | 209.75 | 19068.181 | 6.95 |
| E2 | SR10 | 13 | $210-210$ | 215.75 | 19613.636 | 6.95 |
| E4 | SR10 | SPECIFY | SPECIFY | PICture channel | RANGE $\mathbf{1 5 . 2 7 . 5 ~ m c}$ | 8.50 |

prices and specifications subject to change without notice

| TV SERVICE CRYSTALS, I-F ALIGNMENT AND TRAP FREQUENCIES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CODE | TYPE | Frequencies | TOLERANCE | APPLICATION | PRICE |
| E3 | MC9 | 4.5 mc | $\pm .02 \%$ | intercarrier | \$3.95 |
| E4 | SR10 | 15.27 .5 mc | $\pm .05 \%$ | video, sound i-f alignment; trap frequencies | 8.50 |
| E8 | MC9 | 5.0 mc | $\pm .02 \%$ | signal generator | 3.95 |
| E9 | MC9 | 10.7 mc | $\pm .05 \%$ | FM-i-f alignment | 3.95 |

SHIP-TO-SHORE

| CODE | TYPE | APPLICATION | TOLERANCE | PRICE |
| :---: | :---: | :---: | :---: | :---: |
| E5 | MC7 | radiotelephone 2.3 .5 mc | $\pm .02 \%$ | $\$ 7.50$ |
| E6 | SR5 | rodiotelephone $2-3.5 \mathrm{me}$ | $\pm .02 \%$ | $\$ 7.50$ |
| E7 | SR8 | radiotelephone $2-3.5 \mathrm{mc}$ | $\pm .02 \%$ | $\$ 7.50$ |

STANDARD FREQUENCIES

| CODE | TYPE | APPLICATION | TOLERANCE | PRICE |
| :---: | :---: | :---: | :---: | :---: |
| EIO | KV3 | reference frequency 100 ke | $\pm .005 \%$ | $\$ 8.50$ |
| EII | MS433 | reference frequensy 1000 ke | $\pm .005 \%$ | 17.00 |
| EIIA | MC9 | marker frequency 1000 kc | $\pm .05 \%$ | 8.00 |

## Far EASY FAST TV SERVICING Select BLILEY CRYSTALS

BLILEY ELECTRIC CO. union station blog., erie, pa.

DIATHERMY, SINGLE SIGNAL FILTERS, CITIZEN'S RADIO SERVICE (CLASS C) AND EXPERIMENTAL

| CODE | TYPE | APPLICATION | TOLERANCE | PRICE |
| :---: | :---: | :---: | :---: | :---: |
| E13 | MC9 | 13.560 mc (multiplies to 27.12 mc ) Diothermy 13.6275 mc (multiplies to 27.255 me ) Citizenis | $\pm .04 \%$ | \$5.50 |
| E13A | SR10 | 27.12 mc Diathermy; 27.255 mc Citizenis (3rd overtone crystols) | $\pm .04 \%$ | 5.50 |
| E14 | CF3 | $455 \mathrm{kc}-456 \mathrm{kc}-465 \mathrm{kc}$ Single S gnal Filter | $\pm 5 \mathrm{kc}$ | 5.00 |
| E15 | CFS | $455 \mathrm{kc}-456 \mathrm{kc}-465 \mathrm{kc}$ Single Signal Filter | $\pm 5 \mathrm{kc}$ | 4.50 |
| E22 | MC9 | 3-12 mc experimental frequencies | $\pm .03 \%$ | 8.50 |
| E22A | SR10 | 12.27 .5 mc experimental frequencies | $\pm .03 \%$ | 8.50 |



# MONITOR 

## ?



MC-1


MC-1 3



М'ГС-RM Series


MTC-YA MTC-YB Series

MC. 15


MC-20


MC-10

## OVENS FOR TEMPERATURE CONTROLLED CRYSTAL UNITS

MONITOR manufactures a wide variety of ovens for temperature-controlled crystal units. Two typical examples are illustrated abeve. Units are available which will accommodate one or more of a large number of holder types. Heaters are normally furnished for either 6, 12 or 24 volt operation, but special values can be furnished.

MONITOR ovens feature an hermetically-sealed thermostat and will maintain very close temperature control over a wide range of ambient temperatures.


MC-11V

## Monitor Products Company

## American Beauty ELECTRIC SOLDERING IRONS

Embodied in these Filectric Soldering Jrons are features of eonstruction and design that suecialized experience－since $189+$－has demonstrated fo be desirable fo efficient and lating service．Il undreds of thousands are in use throughout the world
 Army and Nary Services；in teleghone，telegraph，radio and＂JV stations．Because of their broven efficiency and durability，thes are preferred ly those who measure the valise of a tool hy the service it renders．
No． 3138 Inesigned primarily for production and mantenance in radio，teleghone， telegrauh，ignition，switchboard and telephone installation work and similar industrial apりハじんtions．
No． 3158 For the same purtose as the No． 3138 but for work requiring an iron of greater calitity．
No． 3178 For use on still leavier work；for light commutators，service and production work．A very useful iron for general purposes．
No． 3198 For heary work of all kinds．Supplies a large volume of heat at high temperature．Used hy manutacturers in many different lines；for shop，service，produc


## No．3128－A

No．3128A A companion iron to No． 3128 －the angle shape dermits easy applica－ tion to soldering operations difficult to accotnplish with the conventional straight
No． 5128 ．


No． 3128 Ior servicing＇［V．electronic and radio equijment athl similar light work．


SPECIFICATIONS
Available in standard voltages and for 32 volts．No． 31.38 also made for 6,12 ．It and $6+$ rolts． All irons can be equiped with thrce－conductor cord，one wire grounded，at shight addional ciarge． Separate heat－insulating stand supplied with each iron．

| $\begin{aligned} & \text { Cat. } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Diameter } \\ & \text { of fip } \end{aligned}$ | Watts | $\begin{gathered} \text { Net } \\ \text { Weight } \end{gathered}$ | Oength | $\underset{\text { Diameter }}{\text { Casing }}$ | Approx． Spiprot． <br> Ship．Wt． | $\begin{aligned} & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ | $\begin{gathered} \text { Net Price } \\ \text { Each } \\ \text { (Less than 6) } \end{gathered}$ | Net Price Each （ 6 or more） |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3128 | 1／4＂ | 60 | $71 / 2 \mathrm{oz}$ ． | 121／4＂ | \％／6＂ | 1 lt ． | \＄5．5C | \＄3．67 | \＄3．51 |
| 3128－A | 1／4＂ | 60 | 10 oz ． |  | 9／6＂ | 1 lt ． | 6.00 | 4.00 | 3.83 |
| 3138 | $3 / 8{ }^{\prime \prime}$ | 100 | 16 oz ． | 127／8＂ | \％＂ | 2 lls ． | 8.75 | 5.83 | 5.58 |
|  |  |  | （31，is is made | also in | and 15 | tt input．） |  |  |  |
| 3158 | 5／8＂ | 200 | 28 oz | 135\％＂ | 11／4＂ | 3 liss． | 10.25 | 6.83 | 6.53 |
| 3178 | 後＂ | 300 | ＋3 oz． | $1438{ }^{\prime \prime}$ | 19／6＂ | $\pm 11 \mathrm{~s}$ ． | 13.50 | 9.00 | 8.61 |
| 3198 | 1的＂ | 550 | 60 oz ． |  | 13／4＂ | 53411）s． | 17.50 | 11.66 | 11.15 |

## C－ <br> Amer．B＇ty Bantam El． Sold．Irons

For light or intricate sukerning uberitions．Long life element－ Keplaceable phag tspe tip．Iertectly balanced for comsentmonal of pencll tye usage．Stanless steel shell and low wathage insures
 operations．

Cat．No． $\begin{gathered}\text { Tip } \\ \text { Diam．}\end{gathered}$
3118
$\begin{array}{llllrrr}310 & 30 & 91 / 4^{\prime \prime} & \$ 5.00 & \$ 3.33 & \$ 3.19 \\ 3120 & H_{i \prime \prime} & 30 & 91 / 4^{\prime \prime} & 5.00 & 3.33 & 3.19\end{array}$


Amer．B＇ty
Element．in．Tip
El．Sold．Iron
－Inew，more efficient solile ing inom fre problutien line phrposes Element imbedded it tip insures minimum hea＊loss，quicker mitial hoating and phek－up，zhore efticient use or litat with a saving 11）time atnd moncy．Furmislud onls vith lren lolateal ar litetualoy I＇lated tips
lip
Diam．
$x_{n}^{\prime \prime} 1$
Cat．
3438
$3438 E P$ Plattol 100
l＇laterl 100

131／：＂\＄11．00
$131 / 4^{\prime \prime} 12.00$


## TEMPERATURE REGULATING

 STAND
## American Beauty

## For use on（AC）Alternating Current Only

This is a thermostatically controlled device for the regulation of the temperatura of an Electric Soldering Iron while at rest．Through an adjustment on botton of stand the thermestat may be set for maintenance of any desired heat－from very low，or warm，to full working temperature． It is designed for use with Electrie Soldering Irons from 80 to 460 watt ；mput ant 10 at circuits up to 240 volis．Not recommended for Nos．3118，3120，3128，3128A，3438，and 34．3E，R．

| Cat．No． | Net Weight | List Price | Net Price |
| :---: | :---: | :---: | :---: |
| $\mathbf{4 7 5}$ | 27 oz. | $\$ 6.25$ | $\$ 4.41$ |

## ESICO



This small pot is used largely for in-
dividuol dipping of small parts ond
reaches on temperature of oppraximately $\xrightarrow{\text { No. } 12}$ reaches a temperature of oppraximately
$750^{\circ}$. For higher temperatures, it is possible to use aither a higher temperatures, it is possible to use for details.

No. $70 T$
This is a thermostatically controlled pot, maintaining a temperature of $400 / 600^{\circ}$ control permits the pot to be used any where between these two temperatures. See table below for details.


This pot is used for dip soldering of No. 36
bundles of lead wires and where a No.
slightly hotter pot is required than the
$\# 12$. It operates ot approximately $750^{\circ}$. If o higher
temperature is required, a \#\# $\$ 0$ element moy be used.
See table below for details.

No. 75 T This pot is similar in operation to the \#7or, but is intended for the dipping $\longleftarrow$ commodated in of smoll panels which cannot be ac. $400 / 6000^{\circ}$ plus or minus 4 . The pot is oiso orvilobis without a thermostot but is then catalogued os $\# 75$. Without a thermostat, the pot reaches a temperature of $850^{\circ}$. See table below for details.

This pot is used for volume tinning and operates at a temperature of $800^{\circ}$. On oc

No. 60 casion where production requires greater $\longrightarrow$ heat drain capacity, elements of a higher wattage than the standard 325 watt hove been supplied. However, we recommend the use of the 70600 W Pot for this greater heat requirement and higher tem.
perature. See table below for defails.

No. 80
This pot is intended for printed circuit ponels and is thermostatically controlled. Temperature range is $400 / 600$. The por stands on 4 comperature range is $400 / 000$. The por screws for leveling. See table below for details.

This is a high heat pot reaching a tem. No. 70
perature of approximately 900 , and has No considerable heat drain capacity. Where
$\longrightarrow$ pots are required for 220 V operation, longer elemen life will be secured than in the case of the $=60$. See table below for details.

No. 90 this is a high temperature pot intended . for silver soldering, and will maintain below for details.

This sand tray will occommodate all
of the round base solder pots shown
No. 1270 froy is fisted with
$\xrightarrow{270}$ leveling screws. See toble below for details.


| CAT. NO. | WATTS | DIA. | DEPTH | WIDTH | LENGTH | HEIGHT | THERMOSTAT | $\begin{aligned} & \text { SOLDER } \\ & \text { CAP. IBS. } \end{aligned}$ | SHIPPING WEIGHT LBS. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12 | 200 | 11/2" | $11 / 2^{\prime \prime}$ | —— | $\square$ | $4^{1} 2^{\prime \prime}$ | No | 3/4 | $33 / 4$ |
| 36 | 250 | 21/2" | 13/4" | -- | -- | 434 " | No | 21/4 | 4 |
| 60 | 325 | $31 / 2^{\prime \prime}$ | 11/8" | -- | - - | $43 / 4{ }^{\prime \prime}$ | No | $33 / 4$ | $51 / 4$ |
| 70 | 600 | 43/4 | 156" | -- | -- | 51/2" | No | 9 | C3/4 |
| 707 | 600 | 43/4" | 1\%8" | —— | - | 51/2" | Yes | 9 | 8 |
| 75 | 600 | - | 13/4" | 43/4 | 43/4" | 51/2" | No | $113 / 4$ | 8 |
| 75 T | 600 | - | $13 / 4{ }^{\prime \prime}$ | 43/4 | 43/4 | $51 / 2^{\prime \prime}$ | Yes | $113 / 4$ | $93 / 4$ |
| 80 | 1200 | - | 2" | $6^{\prime \prime}$ | 12" | $33 / 4 /$ | Yes | 15 | 28 |
| 90 | 550 | 11/" | 2\%" | -- | - | $51 / 2^{\prime \prime}$ | No | $3 / 4$ | 8 |
| 1270 | -- | 91/4" | $11 / 2^{\prime \prime}$ | $\cdots$ | - | —— | 一二 | - | 2 |

## ESICO

## ELECTRIC SOLDERING IRONS for home, professional mechanic and factory <br> - GREEN LABEL LINE

For intermittent duty. Meets all requirements of the home craftsman.


No. 415 -List $\$ 2.15-3 / 8^{\prime \prime}$ Tip-55 Watts

No. 416 -List $\$ 3.25-1 / 4$ " Tip- 60 Watts


No. 417 -L.ist $\$ 4.35-3 / 8$ " Tip- 100 Watts


No. 418 -List $\$ 5.45$ - $1 / 2$ " Tip- 130 Watt

- ORANGE LABEL LINE

For Professional Mechanics - light or heavy so dering where iron must withstand operation jor eight hour periods or more on frequent occasions.


No. 62-List \$5.45—1/4" Tip-60 Watts


No. 63-List \$6.55—3/8" Tip-100 Watts


No. 64-List \$7.65-1/2" Tip-130 Watts


No. 65-List \$8.75—5/8" Tip-200 Watts


No. 67-List \$9.85-7/" Tip-300 Watts


No. 69—List $\$ 12.05-11 / 8{ }^{\prime \prime}$ Tip-500 Wats

## - RED LABEL LINE

For Production Line Continuous Operations. These Irons are of most rugged construction.


No. 38-List \$7.65-3/8" Tip-100 Wates


No. 58 -List $\$ 9.85-5 / 8^{\prime \prime}$ Tip-200 Watts


No. 78-List \$12.05-7/8" Tip-300 Watts


No. 98-List \$14.25-1 $1 / 8^{\prime \prime}$ Tip-550 Wazts

Fere's the Soldering 7ran You'ue Waited Far!


- Perfectly balanced - speeds work, llessens fatigue
- Quick-heating, long-life, $41 / 2^{\prime \prime}$ nariow loop-type tip, easily reaches narrow, deep spaces
- Easy trigger action . . . with one, two or three fingers
- Rugged, Luger style . . . no stand needed
- Dual or single heat - single 100 watts; dual 100/ 135 watts
- Twin lights eliminate shadows
- Compact, fits in pocket

MODEL A-Single Heat 144 V.A., 120 Volts

List Price $\$ 8.95$
MODEL B-Dual Heat
144/180 V.A., 120 Volts

## List Price <br> $\$ 11.95$

The Luger's light, evenly distributed weight makes spot soldering a pleasure. It feels "natural'" . . . fits the hand comfortably. The handsome red, molded housing stands rough treatment. It rests on its side. No stand needed. Order now for new soldering efficiency.



PLUG－TIP IRONS


No．P－25A 25 WATTS TII＇DIA． $1 / R^{\prime \prime}$ NIII＇W＇T．½ LI3．$\$ 5.50$ SMALLEST FULL－FLEDGED INDUSTRIAL IRON．Weirlit（less（cold） wins，do－licatn insumment，jewerv，etc，Can also be furnished in limplar wattares．
 ，am，Fi\％aht fur same work as le．g5A，lut where larser tip is repuired．（an he formishend in histher wattages．

## 冨杨

No．P－30 40 WATTS＇TIP＇LAA． $1 / 4$ slll＇WT．7／8 1．13．$\$ 5.75$ Veme limht solfomine on fine wire atme deligate jnstruments．bixtra $1 /{ }^{\prime \prime}$ dia，tin fumished with each iron．Also atalable in 50 or 60 watts．sumeif witls whers orderimer

 No．P． 100100 WATTS TII LIA，＂／8＂SIII＇WT． $1 \%$ LiB．$\$ 9.00$
 No．P－150 150 WATTS TIl DIA．张＂SHIl＇WT． $11 / 1$ I．I3．$\$ 9.75$ No．P． 151175 WATTS THP DIA． $1 / 2^{\prime \prime}$ SIIIP WT． 1 L／B L．B．$\$ 10.25$ Ho．P． 200200 WATTS TIP DIA．焽＂SHIP WT， 2 \％／s LAB．$\$ 10.75$



No．P－300 300 WATTS＂IIP DI．A．\％／s＂SIIIP WT． 3 I．13．$\$ 14.25$ No．P－550 550 WATTS TIP UIA． $11 / \mathrm{B}^{\prime \prime}$ SIHP WT， 4 \％／8 LB．$\$ 18.75$


## QUICK－HEATING BATTERY IRONS

DEVELOMED N FOR ARMEO FORC＇F


## HEXACON SPECIAL－PURPOSE FAST－ PRODUCTION－LINE SOLDERING IRONS

TYPES LISTED BELOW HAVE BEEN DEVELOPED SPECIFICALLY FOR SOLDERING OF TV SETS，ELECTRONIC AND COMMUNICA－ TION EQUIPMENT，INSTRUMENTS，ETC．－AND ARE POPULAR ON PRODUCTION LINES OF LEADING PRODUCERS（BOTH CON－ VEYOR BELT LINES AND SUB－ASSEMBLIESI．

## SUPER－PENCIL IRONS

HOT TIP
（Weigh only 2 oz．）COOL HANDLE

| Length 73／4＂ |  |  | Ship Wt．1／2 lb． |  |
| :---: | :---: | :---: | :---: | :---: |
| No． 25 S | 25 Watts | （hishor wattages | 1／8＂Tip | \＄5．50 |
|  | 30 Watts | atre atailatle） | ${ }^{30 \prime \prime}{ }^{\prime \prime}$ Tip | \＄5．50 |
| All the adrantares of a Solborint Pencil，but a full－fledged industrial solderimg irnn with nickel－chronium mica－wound element．Tiny tips outperform irons wht lareer tips and higher wattages． <br> See Bulletin 25S for Further Details |  |  |  |  |
| BANTAMWEIGHT HATCHET IRONS <br> （Weigh only 3 oz．） |  |  |  |  |
| subllest Hatchet soldering Irom．Per－ fect halance fives effortless soldering at its hest．Tiny tijs outperform irons with larger tips and higher wattages． letin 25H for Further Details． |  |  |  |  |
|  | 25 | （hisher wattages | 1／8＂Tip | \＄6．00 |
|  | 30 | are available） | $\mathrm{r}^{3} 6$＂ T 11 | \＄6．00 |

FEATHERWEIGHT HATCHET IRON
（Weighs only 5 oz ．）


球事
More powerful than wattare rating indicates．Hatcinet de－ sign makes iron effort less to letin 30 H for Further Details．

No． 30 H
40，50 or 00 Watts
$1 / /^{\prime \prime}$ Tip
\＄6．25 Extra $1 / 8^{\prime \prime}$ dia．tip furnished with cach iron．

## SUPER－POWERED IRONS

 HIGHER SPEEDSMALLER TIPS

| Tip Dia． | Watts | Cat．No． |  | Ship．Wt． | Price |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $1{ }^{\prime \prime}$ | 11910 | P． 114 |  | 13 \％ 11 s． | \＄9．00 |
| ＂ | 1.511 | P． 154 |  | $11 / 2 \mathrm{Lis}$ ． | \＄9．75 |
| 11＂ | $\underline{0} 010$ | P． 214 | （shown） | $\bigcirc 1.6$ | \＄10．75 |
| ＂ |  | P－238 |  | 21 H1s． | \＄10．75 |
|  | 200 | P－212 |  | $21 / 4 \mathrm{hs}$. | \＄10．75 |
| ＂${ }_{8}$ | 800 | P．338A |  |  | \＄14．25 |


 prontutin line soldoring of＇IT＇sets，ette．See Bulletin P－154 for Further Details．

## HATCHET TYPE IRONS



## SOLDERMASTER Royal Blue Line ELECTRIC SOLDERING IRONS

GENERAL INFORMATION—Replacouble elements, Hest arrale of






VOLTAGES 110/120 220/250 A.C. or D.C., ANY CYCLE SPECIFY VOLTAGE WHEN ORDERING

## SCREW TIP IRONS


 dialli., 筩". Ship. wt., $1: 3 \mathrm{~m}$


No. 768-For light work, electrical instruments, etc. 7 is Watts. 'Tip



No. 100B-Same as No. 763 excent used whero more sured is required and heavier work is done. For hame ust. 90 W"atts. "til diam.. 1/2"


No. 150 B -Ideal size for frarage and repair work. For home use, 170



No. 3008-For heavy sted metal, atoto radiators, ete. 275 Wiatts. Jip


PLUG TIP IRONS





No. 101 B -For same wolk as No, flb, imt where mare speal is re guted or heavier work is done. For home use. 100 Wiatts. Tip thim.


No, 1218 - High speed irom for radio amd electrical repairs, 125 Wiatts



No. 2018-Fior same work as No 150 b , except where plug tif is de.


No. 3018 - For same work as No, 30013 , exeept where plur tip is des


## DISPLAYS

Increase your sales with these silent salesmen. Irons securely mounted, but readily removable for sale. Individually packed in cartons ready for shipment. Catalog number and wattage shown on front of display. Complete catalog information and price list on back.

SCROLL TYPE DISPLAY
Striking, Modernistic, All Metal Panel


No. IB DISPLAY Illustrated
Size $15^{\prime \prime} \times 171 / 2^{\prime \prime}$ (Nos. $1 \mathrm{~B}, 2 \mathrm{~B}$, and 3 B also same size) This Display Panel Also Furnished With Five or Seven Irons (See Below)

|  | Ship. Wt. | List Price |
| :---: | :---: | :---: |
|  | 20 lbs. | \$69.50 |
| . 2 B -ieven 1 rmm with Nos. $55 \mathrm{~B}, 7 \mathrm{~GB}, 100 \mathrm{~B}$, $150 \mathrm{~B}, 300 \mathrm{~B}, 71 \mathrm{~B}, 101 \mathrm{~B}$ | 17 | 47.50 |
| $\begin{gathered} \text { 3B—Five Iron with Nos. } 55 \mathrm{~B}, 76 \mathrm{~B}, 100 \mathrm{~B}, \\ 150 \mathrm{~B}, \\ 300 \mathrm{~B} \end{gathered}$ | 15 lbs. | 36.00 |
| 4B-Five Iron with Nos. $71 \mathrm{~B}, 101 \mathrm{~B}, 121 \mathrm{~B}$, <br> 2011s, :0113 | 16 ths. | 40.50 |

## ATtRACTIVE THREE COLOR CARDBOARD DISPLAY

This same display card also furnished with No. 5B and No. 5DB, but mounted with irons listed below.

No. 6B DISPLAY Illustrated

(Nos, 5 R , 5 DB also satue size)


## SOLDERING IRONS

## Equipped with Long-life Calrod* Heaters

## FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT

*Registered trade-mark of General Electric 1 "
ASK YOUR G-E DISTRIBUTOR FOR A COPY OF BULLETIN GEA-4519.

- HIGH-SPEED SOLDERING. You can solder as fast and continuously as the nature of the work will allow,
- UNIFORM PERFORMANCE. Operating characteristics remain constant day after day. No appreciable decrease in efficiency, even after months of service.
- EASY, LOW-COST REPAIR. Assembling and disassembling are easy.
- LONG LIFE AND LOW MAINTENANCE. Life is lengthened, and over-all costs are kept low because sturdy construction obviates need of frequent repairs.
- THEY NEED NOT BE RETURNEDTOTHE FAC. TORY FOR REPAIR. Irons can be repaired on the job without special tools or skill.

IGHTWEIGHT INDUSTRIAL IRONS
(Approved by Underwriters' Laboratories)


| Soldering Iron. Including Ironclad Tio and Heater Assembly |  |  |  |  |  | Tid and Heater |  | Tip Onlyt |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Rating |  | Tip Dia. in Inches | List Price, Each $\ddagger$ | Stantard Package Quantity | Cat. No. | List Price, Each $\ddagger$ | Cat. No. | Size in Inches | List Price, Each $\ddagger$ |
|  | Volts | Watto |  |  |  |  |  |  |  |  |
| $\begin{array}{r} 6 A 273 \\ 6 A 2883 \\ 6 A 283 G 23 \end{array}$ | $\begin{aligned} & 120 \\ & 120 \\ & 120 \end{aligned}$ | $\begin{aligned} & 60 \\ & 60 \\ & 60 \end{aligned}$ |  | $\$ 11.40$ 11.40 11.40 | 6 6 19 | $\begin{gathered} 6 A 300 \\ 6 A 301 \\ 6 A 301 G 4 \end{gathered}$ | $\begin{array}{r} \$ 5.60 \\ 5.60 \\ 5.60 \end{array}$ | 326A964P21 $326 A 964 P 22$ 7668707 |  | $\begin{array}{r} \$ 1.60 \\ 1.60 \\ 1.60 \end{array}$ |

fTips must be brazed su. See instructions included with irons.
: Mffrers suguested retail price.

For light, high-siment sal lerinu, such as assembly of ratios, telephomes, switclsmorels, applianoes, meters, and instrumunts, and inEtallation and rebrair of virime and wiriner devires and firnition. Also, for monditm. intermittent solderine on tinware, wiring. Mumbinge and tinsmithing. Excellent wemeral - purpost from for somber aml rabair нини, for shop and farm.

INDUSTRIAL SOLDERING IRONS


Fig. 1. Industrial soldering iron, 6A161 and 6A162 series


Fig. 2. Cutaway view of industrial soldering iron, 6A161

CHISEL TIPS


1/2-in. Short


1/2-in. Long


| Soldering Iron, Less Tip |  |  |  |  | Renewal Heater |  | Interchangeable Tips |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | Rating |  | List Price, Each $\ddagger$ | Standard Package Quantity | Cat. No. | List Price, | Cat. No. | Size, | Type | List Price, Each $\ddagger$ |
|  | Volts | Watts |  |  |  | Each $\ddagger$ |  |  |  |  |
| 6 A161 and 6A162 Series (Fig. 1 and 2) |  |  |  |  |  |  |  |  |  |  |
| 6 A161 | 115 | 75 | \$12.00 | 6 | 6431 | \$3.70 | Note: All of the interehameable tips listed below wil tit any irom in the fiA1til and fiAl 62 suries. |  |  |  |
|  |  |  |  |  |  |  | 6851732 P 21 | 3/8 | (alorized | \$0.80 |
| 6 A162 | 115 | 100 | 12.00 | 6 | 6 632 | 3.70 | 6851732 P 22 |  | Ironclad | 1.50 1.80 |
| 6A162G6 | 115 | 110 | 12.00 | 6 | $7 C 342$ | 3.70 | 6808345AAP2 6851775 P21 | $1 / 2$ $1 / 2$ sluort | ('alorized Jronclad | 1.80 1.50 |
| 6A162G6 | 115 | 110 | 12.00 |  |  |  | 6808345 AAP3 | 1/2 lons | (alorized | 1.40 |
| 6A162G3 | 115 | 125 | 12.00 | 6 | 8 A88 | 3.70 | 6851775 P 22 | $1 / 2{ }^{1}$ | Jronelad | $2.85$ |
|  |  |  |  |  |  |  |  |  |  |  |

[^58]
## SOLDERING IRONS

## Equipped with Long-life Calrod* Heaters

FOR MANUFACTURING AND SERVICE OF RADIO AND ELECTRONIC EQUIPMENT

## MIDGET SOLDERING IRONS

## APPLICATION

This 8 -inch, $13 / 4$-ounce featherweight iron for close-quarter soldering with pin-point precision is used where conventional irons might cause damage . . . be clumsy to handle . . . be more expensive to operate. The Midget literally goes places with greater efficiency and less power with no sacrifice in heat or speed. With its fingertip operation, this iron will help make an expert out of any solderer in a short time.

The Midget has Ironclad copper tips either $1 / 4-, 3 / 16^{\circ}$ or $1 / 8$-inch diameter, as desired.

THIS MIDGET DOES A BIG JOB IN

- Boosting Production Rates
- Increasing Operator Efficiency
- Cutting Down Employee Fatigue
- Saving on Repair and Maintenance
- Reducing Rejects
- Manufacturing and Repairing:

Radios and other electronic equipment
Meters
Instruments
Jewelry
Appliances
... and many other products
requiring precision soldering
RATING: 6 VOLTS, 25 WATTS

| Soldering Iron, Including Tip and Heater Assembly | Cat. No. | Price $\dagger$ |
| :---: | :---: | :---: |
| 1/8" Ironclad copper tip (pyramid-shaped) | 6 A212 | \$6.90 |
| 1/4" \|ronclad copper tip (chisel-shaped) | 6 A210 | 6.90 |
| $3 / 16^{\prime \prime}$ Ironclad copper tip (pyramid-shaped) | 6 A214 | 6.90 |
| $1 / 8$ "Renewal tip and heater assembly only | 6 A213 | 3.60 |
| $1 / 4$ " Renewal tip and heater assembly only | 6 A211 | 3.60 |
| 3/16" Renewal tip and heater assembly only | 6 A215 | 3.60 |

[^59]Disassembled view of Midget soldering iron


1/4-in. dia tip, Cat. No. 6A210

## SPECIAL TRANSFORMERS (OPTIONAL) for G-E MIDGET SOLDERING IRONS



Single-tap, Cat. No. 6A362


Four-tap, Cat. No. 6A364

Specially designed 115 -volt transformers are available as optional equipment in two types:

1. Single-tap $115 / 6$ volts-for use where only one soldering heat is required
2. Four-tap $115 / 6.3 / 6 / 5.7 / 5.4$ volts - gives wide range of heats (from 25 to 35 watts) for close temperature control of tips
Transformers are small, lightweight, but sturdy. Their 6 -foot extension cords can be plugged in any 115 -volt a-c circuit.

| Description | Cat. No. | Price $\dagger$ |
| :---: | :---: | :---: |
| Single-tap | 6 A362 | \$5.70 |
| Four-tap | 6A364 | 7.60 |

Pulblication Reference
GE.A-4519

## THE MIDGET OFFERS MAJOR ADVANTAGES

Low-cost soldering--Solders more efficiently, using only approximately one-fourth wattage normally used.

Fingertip operation-Only 8 inches long, weighs but $13 / 4$ ounces. Styled for fingertip grip.

Quick, continuous heat-Famous G-E Calrod heater built into Ironclad copper tip for rapid heat transfer.

Easy renewal-lronclad tip and heater assembly can be replaced as a unit merely by unscrewing from handle.
Long life, low maintenance-Low voltage permits use of heavy, long-lasting nickei-chromium resistance wire. Less maintenance is required with long-lasting Ironclad copper tip.

+ Manufacturers' suggested retail price.


## KWIKheat thermostatic soldering Irons

Built－in Vanatta Automatic Thermostat
KWIKHEAT TYPE NO． 200
HOT IN 80 SECONDS 150 Watts－ 115 Volts AC Only
We：pht wron with Tip ．．．．．．．．．．．．．．．．．．．．．．．．．71／2 $0 \%$ ．
 resting stanc ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． 1 lb .2 oz． Length of I －on with $3 / 8^{\prime \prime} \times 1 / 4^{\prime \prime}$ Dia．Tip．．．．．．．．．．．．123／4＂ length ei Heater Cord
 Replacement Elements ．．．．．．． 3.15 Tip $3 / 8^{\prime \prime} \times 1 / 4 "$ Dia．Pyramid Point55

## CHECK THESE

 ADVANTAGESKIVIKHEAT JR．has been de－ signed to mect the demand by the rectronics industry for a lighter ath smaller PRODUCTION tool． The element is readily replaced in the field by use of screwdriver． pliers．and small punch or nail．
CORROSION RESISTANT （ine assembly and outer shell are mate of STAINLESS STEEL．

## HOT IN 80 SECONDS

＇Ihe watt density of the heatin？ dement is very high and com pletely controlled by the thermo－ stat．

## TEMPERATURE

While the thermostat is presee at the factory．two standard tempera－ hires are avalable－Standby trons． used for intermittent bench work． －rvicing．and engineering．see at 7（10）F：PRODUCTION Irom： wed for comstant high speced sol doring．wo at $800^{\circ} \mathrm{F}$ ．

## TIPS

「ips，planger type 活＂x 任＂dia－ neter $x t^{\prime \prime}$ long，plated to reduce comrosiom．It is alvisable to keep tifs inserted completely in the avity of the element for complete －mperather combtol．

## ＝20 ANTIFREEZE COMPOUND

PLUNGER TYPETIP
I lubricall for all soldering iton tip luttivity beween tip and core

6 INTERCHANGEABLE TIPS FOR TYPE 300


KWIKHEAT MFG．CO．

KWIKHEAT TYPE NO． 300
HOT IN 90 SECONDS
225 Watts－ 115 or 230 Volts AC Only
Wciplht of Iron with Standard No． 1 Tip ．．．．．．．． 1
resting stand
Length of Iron with No． 1 Tip
I．ength of Heater Cord
HOT IN 90 SECONDS List Price
Iron complete with tip ．．．．．$\$ 12.25$ Available in other AC Voltages
Available with 3 Conductor Cord adid 2.50 Replacement Elements ．．．．． 8.60
Tips．any style

## TEMPERATURE

The Kwikheat Element can be set at the factory to any desired tip temperature between $275^{\circ}$ and $875^{\circ}$ F．Additional charges for thi－serv－ ice：

1 to 49 $\qquad$ $\$ 1.00$（a）
50 （1） 99
． 50 cal
100 or more standard price

## CORROSION RESISTANT

Tips and core are forged of tol－ luriun copper alloy and plated for rastance to corrosion．

## HOT IN 90 SECONDS

Kiwikheat Themostatically con－ frobled soldering itoms are the ouly froms contaning built－in themo－ －tats，allowing a much greater watt dundt．with less radiation of heat

## TEMPERATURES

 ARE PRE－SETThe u－w of recently developedalloys bave permitted the increase of thermostat temperatures with re－ duced areep．
WHEX IRONS ARE TO ISE （ \＆FO FOR HEAVY OR HIGH
 HFY I PRODUCTION IRON．


．



Glendale 4，California

## SOLDERING GUNS \& POWER SANDERS

## MODELS FOR PROFESSIONAL USERS

Weller Soldering Guns save time and current on every job and pay for themselves in a few months. Instant Heat-Full capacity heat in 5 seconds.
Exclusive Tip Grip-Assures full, constant heat. Shatterproof Housing-Rugged plastic.
Longer Reach-Slides easily into tiglit places. speeds work and prevents damage to insulation.
Dual Spotlights-Locate the work quickly.
Guaranteed-Registered and guaranteed for 1 year.

## HEAYY-DUTY MODELS

## MODEL S.500

Single heat, 250 watts.
Individually Packaged. Unit weight in display carton $31 / 2$ lbs. Master carton of 12 weighs 44 lbs. PRICE..... $\$ 13.50$ each, list
MODEL D-550 Dual heat-200 watts on 1st trigger position and 275 watts on 2nd position.
Individually Packaged. Unit weight in display carton $31 / 2$ lbs. Master carton of 12 weighs 44 lbs. PRICE................................. $\$ 16.25$ each, list

## LIGHT-DUTY MODELS

MODEL S.400 Single heat, 135 watts. Individually Packaged. T'nit weight in display carton 3 lbs. Master carton of 12 weighs $3 S$ lbs. PRICE
\$12.15 each, list
MODEL D. 440 Dual heat- 100 watts on 1 st trigger position and 150 watts on 2nd position.
Individually Packaged. Unit weight in display carton 3 lbs. Masier carton of 12 weighs is los. PRICE $\qquad$ \$12.1! each, list

## WELLER JUNIOR

MODEL 8100 New. compact design with outstanding features. Instant heat. dual spotlights, trig-ger-switch control. Cutting and smoothing tips available at extra cost.

Over 100 Watts- $120 \mathrm{~V} ., 60$ cy,, AC only. Guaranteed for One Year - Registered, ('L approved.

Individually Packaged, L'nit weight in display carton $21 / 2$ lbs. Master carton of 6 weighs 16 lbs.
LOW PRICE
\$7.95 each, lis $\dagger$

## WELLERTIPS FOR ALL MODELS



FOR GUN MODELS $8100,5.400$ and D-440

## Soldering Tip

No. 7135 , pkir. of $2 \ldots .35 \mathrm{c}$ list No. 7135, bkir
No. 6120. witli nuts....50c list No. 6120. wi Cutting Tip
No. 6110, with nuts... 50c list


FOR GUN MODELS 8250A, 5.500 and D.550 Soldering Tip
No. 7250 , jks of $2 . .50 \mathrm{c}$ list Smoothing Tip No. 6140 with No. 6140, witlı ruts...50c list No. 6130, with unts....50c list

## HOMECRAFTER'S Heavy-Duły MODEL

MODEL 8250A The number one tool for all types of soldering. Long reach and streamlined design gets into difficult spots. 5 second heat, dual spotlights, triggerswitch control. Accommodates special tips for cutting and smoothing.

250 Watts-High capacity, uniform heat. Guaranteed - UL approved, registered and guaranteed for 1 year.


Individually Packaged. Unit weight in display carton $31 / 2$ lbs. Master carton of 3 weighs 12 lbs. PRICE
\$12.95 each, list

## WELLER SOLDERING KIT

8250AK KIT includes: 250 Watt Soldering Gun 8250A - Heavy duty. instant leat. Famous Kester Solder - Ample supply, generalpurpose. LongLife Soldering Tip —For heat sealing and mending plastics, etc.

Cutting Tip - For cutting plastic tile, removing hard putty. etc. Tip Inter-
 change Wrench. Sturdy Metal
Case-For storage and carry-
ing. Two instruction Booklets. Individually Pack-aged- $61 / 2 \mathrm{lls}$. Master carton of 3 weighs 21 lbs . (\$17.00 value) PRICE
$\$ 14.95$ each, list

## POWER SANDER and Polisher

## MODEL 700 'Top

 quality at a mactical price. Greatest sanding area, most power and lowest design in its price class. 25 Sq. Inch Sand- ing Area - Hqual to largest vibrator type. Straight-Line Action-No bucking, goes in corners. 2-15/16" High-Gets into low places. Quiet Operating-Special insulation minimizes vibration and noise. Powerful Motor-Cool, reciprocating type $110 / 120$ volts. 60 cycle. AC. 8 foot power cord. Guaranteed-UL approved and guaranteed for 90 days. Individually Packaged-Unit weight in display carton with 6 assorted sheets of sandpaper and 1 polishing cloth $51 / 4$ lbs. Master carton of 3 weighs 17 llss. LOW PRICE............. $\$ 14.95$ each, list

## VULCAN ELECTRIC SOLDERING TOOLS

High-plaered Soldering Tools, designed for fast solder ing, with low operating cost.
Tips are of finest forged copper.
The "Hang" or balance good mechanics appreciate, plus light weight.
Cool handles of selected birch, shoped to fit the hand.
6 ft . heater cord, with unbreakable rubber plug.
Fireproof serminals.
Heating elements easily replaced.
Operate equally well on $A C$ or $O C$.
 fine soldering of instruments, meters, gouges, small radios, etc. or any spots where spoce is cramped or there is liftle clearance. The cool, tapering wood handle permits "writing grip." Flexible coil also assures coolness. Equipped with approved cord and unbreakable rubber plug. Standard tip is $1 / 4^{\prime \prime}$ but $3 / 16^{\prime \prime}$ or $1 / 0^{\prime \prime}$ tips are available, as well as special tips, bent to any angle or in various shapes.
Cat. No. Watts Jip Weight Length List $\begin{array}{llllll}\text { Pygmy } & 25 & 1 / 4 " & 702 & 81 / 4^{\prime \prime} & \$ 4.50\end{array}$

SOLDERING TOOLHOLDER


Holds and guards the Soldering Tool and keeps the tip at soldering temperature as long as it remains in the holder. Has a cord and attached plug cap for connection to current and a receptacle for plugging in the Tool. A convenient adjusting screw sets the Holder thermostat to maintain proper temperafure. AC only
No. 2100 without thermosiat $\qquad$ $\$ 4.00$ list
No. 2100 T with thermostof $\$ 6.50$ list


PLUG TIP - All parts replaceable


Bosh single and three-temperature Pots in a variety of sizes ond watlages, all with cord and plug approved at. Underwriters' Laboratories.

| CAT. No. | watis |  |  | CAPACITY SOLDER APPROXIMATE | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | HIGH | MEDIUM | LOW |  |  |
| 1700 | 200 | 120 | 80 | $11 / 4 \mathrm{lbs}$. | \$20.90 |
| 1702 | 250 | 150 | 100 | 5 lbs . | 24.20 |
| 1704 | 500 | 250 | 125 | 10 lbs . | 27.80 |
| 1600 | 150 | Single Heat |  | 14 oz. | 7.65 |
| 1606 | 350 | Single Heat |  | 3 lbs . | 8.45 |
| 1701 | 250 | Single Heat |  | 4 lbs . | 16.25 |
| 1703 | 200 | Single Heat |  | $11 / 2 \mathrm{lbs}$. | 11.85 |
|  |  | er sizes | 0600 | , single heot. |  |

"DUREVER" Soldering Jips are pure forged copper, shaped to your favorite style, with a special netal coating that will preserve the original shape of the tip by protecting the copper from corrosion and oxidation. Will outlast copper tips, cannot omalgamate with solder, do away with the nece-sity for dressing or filing. Can be readily tinned without filing and hold their original shape. Circular on request.

# VULCAN ELECTRIC CO 

ELECTRIC SOLDERING TOOLS • SOLDER POTS•GLUE POTS • BRANDING IRONS• HEATING UNITS

## LOW PRICE ELECTRIC SOLDERING TOOLS AONG AISCOUNT

Jackson "Standard" Electric Soldering Irons are scientificall: designed for that "balanced feel" which reduces fatigue. All elements used in Jackson Standard lrons are made of the finest quality nithrome wire, wourd on heat conductive cores and insulated with selected high grade amber mica. Equipped with 6 ft . approved heater cords and plugs. Stand included with every iron

| Standard screw type - Gun Metal Finush |  |  |  | Standard plunger type (Plug Tip) - Gun Metal Finish |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Cat. No. | watis | TIP | LIST | CAT. No. | watis | IIP | LISt |
| 141 | 85 | 7/16" | \$4.35 | 149 | 85 | 5/16" | \$4.35 |
| 142 | 100 | $5 / 8$ " | 5.70 | 145 | 100 | $3 / 8{ }^{\prime \prime}$ | 5.70 |
| 0142 | 125 | $5 / 3^{\prime \prime}$ | 6.45 | 0145 | 125 | 3/8" | 6.45 |
| 144 | 150 | $3 / 4{ }^{\prime \prime}$ | 7.75 | 146 | 150 | $1 / 2$ " | 7.75 |
| 143 | 225 | 78" | 9.30 | 147 | 225 | $5 / 8^{\prime \prime}$ | 9.30 |
| 210 | 350 | $11 / 8$ | 10.05 | 148 | 350 | $78^{\prime \prime}$ | 10.05 |



DE-LUXE ELECTRIC SOLDERING PENCIL
A soldering pencil for all light work such as Radio, Televisior, Jewelry, Instru. ments and Electronics. Handle is cork-filled composition, ${ }^{`} 00 \%$ air cooled: $1 / 2^{\prime \prime}$ steel tubing, perforated for air cooling. Element is wound on a heat conductive core, for efficient heating. High grade mica and nichrome wire. Underwriters approved 6 ft . rubber cord and plug.

| CAT. No. WATtS | VOLTS | TIP | LENGTH | WELGHT | LISt |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 230D | 25 | 115 | $1 / 4^{\prime \prime}$ | $7^{\prime \prime}$ | 302. | $\$ 2.75$ |



## COMET - SCREW TIP



Standard electric soldering pencil
Wood handle, rich black finish with cork sleeve. $1 / 2^{\prime \prime}$ steel tubing gun metal finish. Element is wound on heat conductive core. High grade mica and nichrome wire. 6 ff . rubber cord and plug.

| Cat. No. | Watts | VOLTS | TIP | LEngTh | WEIGht | LISt |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 230 | 25 | 115 | $1 / 4^{\prime \prime}$ | $7^{\prime \prime}$ | 3 oz. | $\$ 2.30$ |
| 231 | 40 | 115 | $3 / 8^{\prime \prime}$ | $8^{\prime \prime}$ | 402 | 4.10 |



COMET - PLUNGER (PLUG) TIP

Comet Jrons are equipped with a 6 ft . approved Heater Cord and Plug. Heating element is made of high quality Nichrome Wire, wound wilh mica on a core. Handles are black finish. All irons are packed one in a bok, stand included. 50 to a standard shipping container. All irons are made for 115 volts. If higher voltage is desired, there will be a slight extra charge.

| CAT. No. | watts | TIP | LIST | CAT. No. | watis | TIP | LIST |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 65 S | 65 | $1 / 2$ " | \$3.10 | 65 P | 65 | $1 / 4$ " | \$2.30 |
| 85 S | 85 | 5/8" | 3.60 | 85 P | 85 | $5 / 16^{\prime \prime}$ | 2.70 |
| 1005 | 100 | $3 / 4$ " | 4.10 | 100 P | 100 | 3/8' | 3.35 |
| 125 | 125 | $78^{\prime \prime}$ | 4.90 | 125 P | 125 | $7 / 16^{\prime \prime}$ | 4.10 |

## VULCAN EVEN:DIP" SOLDER POTS

DESIGNED AND DEVELOPED BY SPECIALISTS FOR PRINTED CIRCUIT SOLDER OPERATIONS

- 16 Crucible Sizes.
- High Fidelity thermostal control-Adjustable $150-600^{\circ} \mathrm{F}$.
- Surface Temperature does nol vary beyond $\pm 2^{\circ} \mathrm{F}$.
- Localized "hol spots" completely eliminated.
- Replaceable heavy-duty heating elements.

Send for free, detailed specifications.

# VULCAN ELECTRIC CO 

ELECTRIC SOLDERING TOOLS • SOLDER POTS GLUE POTS • BRANDING IRONS HEATING UNITS

A Product of the World－Famous
ORYX ELECTRICAL LABORATORIES London，England

## ORYX

## $1 / 4$ Ounce

## PRECISION <br> SOLDERING INSTRUMENTS

Model 6
Ther smallest，liphtest OifY $X$ koldoriner in－ strument．Its procisim tif wratly simpli－ fing the manntacture and survier of＂hece trical moasuring instruments，hairspriner movements，r．f．eots，and fiate suls． assemblios of all kinds．lartioularly rocome mevblal for sulderinge to transistons and dioulos：

## Model 6A

The most prpular ORYX soldurine imsiru－ ment．Menlel fil combines the liuht wersht advantares of Model 6 with the consenia－meer of incxpensive，replaceahld tips．Wiubly nerd on hearing aids，tumers，bintmd cia ruits，amblymistor amplifiers

## Model 9

An oulstanding recent developmont：Moulel ${ }^{6}$ is unequaled for use on complex cir cuitry；ralar，color televisjon，missila fult． assemblias，electromedical deviees，all ap－ pleations calling for a precision toml with gememas hatit rapacity．

## Model 11

NEW：This fiecial high－temprature model develofes a searing 400 denreas $r^{\prime}$ ．Speci fisally desiemod for high－temperature soldan allows and applications requirinar a hotter iron．I＇sus pure nickel tip．

## Model 12

The stambart ORYX instroment fom radion and therisiom savice and mambituture． Mowed 12 has unbelievable heat capacity and is widnle used by probluct bun depart－ monts，service shous，and rathon amitants

|  | Net Prices |
| :---: | :---: |
| Morlal 11 | \＄6．95 |
| （3 or more） | 6.25 |
| Other Models | 4.95 |
| （3 or more） | ． 4.45 |
| Tipus A and is | ． 33 |
| ＇lip | ． 39 |
| Tip J）． | 1.49 |

POWER SOURCE，ORIX sollering instruments operate from AC or BC （．
 any low voltage soure is suitable，inchoding dry colls，antomolite battery，filameat transormer．or hanatory power supply．
SPARE TIPS．Roplacumbit tins are avalable for all ORYX soldering instruments excent Morlal a．Thes are formed of a special conper allos and are heavily niokel plated to minimize the med for timbine and llessing．

| Cat．No． | Volts | Watts | Length | Tip | Dia． | Also Takes |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | i | $i$ | $i^{\prime \prime}$ | fix $\times 1$ | 1611 |  |  |
| 6.1 | $1 ;$ | $f$ | $6^{\prime \prime}$ | 13 | 34＂ | A | 5＂ |
| $0 \cdot 6$ | （i） | 8.3 | $6^{\prime \prime}$ | A | 5 $5^{\prime \prime}$ | 13 | 䓪＂ |
| 0.12 | 12 | 8.3 | $6^{\prime \prime}$ | ． | 42＂ | 13 | 気＂ |
| 9.24 | 24 | 8.3 | $\mathrm{fi}^{\prime \prime}$ | A | 成＂ | B | 30＂ |
| 11 | （3） | 10 | $6^{\prime \prime}$ | 13 | 83＂ |  |  |
| 12－6 | 6 | 12 | 1；1／4＂ | C | $3^{3 \prime \prime}$ |  |  |
| 12－12 | 12 | 12 | 1；1／4＂ | C | 16＂ |  |  |
| 12－24 | 24 | 12 | （51／4＂ | C | $3^{3 \prime \prime}$ |  |  |
| 12－50 | 50 | 12 | ＊1／4＂ | C | $3^{3 \prime \prime}$ |  |  |

U．S．AGENTS：TELEVISION ACCESSORIES CO．


## SOLDERNG GUNS \& POWER SANDERS

## MODELS FOR PROFESSIONAL USERS

Weller Soldering Guns save time and cnrrent on every job and pay for themselves in a few months. Instant Heat-Full capacity heat in 5 seconds.
Exclusive Tip Grip-Assures full, constant heat. Shatterproof Housing-Rugged plastic.
Longer Reach-Slides easily into tight places. speeds work and prevents damage to insulation. Dual Spotlights-Locate the work quickly.
Guaranteed-Registered and guaranteed for 1 year.

## HEAYY-DUTY MODELS

MODEL S-500
Single heat, 250 watts.


Individually Packaged. Unit weight in display carton $31 / 2$ lbs. Master carton of 12 weighs 44 lbs. PRICE..... $\$ 13.50$ each, list
MODEL D-550 Dual heat-200 watts on 1st trigger position and 275 watts on 2nd position.
Individually Packaged. Unit weight in display carton $31 / 2$ lbs. Master carton of
12 weighs 44 lbs. PRICE.......................... $\$ 16.25$ each, list

## LIGHT-DUTY MODELS

MODEL S-400 Single heat, 135 watts. Individually Packaged. Unit weight in display carton 3 lhs. Master carton of 12 weighs 35 lbs. PRICE.
\$12.15 each, list
MODEL D-440 Dual heat- 100 watts on 1 st trigger position and 150 watts on 2nd position.
Individually Packaged. Unit weight in display carton 3' lbs. Master carton of 12 weighs 38 lbs. PRICE. $\qquad$

## WELLER JUNIOR

MODEL 8100 New, compact design with outstanding features. Instant heat, dual spotlights, trig-ger-switch control. Cutting and smoothing tips available at extra cost.
Over 100 Watts- $-120 \mathrm{~V} ., 60 \mathrm{cy} ., \mathrm{AC}$ only Guaranteed for One Year - Registered, UL approved.
Individually Packaged. Unit weight in display carton $21 / 2$ lbs. Master carton of 6 weighs 16 lbs .

## LOW PRICE

$\$ 7.9 .5$ each, list

## WELLERTIPS FOR ALL MODELS



## FOR GUN MODELS

8100. S.400 and D-440

## Soldering Tip

No. 7135, pir. of $2 \ldots 35 \mathrm{c}$ list
Smoothing Tip Smoothing Tip
No. 6120, with nuts....50c list Cutting Tip
No. 6110. with nuts.... 50 c list


FOR GUN MODELS 8250A, S-500 and D-550 Soldering Tip
Soldering 7250 , pkr. of $2 \ldots 50 \mathrm{c}$ list
Nomoothing Tip Smoothing Tip No. 6140 , with guts.... 50 c list Cutting Tip No. 6130, with nuts....50c list

## HOMECRAFTER'S Heavy-Duty MODEL

MODEL 8250A The number one tool for all types of soldering. Long reach and streamlined design gets into difficult spots. 5 second heat, dual spotlights, triggerswitch control. Accommodates special tips for cutting and smoothing.
250 Watts-High capacity, uniform heat. Guaranteed-UL approved, registered and guaranteed for 1 year.

Individually Packaged. Unit weight in display carton $31 / 2$ lbs. Master carton of 3 weighs 12 lbs. price
\$12.95 eoch, list

## WELLER SOLDERING KIT

8250AK KIT in. cludes: 250 Watt Soldering Gun 8250A - Heary duty, instant heat. Famous Kester Solder - Ample supply, generalpurpose. LongLife Soldering Tip —For heat sealing and mending plastics, etc.

Cutting Tip - For cut-
ting plastic tile, removing hard putty, etc. Tip Inter-
 change Wrench. Sturdy Metal Case-For storage aud carry-
ing. Two instruction Booklets. Individually Pack-aged- $61 / 2$ lbs. Master carton of 3 weighs 21 lhs . ( $\$ 17.00$ value) PRICE
\$14.95 each, list

## POWER SANDER and Polisher

MODEL 700 'TOp quality at a practical price. Greatest sanding area. most power and lowest design in its price class. 25 Sq. Inch Sand-
 ing Area - Equal
to largest vibrator type. Straight-Line Action-No bucking, goes in corners. 2-15/16" High-Gets into low places. Quiet Operating-Special insulation minimizes vibration and noise. Powerfu Motor-Cool. reciprocating type $110 / 120$ volts, 60 crcle, AC. 8 foot power cord. Guaranteed-UL approved and guaranteed for 90 days. Individually Packaged-['nit weiglit in display carton with 6 assorted sheets of sandpaper and 1 polishing cloth $51 / 4 \mathrm{lbs}$. Master carton of 3 weiglis 17 lbs. LOW PRICE............ $\$ 14.95$ each, list

## VULCAN ELECTRIC SOLDERING TOOLS

High.pc wered Soldering Tools, designed for fost solder ing, with low operating cost.
rips are of finest forged copper.
The "Hang" or balance good mechanics appreciate, plus light weight.
Cool handles of selected bireh, shaped to fit the hand 6 fl . heater cord, with unbreakable rubber plug. Fireproof terminals.
Heating elements easily replaced.
Operate equally well on $A C$ or $D C$
 fine soldering of instru ments, meters, gauges, small radios, etc. or any spols where space is cramped or there is little clearance. The cool lapering wood handle permits "writing grip." Flexible coil also assures coolness. Equipped with approved cord and unbreakable rubber plug. Standard tip is $1 / 4^{\prime \prime}$ but $3 / 16^{\prime \prime}$ or $1 / 0^{\prime \prime}$ tips are available, as well as special tips, bent to any angle or in various shapes.
Cat. No. Wotts Tip Weight Length List $\begin{array}{lllllll}\text { Pygmy } & 25 & 1 / 4^{\prime \prime} & 702 . & B 1 / 4^{\prime \prime} & \$ 4.50\end{array}$

SOLDERING TOOL HOLDER


Holds and guards the Soldering Tool and keeps the tip at soldering temperature as long as it remains in the holder. Has a cord and attached plug cap for connection to current and a receptocle for plugging in the Tool. A convenient adjusting screw sets the Holder thermastat to maintain proper temperature. $A C$ only
No. 2100 without thermostat $\qquad$ $\$ 4.00$ list No. 2100 t with thermostal $\qquad$ $\$ 6.50$ list


PLUG TIP - All parts replaceable


## ELECTRIC SOLDER POTS

| - | WATTS |  |  | CAPACITY SOLDER APPROXIMATE | UST |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CAT. No. | HIGH | MEDIUM | LOW |  |  |
| 1700 | 200 | 120 | 80 | $11 / 4 \mathrm{lbs}$. | \$20.90 |
| 1702 | 250 | 150 | 100 | 5 lbs. | 24.20 |
| 1704 | 500 | 250 | 125 | 10 lbs . | 27.80 |
| 1800 | 150 | Single Heat |  | $14 \mathrm{oz}$. | 7.65 |
| 1606 | 350 | Single Heat |  | 3 lbs. | 8.45 |
| 1701 | 250 | Single Heat |  | 4 lbs. | 16.25 |
| 1703 | 200 | Single Heat |  | $11 / 2 \mathrm{lbs}$. | 11.85 |
|  |  | r sizes | 6000 | single heat. |  |

"DUREVER" Soldering Tips are pure forged copper, shaped to your favorite style, with a special metal coating that will preserve the original shape of the tip by protecting the copper from corrosian and oxidation. Will outlast copper tips, cannot amalgamate with solder, do away with the necessity for dressing or filing. Can be readily tinned without filing and hold their original shape. Cireular on request.

# VULCAN ELECTRIC CO 

ELECTRIC SOLDERING TOOLS • SOLDER POTS - GLUE POTS • BRANDING IRONS• HEATING UNITS

The MASTER - 20th Edition
Copyright by U. C. P., Inc.

## LOWPRICE ELECTRIC SOLDERING TOOLS AONG ASCOUNT LOSO

Jackson "Standard" Electric Soldering Irons are scientifically designed for thot "balanced feel" which reduces fatigue. All elements used in Jackson Standari Irons are made of the finest quality nichrome wire, wound on heal conductive cores and insulated with selected high grade amber mica. Equipped with 6 ft . approved heater cords and plugs. Stand included with every iron.


Standard screw type - Gun Metal finish

| CAT. Ho. | WATIS | TIP | LIST |
| :---: | :---: | :---: | :---: |
| 141 | 85 | $7 / 16^{\prime \prime}$ | $\$ 4.35$ |
| 142 | 100 | $5 / 8^{\prime \prime}$ | 5.70 |
| 0142 | 125 | $5 / 8^{\prime \prime}$ | 6.45 |
| 144 | 150 | $3 / 4^{\prime \prime}$ | 7.75 |
| 143 | 225 | $7 / 8^{\prime \prime}$ | 9.30 |
| 210 | 350 | $11 / 8^{\prime \prime}$ | 10.05 |



IST
35
6.45
7.75
10.05

Standard plunger type (Plug Tip) — Gun Metal Finish Ul)

| CAT. No. | WAIIS | IIP | LIST |
| :---: | :---: | :---: | :---: |
| 149 | 85 | $5 / 16^{\prime \prime \prime}$ | $\$ 4.35$ |
| 145 | 100 | $3 / 夕^{\prime \prime}$ | 5.70 |
| 0145 | 125 | $3 / 8^{\prime \prime}$ | 6.45 |
| 146 | 150 | $1 / 2^{\prime \prime}$ | 7.75 |
| 147 | 225 | $5 / 8^{\prime \prime}$ | 9.30 |
| 148 | 350 | $7 / 8^{\prime \prime}$ | 10.05 |



DE-LUXE ELECTRIC SOLDERING PENCIL
A soldering pencil for all light work such as Radio, Television, Jewelry, Instruments and Electronics. Handle is cork-filled composition, $100 \%$ air cooled: $1 / 2^{\prime \prime}$ steel tubing, perforated for air cooling. Element is wound on a heat conductive core, for efficient heating. High grade mico and nichrome wire. Underwriters approved 6 ft . rubber cord and plug.

| CAT. No. WATtS | VOLTS | TIP | LENGTH | WELGHT | LIST |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 230D | 25 | 115 | $1 / 4^{\prime \prime}$ | $7^{\prime \prime}$ | 302 | $\$ 2.75$ |



STANDARD ELECTRIC SOLDERING PENCIL
Wood handle, rich black finish with cork sleeve. $1 / 2^{\prime \prime}$ steel tubing gun metal finish. Element is wound on heat conductive core. High grade mico and nichrome wire. 6 ft . rubber cord and plug.

| CAT. No. WATTS | VOLTS | TIP | LENGTH | WEIGHT | LIST |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 230 | 25 | 115 | $1 / 4^{\prime \prime}$ | $7^{\prime \prime}$ | 302. | $\$ 2.30$ |
| 231 | 40 | 115 | $3 / 8^{\prime \prime}$ | $8^{\prime \prime}$ | 402. | 4.10 |



COMET - PLUNGER (PLUG) TIP

Comet Irons are equipped with a 6 ft . approved Heater Cord and Plug. Heating element is made of high guality Nichrome Wire, wound with mica on a core. Handles are black finish. All irons are packed one in a boz, stand included. 50 to a standard shipping container. All irons are made for 115 volts. If higher voltoge is desired, there will be a slight extra charge.

| CAT. No. | watts | TIP | LISt | CAT. No |  | watis | $11 P$ | LIST |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 65 s | 65 | $1 / 2^{\prime \prime}$ | \$3.10 | 65 | P | 65 | 1/4" | \$2.30 |
| 855 | 85 | $5 / 8{ }^{\prime \prime}$ | 3.60 | 85 | P | 85 | 5/16" | 2.70 |
| 1005 | 100 | $3 / 4{ }^{\prime \prime}$ | 4.10 | 100 | P | 100 | 3/8" | 3.35 |
| 125 s | 125 | $7 /{ }^{\prime \prime}$ | 4.90 | 125 | P | 125 | /16" | 4.10 |



DESIGNED AND DEVELOPED BY SPECIALISTS
FOR PRINTED CIRCUIT SOLDER OPERATIONS

- 16 Crucible Sizes.
- High Fidelity thermostat control—Adjustable $150-600^{\circ} \mathrm{F}$.
- Surface Temperature does not vary beyond $\pm 2^{\circ} \mathrm{F}$.
- Localized "hot spots" completely eliminated.
- Replaceable heavy-duty heoting elements.

Send for free, detoiled specificotions.

# VULCAN ELECTRIC CO 

ELECTRIC SOLDERING TOOLS SOLDER POTS GLUE POTS BRANDING IRONS HEATING UNITS

## ORYX

## $1 / 4$ Ounce

## PRECISION SOLDERING INSTRUMENTS

## Model 6

The smallest，lightest olf X semburine in－ strumont．Its procisinh tif groatly simpli－ tirs the matmacture athl serviar of elec－ trieal measuring instruments，batirpuring movemusis，r．f．coils，ami fine sub． assemblajes of all kinuls．I＇atticularly recom menderd for soblariats to tratmistors and diondes：

## Model 6A

The most pupular olidi sulderime instan． ment．Mublel 6.1 eombines the light weimht advantares of Model 6 with the comwenience of inexpensive，replacerable tijs．Wiably nsed on lataring aids，thners，printem rir． atits，and transistor amplifiers．

## Model 9

An outstambing recent development ！Dame $\theta$ is unequaled for use on romplox cir cuitry；radar，color folevision，missile sols－ assemblias，electromediad deviers，all ap－ plications callinar for atrecision tome witl semomus hasit capacity．

## Model 11

NFW：This special highetemperature motel therelojes at searimer 400 derreees（\％Speci fically desiarned for high－trmperature selder allows amd applieations requiring a hotter iron．I＇sos pure niekel tip．

## Model 12

The stamdard ORYX instrumont for radin and tolevision sorvice and mamfarture Sondel İ has unbelievalule heat capacity and is widely used by production depart－ ments，service shops，and radio ammaters．

|  | Net Prices |
| :---: | :---: |
| Morlel 11 | \＄6．95 |
| （3）or more） | 6.25 |
| Other Models | 4.95 |
| （3 or morc） | 4.45 |
| Tips A and ${ }^{\text {c }}$ | ．． 33 |
| Tip（ | ． 39 |
| Tip 1） | 1.49 |

POWER SOURCE．HRY＇X suldurins instrmments operate from AC or I）： They are fromeraly powerm by a stepoblown transformer，although any low roltage source is suitable，inclodiner dry colls，automenbile hattery，filament transfomme or laturatory buwer suphly．
SPARE TIPS．Replacempont tips arr avalahle for all olfix sohlerines instruments excupt Moded f．Ther are formed of a special copper allos and are heavily niskel plated to minimize the need for timing and dressinur．

| Cat．No． | Volts | Watts | Length | Tip | Dia． | Also Takes |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 6 | ${ }^{1}$ | t | $\mathrm{i}^{\prime \prime}$ | fixed | ${ }^{16 \prime \prime}$ |  |
| 6.1 | 6 | $f$ | $\mathrm{fi}^{\prime \prime}$ | 13 | 392 ${ }^{17}$ | A S |
| 9－6 | 6 | 8.3 | $\mathrm{fi}^{\prime \prime}$ | A | 采＂ | 13 3＂ |
| 0.12 | 12 | 8.3 | $\mathrm{f}^{\prime \prime}$ | A | 监＂ | It $3^{3} 2$ |
| ¢5．24 | 24 | 8.3 | $\mathrm{fi}^{\prime \prime}$ | A | 営＂ | 13 32＂ |
| 11 | 6 | 10 | $6^{\prime \prime}$ | I3 | 劀＂ |  |
| 12－6 | 6 | 12 | （i1／4＂ | C | ${ }^{3} 16$ |  |
| 1－12 | 12 | 12 | fi $1 / 4$＂ | C | $7^{3 / 8}$ |  |
| $12-24$ | 24 | 12 | ＂1／4＂ | C | ${ }^{3} 16$ |  |
| 1》－50 | 50 | 12 | ＂1品＂ | C | $1^{3} 6^{\prime \prime}$ |  |

U．S．AGENTS：TELEVISION ACCESSORIES CO．

| ALI.OY <br> Tin/Lead | B.S. Grate | MULTICORE, Color Corle | MFI.TING <br> TEMPERATURES <br> Solidus of all these alloys is $183^{\circ} \mathrm{C}-361^{\circ} \mathrm{F}$. |  | Recommended bit temperature |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | ${ }^{\circ} \mathrm{C}$ | Liquidus ${ }^{\circ} \mathrm{F}$. | ${ }^{\circ} \mathrm{C}$. | - 5 . |
| * $60 / 40$ | K | Fed | 189 | 372 | 229 | 444 |
| " $30 / 50$ | F | Y dlow | 214 | 417 | 254 | 489 |
| $-45 / 55$ | ( 11 | Crimson/Buf | 235 | 4,37 | 265 | 509 |
|  |  |  | 232 | 450 | 272 | 522 |
| $30 / 70$ (Special (Mrder) | J | White | 255 | 491 | 295 | 563 |
| 26/80 (Special ()rder) | - | Purple | 275 | 527 | 315 | 599 |



May be formed to Ioludspeaker Grilles for radio and televisjon sets Machinery Guards. Window Display Backgrounds and Figures, Chai Seats and Hampers, Truck Bodics, Fire Screens. Lockers, Nir Filters Walkways. Flying Trays, and many other items, as well as Air Con ditioner Grilles. Ventilator Grilles. Shelves. Trays. Storage Bins, and Home Accessories.
"Expamet"r may be cut. formed and shaped easily without use of special tools. American aluminum specification 2 S . It has also been mannfactured from slicets conforming to 3 S and 52 S . Twelve standatd
size. of mesti from $/ \$^{\prime \prime} 106^{\prime \prime}$ sloortway of mesh.

## Two famous



Farmulated especiolly for Radio and TV; will easily salder such metals os brass, zinc and ferrous alloys. It is non-carrosive and non-conductive.


KESTER PLASTIC ROSIN-CORE SOLDER
The most widely used salder in the TV and radio field. All Kester Salders are mode fram the finest tio and leod available.

* Kester Plastic Rosin-Core Solder
* Kester "Resin-Five" Core Solder
* Kester "44" Resin-Core Solder
* Kester Radio Solder
* Kester Acid-Core Solder
* Kester "A" Flux-Core Solder
* Kester Nosput Flux-Core Solder
* Kester Knorust Flux-Core Solder
* Specialized Flux-Core Solders
* Solid Wire and Bar Solders
* Kester "Solderforms," Rings, Pellets, Washers, Unusual Shapes
* External Rosin Soldering Fluxes
* Other Fluxes
* Kester Soldering Iron Brackets


## For Peak Soldering Efficiency,

 It's Kester!Kester offers every conceivable type of Solder product. Strand sizes as small as .008" diameter in Flux-Core Solder, unusual alloys and varying Flux contents or Core sizes.

## A Technical Service for

 ManufacturersIf you are not getting peak efficiency or have a specific problem in your soldering operations, take advantage of the facilities of Kester's Technical Department. . . . It costs you nothing.

KESTER SOLDER COMPANY

## UVFea Tooll

## ADD POWER TO YOUR HANDS



No. 41 - Electricians' Diagonal Pliers -
Hardened and tempered in oil. Narrow nose for radio and electrica! work
Size ……......................................................... 4 in. 5 in. 6 in.

Can be furnished with insulation stripper


No. 654 - Utica Long Needle Nose Side Cutting Pliers

This is a lorg, fine, spring-tempered nose, side-cutting pliers, drop lorged and with hand-honed cutting knives.

| Size | 6 in. | 7 in. |
| :--- | :--- | :--- | :--- | :--- |
| List Price |  |  |



No. 777 - Utica Long Needle Nose Pliers

This plier. has a long, half-round spring-tempered nose for very tine work in assembling small electrical apparatus.
Size
6 inches
List Price $\$ 2.64$


No. 776 - Curved Needle Nose Pliers -
This is a long curved spring-tempered Needle Nose Pliers for use in deep and narrow places. It may be used without turning or twisting the hand in the assembling of small fixtures, electrical arparatus, etc.
$\begin{aligned} & \text { Size } \\ & \text { List Price }\end{aligned} . .$.

## U>TICA



No. 82 - Utica Chain Nose
Wiring Pliers
This is a special Radio Repair Man's Pliers having a chain nose for those who prefer this type of construction.
Size
8 inches
List Price $\$ 2.80$


## No. 46 - Midget Diagonal Pliers

A small Diagonal for radio and electrical work. Hand honed edges with a slim nose for use in cramped quarters
Size . ................................................................................... 4 inches
Lis: Price
. $\$ 2.65$


Utica Radio Pliers
This is a General Radio Repair Man's Pliers. It has a center cutter and flat scored nose for looping and bending Size ................ .. 6 inches
List Price $\$ 3.60$


This is a Custom-built pliers designed for flush cutting in confined spaces. Can be furnished with spring in handle.



- Chrome Vanadium Steel Blades
- Fire-Safe Amberyl Shock and Break-Proof Handles



| $3 / 16^{\prime \prime}$ Cabinet Style-Round Blades |  |
| :---: | :---: |
| A $316-4$ | $3 / 16^{\prime \prime} \times 4^{\prime \prime}$ |
| A $316-5$ | $3 / 16^{\prime \prime} \times 5^{\prime \prime}$ |
| A 316.6 | $3 / 16^{\prime \prime} \times 6^{\prime \prime}$ |
| A 316.8 | $3 / 16^{\prime \prime} \times 8^{\prime \prime}$ |
| A $316-10$ | $3 / 16^{\prime \prime} \times 10^{\prime \prime}$ |

1/4" General Service-Round Blades

| A 416.4 | $1 / 4^{\prime \prime} \times 4^{\prime \prime}$ |
| :--- | :--- |
| A 416.5 | $1 / 4^{\prime \prime} \times 5^{\prime \prime}$ |
| A 416.6 | $1 / 4^{\prime \prime} \times 6^{\prime \prime}$ |
| A 416.8 | $1 / 4^{\prime \prime} \times 8^{\prime \prime}$ |
| A 416.10 | $1 / 4^{\prime \prime} \times 10^{\prime \prime}$ |

5/16" Heavy Duty-Round Blades
$A$
$A$

| A $516-6$ | $5 / 16^{\prime \prime} \times 6^{\prime \prime}$ |
| :--- | :---: |
| A $16-8$ | $5 / 16^{\prime \prime} \times 8^{\prime \prime}$ |
| A $516-10$ | $5 / 16^{\prime \prime} \times 10^{\prime \prime}$ |
| ys |  |
| A 132 | $1 / 4^{\prime \prime} \times 1-1 / 4^{\prime \prime}$ |
| A 135 | $5 / 16^{\prime \prime} \times 1.3 / 4^{\prime \prime}$ |


| Phillips Drivers |  |  |
| :---: | :---: | :---: |
| Stock |  |  |
| Number | Point |  |
| No. Blade Diam. |  |  |
| P 01 | 0 | $1 / 8^{\prime \prime} \times 2.1 / 2^{\prime \prime}$ |
| P 1 | 1 | $3 / 16^{\prime \prime} \times 3^{\prime \prime}$ |
| P 2 | 2 | $1 / 4^{\prime \prime} \times 4^{\prime \prime}$ |
| P 3 | 3 | $5 / 16^{\prime \prime} \times 6^{\prime \prime}$ |
| P 5 (Stub) | 2 | $1 / 4^{\prime \prime} \times 1-3 / 4^{\prime \prime}$ |
| P 6 (Stub) | 1 | $3 / 16^{\prime \prime} \times 1.1 / 4^{\prime \prime}$ |
| P 12 (Pockef Clip) | 1 | $1 / 8^{\prime \prime} \times 2-1 / 2^{\prime \prime}$ |

$\left.\begin{array}{cc}\begin{array}{c}\text { tch Head Drivers } \\ \text { Stock }\end{array} & \begin{array}{c}\text { Bit Point Diameter } \\ \text { and Blade Length }\end{array} \\ \text { Number } & 1 / 8^{\prime \prime} \times 3^{\prime \prime}\end{array}\right\}$
Screw Holding Drivers

| Stock Number | Blade Diam. \& Length |
| :---: | :---: |
| OK 23 | $1 / 8^{\prime \prime} \times 3^{\prime \prime}$ |
| OK 24 | $1 / 8^{\prime \prime} \times 4^{\prime \prime}$ |
| OK 26 | $1 / 8^{\prime \prime} \times 6^{\prime \prime}$ |
| OK 28 | $1 / 8^{\prime \prime} \times 8^{\prime \prime}$ |
| OK 34 | $3 / 16^{\prime \prime} \times 4^{\prime \prime}$ |
| OK 36 | $3 / 16^{\prime \prime} \times 6^{\prime \prime}$ |
| OK 38 | $3 / 16^{\prime \prime} \times 8^{\prime \prime}$ |


| Offset Screw Drivers |  |  |
| :--- | :---: | :---: |
| Stock No. | Type | Blade |
| VO 1 | Regulor | $5 / 32^{\prime \prime} \times 3^{\prime \prime}$ |
| VO 2 | Regulor | $1 / 4^{\prime \prime} \times 4^{\prime \prime}$ |
| P 120 | Phillips | \#1 point one end. |
|  |  | \#2 point other end |
| P 111 | Phillips | \#1 point both ends |
| P 222 | Phillips | \#2 point both ends |



## NUT DRIVERS



Wall or Bench Stand Nut Driver
Sets... 3/16" to 1/2"
Stock No. Contains:
S 7007 Nut Drivers, Color
\$ 500 Coded Handles
5 Standard Nut Drivers


Vaco All Hollow Shaft Insulated, Color-Keyed Nut Drivers are also available in stubby, long and extra long lengths.

Deluxe Super Hard Nut Drivers (Color Coded)

| Stock No. | Hex. Size | Overali Lenuth | Color Key |
| :---: | :---: | :---: | :---: |
| N 6.3 | 3/16" | 65/8" | Black |
| N 8.3 | $1 / 4^{\prime \prime}$ | 65/8 | Red |
| N $10-3$ | 5/16" | 65\%" | Yellow |
| NII. 3 | $11 / 32^{\prime \prime}$ | $65 /{ }^{\prime \prime}$ | Green |
| N12-3 | $3 / 8$ " | 65/8. | Blue |
| N14.3 | 7/16" | $65 /{ }^{\prime \prime}$ | 8rown |
| N16-3 | 1/2" | 65/8" | Orange |

Stubby $11 / 2^{\prime \prime}$ out of handle N6-1 thru N16-1.
Long $51 / 2^{\prime \prime}$ out of handle N6-6 thru N16-6. Extra Long $81 / 4^{\prime \prime}$ out of handle N6-8 thru N16-8

Standard Extra Hard Nut Drivers


## Beryllium Copper Drivers



Non-Metallic Radio and TV Aligners



ZBX 51


Z5X 61


ZA 70



## ZBX 51 Screw Driver Kit

A fine, all-purpose kit of interchangeable regular and Phillips blades that fit same handic. $6^{\prime \prime}$ extension makes 10 combinations possible. In durable leatherette bag.

## ZSX 61 Nut Driver Kif

A most versatile and complete hexagon wrench kit for radio, television or any other work requiring speedy nut setting. All sockets are super hard for maximum utility and long life. $6^{\prime \prime}$ extension makes 10 blade lengths possible. In handy leatherette tool roll.

## ZA 70 Allen Driver Kit

This useful kit consists of 6 hexagon driv. ers, handle and bag. Will service hexagon recessed opening screws Nos. 4, 5, 6, 8, 10 , $1 / 4^{\prime \prime}, 5 / 16^{\prime \prime}$ and $3 / 8^{\prime \prime}$. Each bit is extra long and may ground back as wear occurs.

## ZU 75 Universal Driver Kit

Here is a kit that is universal in its applica. tions since it will serve all three types of the most popular screws in use today-regular slotted, Phillips, and clutch head. All popular size blades are included-3/16" and $1 / 4^{\prime \prime}$ for regular slotted screws; No. 1 and No. 2 Phillips; 5/32" x 3/16" clutch head.

## 27-Piece TV and Radio Kip

NO. TV 27 K1T-Contains practically every hand tool necessary for television and radio work, plus exira pockers for pliers and other personal tools according to individual preferences. Contains one each of the fol. lowing: ZH 1 medium duty handle; ZH 2 heavy ducy handle: 7X 56 extension; A 132 $1 / 4^{\prime \prime}$ stub; 1/4", 3/16", 1/8" regular bits; No. 1 Phillips and No. 2 Phillips bits; 3/16", $1 / 4^{\prime \prime}, 5 / 16^{\prime \prime}, 11 / 32^{\prime \prime}, 3 / 8^{\prime \prime}$, $7 / 16^{\prime \prime}$ and $1 / 2^{\prime \prime}$ hex. wrenches; AT 45 metal ip aligner; A $116.23 / 32^{\prime \prime}$ pocket clip; P01 \#0 Phillips thin blade; OK $24 \quad 1 / 8^{\prime \prime}$ screw holding; VR 261 1/8" insulated blade; OK $383 / 16^{\prime \prime}$ screw holding; VR $3813 / 16^{\prime \prime}$ insulated blade; VB 210 1/8" $\times 10^{\prime \prime}$ non-mag. netic adjuster; AT $510 \quad 5 / 32^{\prime \prime}$ fiber aligner; VO 2 medium offset; VO 1 small offset.

## 14-Piece TV and Radio Kif

NO. RT 14 KIT-Here's a handy, convenient kit for radio and TV service men. Contains nut drivers, Phillips and regular drivers, plus ZH 2 heavy duty handle and fa. mous Vaco $6^{\prime \prime}$ extension which dou. bles the usefulness of each driver. In durable leatherette tool roll.


This plier is intended for general use where a short nose is desired for getting into difficult places.

Long Needle Nose Plier with Cutter


No. 8103 7"
An exceptional handy and useful plier, well proportioned with long thin nose, designed for reaching into tight places.

Curved Needle Nose Plier

No. 8104 6"
A long, bent, thin nose plier. The angle is arranged to give full clearance and prevent skinning of knuckles.


No. $81056^{\prime \prime}$
Newly designed long nose plier suitable for working in confined places.


Has long, thin, sure-grip jaws to reach into places where fingers and ordinary pliers will not go.

Diagonal Cutting Plier
 No. $820141 / 2^{\prime \prime} \quad$ No. 8203 6" No. 8202 5" No. 8204 71/2" Specially designed for electricians, radio and TV service men and automotive mechanics. Powerful jaws cut close and quickly.


One of the most powerful diagonal pliers made. Long handles give a 20 to 1 ratio of leverage to cut with minimum effort.

Heavy Duty Linemen's


No. 8302 71/2" No. $830383 / 4^{\prime \prime}$
One of the most popular pliers in use today. Has extra powerful leverage and reinforced cutting knives.


A top quality slip joint combination plier. Has all the quality features of higher priced cutting pliers at modest cost.


This plier incorporates the best features of a regular side cutter with the versatility of a slip joint combination plier.

Long Flat Nose
Plier with Cutter


Extra long, wide, flat nose makes this an especially useful tool. Plier is tempered so jaw will not spring under pressure.
Long flat Nose
Plier


No. $85026^{\prime \prime}$
Same as No. 8501 except supplied with. out cutter.
Long Reach
Flat Nose Plier

## No. 8503 71/2"

Fitted with duckbill type jaws wider and heavier than those of the ordinary flat nose for firmer gripping service.
VACGRUV Adjustable Ignition Plier Plated


Especially designed 3-position jaws accommodate small to medium large nuts, bolts, etc. Fine for delicate radio and TV work.

## VACGRUV Adjustable

Plier Wrench, Chrome Plated


Built to provide an especially secure grip on medium to large bolts, nuts, pipes, etc. 3-position jaws open to $-5 / 8^{\prime \prime}$. $3 / 4$ ", respectively.

## vacgruv adjustable

Plier Wrench,
Chrome


A general purpose, heavy duty tool with 5 -position jaws that open to $11 / 8^{\prime \prime}$. Doubles as pipe wrench, gripping plier and hand vise.

## LrNN Lig Terminals Solderless Vico by VACO <br> LYNN Ligfting

No. 2195 Service Kit
A GENERAL PURPOSE ELECTRICAL, RADIO AND TV KIT containing everything needed for making clean, fast, trouble-free electrical connections. No soldering! No fuss or muss! Kit includes ... No. 1900 Crimping Tool and Terminals Nos. 2300, 2301, 2302, 2400, 2401,2402 , $2600,2601,2602$, and $3300 \ldots$ all in a clear plastic box with tight-fitting lid. Individual bins marked with terminal stock number cards.

No. 1900 Crimping Tool


No solder. . . no iron. . . no heating .... a perfect connection every time with this tool and Lynn Lightning Solderless Terminals by Vaco! Crimping tool has wire cutters, indenting die, wire-stripping dic. shock-proof, slip.proof plastic handle. sleeves. For No. 22 to No. 10 gauge wire.

Only 3 SIMPLE STEPS and Terminal Is On


1. Cut Wire. Use the wire cutter built into the crimping tool length.

Wide Assortment of Solderless Terminals for General Use, Radio and TV
to cut wire proper
Then pull insulation off wire. tooth and close tool like pliers.

Extra long barrel on terminal provides easy crimp and perfect contaci. Only ONE crimp necessary. Barrel always remains round.

Quick Reference Chart for Easy Terminal Identification RING TONGUE TERMINALS


No. 2300
Hole Dia. - 5/32"
Siud Size - 4.6 Wire Sze - 22. 16


No. 2301
Hole Dia. - 5/32 Stud Size - 4-6 Wire Size - 22 . 16


No. 2302
Hole Dia. $-13 / 64$
Hole Dia - $13 / 64$
Stud Size - -10
Wire Size - 22.16


No. 2303


No. 2304


No. 2400


No. 2401


No. 2402
Hole Dia. - $13 / 64$ Stud Size - 8. 10 Wirt Size - 16-14


No. 2403
Hole Dia. $-17 / 64^{\prime \prime}$
Stud Size - 12 . 1/4
Wire Size - 16. 14


No. 2404
Hole Dia. $-13 / 32$
Siud Size $-3 / 8$
wire Size - 16.14


No. 2502
Hole Dia. - $13 / 64$
Stud Size - $8 \cdot 10$ Wire Size - $12 \cdot 10$


No. 2503
Hole Dia. $-17 / 64$ Stud Size - 12 - 1/4 Wire Size - 12 -10


No. 2504
Hole Dia, - 13/32
Siud Size - $3 / 8$ Wire Size - 12 -10

SPADE TONGUE TERMINALS


No. 2600
Slot Dia. - 5/32" Slud Size - 4.6 Wire Size - 22.16


No. 2602
No. 2602
Slot Dia, $-13 / 64^{\prime \prime}$ Slot Dia, $-13 / 64^{\prime \prime}$
Stud Size -8.10 Stud Size $-8 \cdot 10$
Wire Size $-16 \cdot 14$

FIAG TYPETERMINALS


No, 2802 Hole Dia. - 13/64" Siud Size - 8 . 10 Wire Size - 22 - 16


No. 3002
Hole Dia. - $13 / 64$
Stud Size - 8. 10
Wire Size - $12 \cdot 10$


No. 2702
No. 2702
Slot Dia, $-13 / 64^{\prime \prime}$ Slot Dia, - $8 / 84$
Stud Size - 10 Stud Size - 8-10
Wire Size - $12 \cdot 10$

HOOK TYPE


No. 3300 Slot Dia. - 5/32" Stud Size - 4.6 Wire Size - 22. 16


CONVENIENT \$ PAK


All Lynn Lightning Terminals are avail able in convenient \$ Paks. When any of the "bins" of the service kit are empty. user merely purchases a refili just right for replacing stock. Refill Paks are well marked for trouble-free handling, and designed with "window'" for easy identification.

BULK PAK


Also available in bulk-packed 250 pieces to a package, 4 packages to master carton of 1,000.

## VACO PRODUCTS CO.

- Chicago 11, Illinois, U.S.A.

Blades of SAE6150 Chrome Vanadium Electric Furnace Steel

## ROUND BLADES

| Number | Size Blade | List | Number | Size Blade | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| R－3322 | U＂x ${ }^{\text {e＂}}$ | \＄0．30 | R－5328 | \％＂x ${ }^{\text {\％}}$ | \＄0．80 |
| R－3323 | ＂x ${ }^{3 \prime}$ | ． 40 | R－3163 |  | ． 75 |
| R－3324 | ＂x ${ }^{\prime \prime}$ | ． 40 | R－3164 |  | ． 80 |
| R－181 | ${ }^{\prime \prime} \times \times \cdots$ | .30 | R－3166 |  | ． 95 |
| R－183 | 14＂x ：${ }^{\prime \prime}$ | ． 40 | R－3168 |  | 1.00 |
| R－1841／2 | ＂＂x $4^{\prime \prime}$ | ． 40 | R－31610 |  | 1.15 |
| R－182 | ${ }^{1 \times 1 \times x} \times$ | ． 50 | R－142 | ＂1＂x ${ }^{\prime \prime}$ | ． 95 |
| R－184 |  | ． 55 | R－144 | 1＂x ${ }^{\prime \prime}$ | 1.00 |
| R－186 |  | ． 60 | R－146 | 14＂x ${ }^{\text {¢ }}$ | 1.05 |
| R． 188 | 1／8＂x $\mathrm{s}^{\prime \prime}$ | ． 70 | R－148 | 1／4＂x $\mathrm{s}^{\prime \prime}$ | 1.15 |
| R－1810 | 化＂$\times 101$ | ． 80 | R． 1410 | 1年＂$\times 10$＂ | 1.25 |
| R－5323 | S＂x $3^{\prime \prime}$ | ． 65 | R－5164 | $A_{0}^{\prime \prime} \times 4^{\prime \prime}$ | 1.25 |
| R． 5324 | ＂nx ${ }^{\prime \prime}$ | ． 65 | R－5166 | $A_{\text {A＂}} \times 6{ }^{\prime \prime}$ | 1.35 |
| R－5325 | 事＂x ${ }^{\text {x }}$ | ． 65 | R． 5168 |  | 1.45 |



## SQUARE BLADES

| Number | Size Blade | List | Number | Size Blade | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| S． 183 |  | \＄0．60 | S－5168 | 部＂x $\mathrm{R}^{\prime \prime}$ | \＄1．55 |
| S． 184 | 发＂$\times$ ¢ ${ }^{\prime \prime}$ | ． 60 | S．51610 |  | 1.70 |
| S． 185 | 1／R＂x ${ }^{\prime \prime \prime}$ | ． 60 | S－51612 |  | 1.85 |
| s． 3163 | 裉＂x ${ }^{\text {a }}$ | ． 90 | S． 388 | $3{ }^{\prime \prime} \times{ }^{\prime \prime}$ | 1.90 |
| S．3164 |  | ． 95 | S－3812 | ＊18＂ | 2.75 |
| S．3166 | 限＂x $\mathrm{fi}^{\prime \prime}$ | 1.10 | S． 3818 | ＂S＂x $1 \times 0$ | 3.00 |
| S．3168 |  | 1.20 | s． 7166 | 信＂x $\mathrm{in}^{\prime \prime}$ | 2.25 |
| S．31610 | 限＂$\times 1010$ | 1.30 | S．71612 | 㖇＂$\times 12^{\prime \prime}$ | 2.75 |
| S． 142 | 1＂x ${ }^{\prime \prime}$ | 1.10 | S． 71618 | 7is＂$\times 180$ | 3.00 |
| S． 144 | 1＂x ${ }^{\prime \prime}$ | 1.15 | S． 1424 |  | 2.50 |
| S－146 | 1＇＂x ${ }^{\prime \prime}$ | 1.20 | Stubbies |  |  |
| S． 148 | \％＂x $\mathrm{s}^{\prime \prime}$ | 1.35 |  |  |  |
| S．5162 | 砋＂x ${ }^{\prime \prime}$ | 1.15 | S． 3161 |  | \＄0．65 |
| s．5164 | 凩＂x ${ }^{\prime \prime}$ | 1.35 | S． 141 |  | ． 75 |
| S．5166 | ii．＂x $\mathrm{in}^{\prime \prime}$ | 1.45 | s－5161 |  | ． 75 |

## BERYLLIUM－COPPER

| Number | Size Blade | List |
| :---: | :---: | :---: |
| BR－186 | $1 / 8{ }^{\prime \prime} \times{ }^{\prime \prime}$ | \＄1．25 |
| BR－1810 | 1／8＂x $10^{\prime \prime}$ | 1.35 |
| BR． 3168 |  | 2.20 |
| BR－146 | ソ＂x $1^{\prime \prime}$ | 2.75 |
| BR－148 | 14＂x 8＂ | 2.95 |

BR－1410 FC
LIST \＄3．25 TV FOCALIZER ADJUSTER

Blade
Tio Width
0／A
$3 / 3 "$


# XCELITE quality toots <br> Preferred by the EXPERTS 

## SCREWDRIVERS

＂COMBINATION－DETACHABLE＂＇

COMPLETE
（Regular Type）
No．CR1
No．CR2
No．CR3

List Price $\$ 1.90$
No．CR2
1.90

| BLADES ONLY <br> （Regular Type） | List Price |
| :---: | :---: |
| No．RB1 | \＄1．05 |
| No．RB2 | 1.05 |
| No．RB3 | 1.05 |

HANDLES ONLY
No． 25 linnulal
List Price
$\$ 0.85$

|  |  | STUBE | SIZE |  |
| :---: | :---: | :---: | :---: | :---: |
| COMPLETE |  |  | BLADES | ONLY |
| No． | CS1 | \＄1．70 | No．SBl | \＄0．90 |
| No． | CS2 | 1.70 | No．SB2 | ． 90 |
| HANDLES ONLY |  |  |  |  |
| No． | 26 | hy |  | ．．．\＄0．80 |

Order by Blade Combinations

No．2－Kי． 2 Jhillips int $1 /{ }^{\prime \prime}$ Nerelir．
No．3－Nin，：Flallige allid it，＂Mrelitu．

No．
$\times 108$
$\times 101$
$\times 102$
$\times 103$
$\times 104$
$\times 1010$
$\times 1020$

PHILLIPS

| Point Size | Length Blade | Diameter Blade |
| :---: | :---: | :---: |
| 1 | $1 i^{\prime \prime}$ | 3．＂ |
| 1 | 3＂ | $3_{3}{ }^{3}$ |
| $\because$ | 4＂ | 1／1＂ |
| 3 | （i＂ | i．．＂ |
| 4 | ＊＂ | 3＊ |
| 1 | $114 "^{\prime \prime}$ | $3_{1.3}{ }^{\text {a }}$ |
| $\because$ | $116 "^{\prime \prime}$ | 1，＂ |


| List Price | SHORT STUBBY TYPE |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| \＄1．15 | No． | Point Size | Blade | List Price |
| 1.05 | SX－101 | 1 |  | \＄1．00 |
| 1.35 | Sx－102 | $\because$ | 1／4＂x 1 38＂ | 1.10 |
| 1.80 |  | OCKET | CLIP STYLE |  |
| 2.25 |  | Point |  | List |
| 1.60 | No． | Size | Blade | Price |
| 1.80 | P12S | 11 | 1／8＂x ${ }^{\prime \prime}$ | \＄0．50 |


|  | C | C 1 | $E$ | $D$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  <br> $\infty$ | Type G No． | Type A No． | Size | Diameter Blade | Length Blade | List Price Each |
|  | G．3324 | － | ：${ }^{\prime}$ | 1／8＂ | $1^{\prime \prime}$ | \＄1．20 |
|  | G－183 | A． 183 | 14＂ | is．＂ | ：$"$ | 1.20 |
| Type C Type A | G． 5324 | A－5324 | A：＂ | ＇＂ | $1^{\prime \prime}$ | 1.32 |
|  | G．3164 | A． 3164 | f：＂ | $1,{ }^{\prime}$ | $4^{\prime \prime}$ | 1.32 |
| the－same sizar and furne． | G． 146 | A－146 | 1；＂ | $\therefore$＂ | ：i＂ | 1.75 |
|  | G－5166 | A． 5166 | $i_{i}$＂ | ：＂${ }^{\prime}$ | ＊i＂ | 2.15 |






No 99.71 H －（inmplute with handle ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 2.65$ list


## NUT DRIVERS

(ALL WITH COLOR-CODED HANDLES)

## REGULAR

| 6" Overall Length |  |  |  | 9" Overall Length |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Handle Color | Hex Op'n'g | List | No, | Handle Color | Hex Op'n'g | List |
| 6 | Hlack | 18" | \$0.95 | A. 6 | 13lack | is" | \$1.15 |
| 7 | Hrown | $3^{73} 3^{\prime \prime}$ | . 95 | A. 7 | Brown | 3'2" | 1.15 |
| 8 | Red | 1/4" | . 95 | A. 8 | 1301 | 1/\% | 1.15 |
| 9 | Orange | $33^{\prime \prime}$ | . 95 | A.9 | 1) ranire | 42" | 1.15 |
| 10 | Yollow | ${ }_{16}{ }^{\prime \prime}$ | . 95 | A. 10 | Yellow | is:" | 1.15 |
| 11 | Green | 41" | . 95 | A. 11 | Green | 112" | 1.15 |
| 12 | Bluse | 等" | . 95 | A-12 | Blan | $3{ }^{\prime \prime}$ | 1.15 |
| 14 | Hrown | $7^{7}+1$ | 1.25 | A. 14 | l Srown | $1^{7} \times 1$ | 1.50 |
| 16 | Red | $1 / 2^{\prime \prime}$ | 1.25 | A-16 | H2l | $1 /{ }^{\prime \prime}$ | 1.50 |

## HOLLOW SHAFT

|  | Length <br> Overalt | Hex. <br> Open. | Handle <br> Color | Depth <br> of Hole | List | Insulated |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| List |  |  |  |  |  |  |

$31 / 4$ " Overall Length

| No. | Handle Color | Hex <br> Op'n'g | List |
| :---: | :---: | :---: | :---: |
| S.8 | Red | 1/4" | \$0.80 |
| \$. 10 | Vellow | fir" | . 80 |
| S.12 | Blıe | \%/8 | . 80 |

No. 127 Lockable WALL SET
'lha original "borrow"proof" stuel set With Nos. 6, 7, 8, !, 10, 11 and 12 XCEAITLE nut trivers with handles colored to flash the size: (Nee size code, upper left.) Metal holder in red wrinkle finish.

No. 127-1'olished finish $\$ 7.85$ list

No. 127C-Chrome plated
blades ............ \$8.75 list


No. 17 SET


DEEP PRECISION-FORMED SOCKETS
ALL SHAFTS HIGHLY POLISHED
$\$ 1.65$ list $\$ 1.25$ list

## NEW! No. 77 SET!

 usid Nos. $6,7,8,9,10,11$ and 12 nut drivers with color coled handes. You
 wall! same low price.
No. 77-l'olistom finish
$\$ 7.85$ list
No. 77C-4'hrome plat.al blades
$\$ 8.75$ list

## No. 137 SET



No. 137 - polislef firish
$\$ 8.95$ list
No. 137C-Chrone phatend Mades
$\$ 9.95$ list
 burh rack - and look at the low prices:
No. 17-Polishad finish
$\$ 7.20$ list
No. 17C-(chrome plated hlades
$\$ 8.10$ list

## PLIERS FOR EVERY JOB DROP FORGED OF HIGH GRADE TOOL STEEL


(Fig. A)-No. 56 6-in. Needle Nose Plier-Lank slim jaws Wernit entrw of this plier where a regular lung nose piliter
wont work.
Nist No. 56 C -inironie plated

## ADJUSTABLE WRENCHES




 Whome alloy stere. Ideal for serering antenta monts and 1001 wher jobs. Order sour sizes ly

No. 44 C

List
(Fig. B) - Wo. 52 Long Nose Plier (Without Side Cutters)ing in amkvard maces. Holst Price....................... $\mathbf{5} 2.40$ No. 52 C -h hrome plated
(Fig. C)-Wo. 51 Long Nose Plier (With Side Cutters)-The
 No. 51 C - hirome plated ............................. ${ }^{3} 3.70$ (Fig, D)-No. 58 Radio and TV Plier-Jesigned for radio ing edges \% in. back from tip, lnvaluable in many applica-

(Fig. E) -No. ${ }^{60}$ 6-in. Side Cutting Plier-This plier has serrated umer and lower jaws for sripping and hand honed
 (Fig. F)-No. $67 \quad 7$-in. Oiagonal Plier-A ruged wier with Hand hened cutting edges stand up under tough cutting soin
ditions. List frice. No. 67 c -। Mrome phated
(Fig. G)-No. 68 8-in. Side Cutting Plier-The big brother heary prip and leverage is necded. Ideal for cutting heayy No. $68 \mathrm{C}-1$ lirume plated
(Fig, H)—No. 50C 5-in. Ignition Plier-Narrow had. Three. (Fig. 1)-No. 54 Midget $4-\mathrm{In}$. Diagonal Plier-The ideat

(Fig. J)-No. 49 Shear Action Snips-shear action permits
 (Fig. K) -No. 55 5-in. Diagonal Plier-Ideal for most cut-

(Fig. L) - No $66 \mathbf{6}$-in. Diagonal Plier- All all zurpase plier
 (Fig. M)-No. 59 Chain Nose Electricians Plier-Imang reach

(Fig. N)-No. 63 10-in. Utility Plier-Forged ribthed look

 plier "ith three ssige juint pevitions. serrated jaws. ©hrome
plated.
list

number. All in reterning chrome plated finisla.
4.55

## XCELITE, INC. - ORCHARD PARK, N. Y., U. S. A.

# KRAEUTER The choice of stilled mechanics 



## "GRIPTITE' COMBINATION PLIERS

'The finest quality combination pliers, designed for heavy duty. Wire culting motch.

| No. | Length | Finish | W't. per doz. | Each |
| :---: | :---: | :---: | :---: | :---: |
| 356 | $51 / 2 \mathrm{in}$. | Full Nickel | 31/2 llss. | \$1.95 |
| 356 | 6 in. | Full Nickol | $51 / 4 \mathrm{lbs}$. | 2.20 |
| 356 | S in. | Full Nickel | S\% lbs. | 2.75 |
| 356 | 10 in . | Full Nirkol | 14 los. | 3.30 |



THIN NOSE COMBINATION PLIERS
The tapered jaws and thin nose will reach and grip objects in confined areas. With wire cutters.

Isist
No. Length Finish W't. ner doz. Each 406 in. Nickel plated $41 / 4$ lls. $\$ 1.65$


## TONGUE-N-GROOVE JOINT PLIERS

Forged fins and grooves. Five parallel adjustments. with working caparity ranging from $i^{3} "$ to $15 / 8^{\prime \prime}$


## COMBINATION PATTERN SNIP

Cuts straight and emved shapes in metal. ate.

|  |  |  | List |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | l.enght | Cut | W't. ea. | Ench |
| K13 | 7 in. | $1 / 8 \mathrm{in}$. | $51 / 2 \mathrm{oz}$. | $\$ 1.80$ |



## ELECTRICIANS' SIDE CUTTING PLIERS

I'sed extensively in electric wiring. Very popular with mechanios on produrtion and general repair work.

Jist

| No. | Lencth | Finish | Wt. per doz. Fach |  |  |
| :--- | :---: | :---: | :---: | :---: | ---: |
| 1830 | 4 | in. | Blue Temper | $11 / 2 \mathrm{lbs}$. | $\$ 2.35$ |
| 1830 | $\bar{\sigma}$ | in. | Plue Temper | $21 / 4 \mathrm{lbs}$ | 2.50 |
| 1830 | $61 / 2$ in. | Plue Temper | $43 / 4 \mathrm{lbs}$. | 2.75 |  |
| 1830 | 7 | in. | Plne Temper | $63 / 4 \mathrm{lbs}$. | 3.00 |
| 1830 | $\$$ | in. | Blue Temper | $S 1 / 4 \mathrm{lbs}$. | 3.40 |



## SHORT JAW PLIERS, LONG HANDLES

Short flat nose - long handles, for greater leverage. Milled jaws. Inside length $13 / 8$ " tapering to flat nose.


Short pointed nose. long handies for added levarage. Nilled jaws. inside length $13 / 8^{\prime \prime}$ tapering to $1 / \mathbf{s}^{\prime \prime}$ at. points.

|  |  |  | Fist |  |
| :--- | :---: | :---: | :---: | :---: |
| No. Length | Finish | W't. per doz. | Fach |  |
| 61 | $S$ in. | Hlue Temper | $43 / 4$ lbs | $\$ 280$ |



## WITH CUTTERS AT TIP OF JAWS

'The lons handes provide maximum reach for the spmder fats to ellt small wires in confined work (11*)ds.

| No. | Latasth | Finish | Wt. per doz. | $\begin{aligned} & \text { List } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 71 | $\therefore$ in. | line Temper | $43 / 4 \mathrm{lbs}$. | \$3.75 |

## The AE UTER



## SHORT CHAIN NEEDLE NOSE PLIERS

Short nose. extra leverage. I'sed for wiring switehes and other open electriat work


## LONG CHAIN NEEDLE NOSE PLIERS

I'sed extensively in radio and TV manufacture and repair. Switchboard. fixture and appliauce wiring

| No. | Lengt | Finish | Wt. yer doz. | Bach |
| :---: | :---: | :---: | :---: | :---: |
| 1661 | 6 in | lane Temper | $3 \mathrm{l} / 2 \mathrm{lbs}$. | \$3.00 |
| 1671 | Same | t Cutter | $3{ }^{1 / 2}$ lbs. | 2.35 |



## EXTRA LONG CHAIN NOSE PLIERS

Extra long reach. narrow pointed nose. Length of jaw $23 / 4^{\prime \prime}$. For production and repair work



RADIO AND IGNITION NOSE CUTTING PLIEFS

Designed to reach into tight spots and arip or cut small wires. I'seful in precision wiring where ordinary pliers are too bulky.

| No. | l.ength | Pinish | Wt. per doz. | List Each |
| :---: | :---: | :---: | :---: | :---: |
| 1663 | $s$ in. | l3lue Temper | : ${ }^{1 / 4}$ lbs. | \$3.10 |



## DIAGONAL ''OBLIQUE'" CUTTING PLIERS

Especially made for close cutting in radio. TV, telephone and ignition manufacturing and repair.

| パо. | Size | Finish | W't. per doz. | Pach |
| :---: | :---: | :---: | :---: | :---: |
| 4501 | $41 / 2 \mathrm{in}$. | Bhe Temper | $11 / 2 \mathrm{lbs}$. | \$2.35 |
|  | 5 in. | " | $23 / 4 \mathrm{lbs}$. | 2.65 |
|  | 6 in. | " " | 33 ybs . | 3.00 |



## WIRE STRIPPING DIAGONAL CUTTING PLIERS

Narrow head and notched cutters for stripping fine wire . Mfo diameter. Spring in handle for fast cutting List

| Ňo. | Length | Finish | W't. per doz. Fach |  |
| :--- | :--- | :---: | :---: | :---: |
| 2612 | $61 / 2 \mathrm{in}$. | Blue Temper | $31 b s$. | $\$ 3.40$ |



## ''HIGH POWER' DIAGONAL CUTTING PLIERS

Joint is close to end of cutter for added leverage and easier cutting.

| No. | Length | Finish | Wi. per doz. | Each |
| :---: | :---: | :---: | :---: | ---: |
| 4610 | 5in. | Blue Temper | $21 / 4 \mathrm{lbs}$. | $\$ 2.60$ |
| 4610 | Fin. | Blue Temper | $53 / 4 \mathrm{lbs}$. | 3.00 |



## 7-IN. DIAGONAL CUTTING PLIERS

 WITH FULL-FASHIONED HANDLESWell balanced. with handles providing proper lever aige and comifor for continuols cutting.

|  |  |  | List |  |
| :---: | :---: | :---: | :---: | :---: |
| No. Fength | Finish | Wi. per doz. | Each |  |
| 4502 | $-\quad$ in. | Hue Temper | 6 lbs. | $\$ 3.30$ |

## PRECISION LINE

Fine, small jewelers pliers, matched in size and handle shape for accurate and exacting work. Drop forged from selected tool steel, accurately mathined. and carefully lieat treated. Extensively used in the manufacture and repair of radio, TV, instruments. etc. F[LLL POLISHED FINISH.


Jewelers' diagonal cutting pliers



## alloy steel adjustable wrench <br> THIN PATTERN - SMOOTH ACTION

| No. | Length | Cap. | Wt. per doz. | Each |
| :---: | :---: | :---: | :---: | :---: |
| 31 | 4" | 1/2" | $11 / 4 \mathrm{lbs}$. | \$2.10 |
| 31 | (\%' | 3/4" | $31 / 2$ lbs. | 2.10 |
| 31 | $8^{\prime \prime}$ | 15 " | $61 / 2 \mathrm{lbs}$. | 2.45 |
| 31 | $10^{\prime \prime}$ | 11/8" | 11 lbs . | 3.10 |
| 31 | $12^{\prime \prime}$ | $1{ }^{5}$ | 18 lbs . | 4.50 |
| 31 | $15 \prime$ | $13 / 4{ }^{\prime \prime}$ | 42 lbs. | 6.80 |



JEWELERS' FLAT NOSE PLIERS


## No. 811 COUNTER DISPLAY

Size 12"x12". easel hack. One each Nos. 81, 82, 83, 84, R:. Cisis. Cfis: on fate of display. and attached to reverse side are two each Nos. CGS1 and CG83.

## PLIERS SETS, IN BLACK ZIPPER CASES

List Each . $\$ 18.25$ 10.90



## PROFESSIONAL LINE <br> SPECIAL NEEDLE POINT PLIERS <br> FULL POLISHED FINISH

Designed for light, fine professional work. The special needle points make them invaluable where delicate adjustments have to be made. Nose of these pliers not guaranteed.



EXTRA LONG NOSE NEEDLE POINT PLIERS

|  |  |  | List |  |
| :--- | :---: | :---: | ---: | :---: |
| No. | Length | Finish | Wt. per.doz. Each |  |
| 827 | 7 in. | Full Polished | $33 / 4 \mathrm{lbs}$. | $\$ 3.90$ |
| 837 | Same without cutter | $33 / 4 \mathrm{lbs}$. | 3.40 |  |



NEEDLE POINT DIAGONAL CUTTING PLIERS

| No. | Length | Finish | Wt. per.doz. | List <br> Each |
| :---: | :---: | :---: | :---: | :---: |
| 5601 | $41 / 2 \mathrm{in}$. | Full Polished | 2 lbs. | \$3.00 |
| 5601 | 5 in. | Full Polished | $23 / 4 \mathrm{lbs}$. | 3.20 |
| 5601 | 6 in. | Full Polished | $33 / 4 \mathrm{lbs}$. | 3.60 |

## NEEDLE POINT DIAGONAL CUTTING PLIERS

|  |  |  | List |  |
| :--- | ---: | :---: | ---: | ---: |
| No. | Length | Finish | Wt. per.doz. Each |  |
| 5612 | $61 / 2 \mathrm{in}$. | Full Polished | 3 lbs. | $\$ 4.00$ |

No. Length $5612 \quad 61 / 2 \mathrm{in}$.
(With Stripping Notch)

## PLIERS WITH SPRING IN HANDLE

Available for most pliers, replaceable leaf spring keeps pliers in open position. ready uo work. Can be provided separately or in conshination with sushion grips described below. Effertively nsed to increase efliciency and reduce wrist fatigue on the productimn line.

Additional. List Wach $\$ 0.30$
"CG" PLIERS (Cushion Grip), with Molded Red Plastic Handles for Extra Comfort

| ( ${ }^{\text {G }}$ - R 1 | \$3.00 | C ${ }^{\text {C. }} 8.85$ | \$3.25 | CG-8:7 | \$3.40 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| CG-82 | 3.60 |  | 3.50 | C(-5601-4 $1 / 2^{\prime \prime}$ | 3.00 |
| (CG-83) | 2.90 | ( $10-8 \%$ | 3.90 | C (9-5601-5" | 3.20 |
| C(a-84 | 3.00 | ( C (-80) | 2.75 | CG-5601-6" | 3.60 |
| ( $\mathrm{C}-8.5$ | 3.00 | ( C -S: ${ }^{\text {c }}$ | 3.00 | CC-5612-61/2" | 4.0 |

(OTHER l'LIERS (Industrial Line only)
add $\$ 0.40$ ea. pr.

## LEATHER TOOL POUCHES

Five pockets, with tape holder. Stitched with f-cord top quality limen hot wax thread. locked to sorid leather back with steel rivets. Pockets made of pliakle form-fitting Russet Leather. Designed for the radio and TV serviceman to carry pliers. screwdrivers, tape, and other small tools.
No. 711 Tool Holster
List Each $\$ 4.65$

## SAFETY GRIPS

Available to fit most pliers. Kinurled, easily aprlied, non-explosive molded to snugly fit landles.
List Each Pair
6" Size \$0.65
$77^{\prime \prime}$ Size $\$ 0.70$
$8^{\prime \prime}$ Size $\$ 0.75$

# IIINE PLIERS! 

## NEW small patterns

Price Includes Leaf Spring

LONG NOSE PLIER EX tremely slim pattern with knurled jaws far pasitive grip. Size $51 / 2$-in. a very fine knurl that will nat damage saft wire. Available without knurl ta arder. Size $5-\mathrm{in}$.

Klein Pliers are hammer forged from high-grade steel, individually fitted, tempered, adjusted and tested. All patterns available with tempered steel leaf spring. Prices on request.


SHEARING PLIER Specially designed plier shears thraugh tungsten filaments, music wire, springs and ather hard wire. No odjustment or sharpening needed. Size 5 -in. Cat. Na. 053-L


OBLIQUE CUTTING PLIER Ideal for
light cutting in confined places. Measures
exactly 5 -in. long.
Cat. No. 245-5



OBLIQUE CUTTING PLIER For cutting small wires and trimming. Entire length of knives works flush against cutting surface. Sizes 5 and $6-\mathrm{in}$.


Cat. No. 210.5-1 List Price $\$ 3.60$ Cat. No. 210-6-1 List Price $\$ 3.65$

## LIGHTWEIGHTCUTTING

 PLIER Has extremely narrow head. Entire length af knives works flush against cutting surface. Size 5 -in.

List Price $\$ 4.05$
DUCK BILL PLIER Has jaws wide enough to hold small springs, yet small enaugh to farm wire in confined space. Size $51 / 2-\mathrm{in}$.



PRINTED CIRCUIT PLIER Cuts and crimps in one aperation. Crimped wire ends hold loase parts in pasitian far dip soldering. Size 5 -in.
Cot. Na. 052-L
List Price $\$ \mathbf{3 . 5 0}$


OBLIQUE CUTTING PLIER Has narraw head with knives accurately fitted far close, clean cut. Sizes 5 and 6 -in.
Cat. No. 202-5 202-6


LONG NOSE, SIDE-CUTTING PLIER Has same features as 301 series, but with cutting knives. Jaws toper to $3 / 32$-in. round point. Sizes 5,6 and $7-\mathrm{in}$. For plier without cutters, specify 301 series. 303-6 plier has $1 / 16-\mathrm{in}$. point.
Cat. No. 203.5 $203.6 \quad 203.7$
List Price \$3.10 \$3.25 \$3.40
$\begin{array}{llllll}\text { Cat Na. } & 301-5 & 301-6 & 301.7 & 303-6\end{array}$ List Price $\$ 2.65 \mathbf{\$ 2 . 7 5} \mathbf{\$ 2 . 9 5} \mathbf{\$ 2 . 7 5}$


CHAIN NOSE PLIER WITH CUTTERS Made in 6 -in. size anly. Specify 317 series for 5 and $6-\mathrm{in}$. sizes without cutters.
Cat. No. 217.6 $317.5 \quad 317.6$
List Price $\$ \mathbf{3 . 2 5} \quad \$ 3.20 \quad \$ 2.75$


LONG NOSE PLIER Has $1 / 4$-in. cutters $1 / 4 \mathrm{in}$. from point for cutting deep in confined places. Size 6-in.
Cot. No. 301-6.P
List Price $\$ \mathbf{4 . 0 0}$

## 



CHASEMANUFACTURING COMPANY Manufacturers of Pioneer Punches • Ham-R-Presses • Knurl-Tite Wrenches

## PIONEER CHASSIS PUNCHES

PIONEER CHASSIS PUNCHES are made of high grade tool steets, precision machined, carefully heat treated and finish ground to close tolerances. They come to you individually wrapped and packaged in oil proof containers and are fully guaranteed.
OPERATING INSTRUCTIONS: Drill or punch hole $1 / 16^{\prime \prime}$ larger than drive screw or bolt. Insert screw thru die with die opening towards threads. Put screw thru hole in work and screw on punch until punch contacts work. Turn drive screw with wrench until hole is punched. For easier operation, lubricate working parts.
'SQUARE.' Tedious hand filing and sawing of holes to mount angular parts on sheet metal is now eliminated with PIONEER SQUARE CHASSIS PUNCHES. Several full cuts or shorter "Nibbles" will enlarge the first basic square hole to any larger angular hole or slot desired.

 CR-150B, 10 CS-100B and Nuts, 10 CKR-II7B and Nuts, 2 ea. CS-62B thru CS-87B and Nuts 26.60

##  <br> Punch Press



> EXAMPLES OF HAMMER PRESSING with accent on SPEED!

CUTS CLEAN, ACCURATE SHAPES IN METAL WITH HAM-R-PRESS

Up to $11 / 4$ "-and up to 14 gauge metal. Punching is simpleaccurate. Punch slips on bottom of Ram. Die is locked in Work Table. The work is placed between. and Ram is struck with Hammer-completing the cut. Up to 15 tons pressure obtainable. Punches are precision machined, heattreated tool stee!. Many sizes and shapes stocked. Average Punch and Die cost-
HAM-R-PRESS is built of lightweight Aircraft Alloy Aluminum (stronger than cast iron) TWO SIZES: $71 / 2^{\prime \prime}$ depth throat- $\$ 24.95$. Wt. $10 \mathrm{lbs} .-12^{\prime \prime}$ throat- $\$ 32.95$. Wt. 12 lbs .


For tightening and loosening knurled finish nuts. Epecially designed for toggle, chain, push-button "ixtures, etc. Finish nuts slip "Flush" into the jaw and when KNURL-TITE is used, the fine surfaces of panels are not scratched. A quarter-turn locks nut tightly in collet type pressure jaws. KNURL.TITE is light, compact and sturdy with shock-proof, high impact-resisting handle and non-rusting nickel plated body section. Each has up to ${ }^{-1}$ " adjustment for nuts slightly larger or smaller. Hollow collet barrel accommodates long Oggle switch shanks. Net
$\$ 2.10$
oggle switch shanks.
KR.37-3/.'
KR KR.50-1/2 diameter nut KR-75-1/4" diameter nut. Standard Pack: 12

- Popular size.

COMPLETE INFORMATION COVERING ABOVE PRODUCTS ON REQUEST.
T. .

WRITE TO WALSCO ELECTRONICS, 3602 CRENSHAW BLVD., LOS ANGELES 16, CALIF.

Designed primarily for the electrical trade to permit fast． casy enlarging of knockouts and cutting of looles for conduit in metal boxes and cabinets．Also excellent for automobile work where holes are needed ior heater pipes and other accessories．Simply insert the tool in a knockout or small drilled tole and give the screw a few turns with an ordinary wrench．No． 735 set las fonr punches for cutting $7 / 8,1 \frac{3}{3}, 1 \frac{1}{2}, 114$－inch holes for $1 / 2,3 / 4,1.11 / 4$－inch conduit．Set is neatly packed in leather case illustrated． The $1 / 2$－inch punch will cut a $7 / 8$－inch hole for $1 / 2$－inch condnit where no standard knockout is provided when a $\mathrm{T}^{7} \overline{6}$＂liole is drilled．

## Heavy Duty Drive for $1 / 2^{" 1}$ Punch

To increase length of service of the $1 / 2$－ incll Knockout Punch in cutting $7 / 8$－inch holes in heavier－gange sheet metals．the No．KR5 Drive Screw with No．Klit I）rive Xut illustrated is recommended．


## NO． 737 KNOCKOUT PUNCH SET

Similar to the No． 73 set，but consists ai mily two punches for cutting holes to accommoriate $1 / 22^{\prime \prime}$ and $2^{\prime \prime}$ comduit．I＇acked in leather case．


## NOS． 738 AND 739 KNOCKOUT PUNCHES

For cutting holes to accommodate $21 / 2^{\prime \prime}$ and $3^{\prime \prime}$ conduit．Design is sim－ ilar to that of smaller GRELN I．EE．Kinockout Punches：insert in a knockout or drilled hole and turn drive nut with an ordinary wrench．Packed and sold indiviclually．

## NOS． 741 AND 742 KNOCKOUT PUNCHES

For quickly making smooth openings for $31 / 2^{\prime \prime}$ and $4^{\prime \prime}$ conduit．Hole is clean， no filing of burrs necessary，Operation is similar to that of other GREEN－ LEE Knockont Punches．Simply in－ sert in hole for $1^{\prime \prime}$ conduit and turn Irive nut with an ordinary wrench．


## No． 740 Knockout Cutter

Companion tool to GREENLEE Knockout Punches．Enlarges knock－ outs to take $11 / 2,2,21 / 2$ and 3 －inch conduit．Operation is simple since an ordinary wrench drives the tool． Cutting is done by the drive action of two wheel cutters．Special discs can be furnished for cutting odd sizes of holes from $1+\frac{5}{6}$ to $31 / 2$－inch diameter．Packed in leather case．


NO． 7646 HYDRAULIC KNOCKOUT PUNCH DRIVER

A powerful portable hydrau－ lic unit for driving all GREENLEE Knockout Punches．Also drives GREENLEE Radio Chassis Punches using $3 / 8^{\prime \prime}$ or larger drive screws．Quickly，easily cuts holes in 10－gauge metal． Excellent for use in tight places．Packed in metal case． List price complete，$\$ 96.00$ ．Weight， 20 lbs ．

KNOCKOUT PUNChES－LIST PRICES AND WEIGHTS（WTS．IN LBS．）

|  |  |  | Hole Size | Price | Weight |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． | 7351 | K゙noekont Pranch Set |  | \＄11．00 | 21／2 |
|  | KR1 | 1／2＂Conduit Punch． | 7／8＇ | 1.40 | $\frac{1}{17}$ |
|  | K122 | 1／2＂（ ${ }^{\text {chelait Die }}$ | 7／8＂ | ． 70 | ${ }_{1}$ |
|  | K123 | 3／3＂x 1 $1 / 2^{\prime \prime}$ Drive Screw． |  | ． 30 | A |
|  | K11 | 39＂${ }^{\prime \prime}$（ondult Punch．．．． | $1{ }^{\frac{3}{3} 2^{\prime \prime}}$ | 1.60 | 1／8 |
|  | K12 | 34＂Comulut Dic．．． | $1{ }^{\frac{3}{12}}$ | ． 90 | 1t： |
|  | K13 | $1^{\prime \prime}$ Conduit Punch． | 1－11／32＂ | 1.85 | ， |
|  | K14 | 1＂Conduit Ilie． | 1－11／32＂ | 1.05 | 1\％ |
|  | K15 | 11／4＂Conduit Punch． | 1H＂ | 2.10 | 3 ${ }_{\text {sin }}$ |
|  | K16 | $11 / 4$ Conduit Dic． | 1 ＋．＂ | 1.15 | \％ |
|  | KR17 | 7 3／2＂$\times 21 / 4^{\prime \prime}$ I rive Screw |  | ． 40 | $3 / 8$ |
|  | KR + | Heavy 1buty Drive Nut |  | ． 40 | 1／8 |
|  | KR5 | Heavy Duty Drive Screw |  | ， 85 | 1／8 |
|  | 7.37 に゙ | Knockout Punch Sct Complete． |  | \＄11．00 | $31 / 2$ |
|  | K21 | 1 \％＂comluit Punch．．．．． | 1170 | 2.55 | 1／2 |
|  | K 22 | 11\％＂Comluit Dic． | 11榇＂ | 2.20 | 58 |
|  | K23 | 2 －Conduit Puncio | 23／8＂ | 3.50 | 7／8 |
|  | K24 | $2^{\prime \prime}$ Conduit Die | $23 / 8{ }^{\prime \prime}$ | 2.75 |  |
|  | KR25 | $534^{\prime \prime} \times 3^{\prime \prime}$ Drive Screw |  | ． 55 | T ${ }_{\text {\％}}$ |
|  | 738 | Knockont Punch Complete |  | \＄15．50 | $41 / 2$ |
|  | K：31 | 21／2＂Comluit Punch． | 27／8＂ | 6.00 | $13 / 8$ |
|  | 「32 | $21 / 2^{\prime \prime}$ Conduit Dic． | 27／8＂ | 5.50 | $11 / 2$ |
|  | K3 ${ }^{\text {＋}}$ | 1）rive 犬゙ut． |  | 1.50 | \％ |
|  | K35 | $33^{\prime \prime} \times 5$ ¢ ${ }^{\prime \prime}$＂Drive Screw |  | 3.00 | 7／ |
| No． |  | Kinockout 1 ${ }^{\text {anach Comple }}$ |  | \＄21．00 | $61 /$ |
|  | 1034 | Drive Nut． |  | 1.50 |  |
|  | K35 |  |  | 3.00 | 7／8 |
|  | K37 | $3^{\prime \prime}$ Comduit Punch | $31 / 2^{\prime \prime}$ | 8.90 | $21 / 2$ |
|  | K38 | $3^{* \prime}$ Combluit Die | $31 / 2 "$ | 8.25 | $21 / 2$ |
| No． | 741 | Knockont Puncla Complete |  | \＄43．00 | 103\％ |
|  | K 11 | $31 / 22^{\prime \prime}$ Conluit Dic | 4＂ | 15.50 | $31 / 4$ |
|  | K 42 | $31 / 22^{\prime \prime}$（conduit Pruch | 4＂ | 20.00 | 3 |
|  | K 44 | Drive Nut |  | 2.20 | 11／4 |
|  | K4．5 | 11 ＂$\times 6.3$＂Drive Screw． |  | 6.60 | 21／4 |
|  | K46 | Bushing ．．．．．．．．．．．．．．． |  | 2.50 | 5 |
|  | 742 K | Knockout Punch Complcte． |  | \＄53．00 | 1218 |
|  | K44 | Drive Nut ．．．．．．．．．．．．．． |  | 2.20 | $11 / 4$ |
|  | K45 | 11／8＂$\times 6$ 6年＂Drive Screw．．． |  | 6.60 | 2， |
|  | K46 | Bushing ．．．．．．．．．．．．．．．． |  | 2.50 | 5／8 |
|  | K47 | $4^{\prime \prime}$ Comunit Punch | 41／2＂ | 26.50 | 41／2 |
|  | K48 | 4＂Conduit Dic． | $41 / 2^{\prime \prime}$ | 20.00 | $31 / 2$ |
|  | 740 k | Knockout Cutter Complete． |  | \＄16．50 | 43／4 |
|  | K51 | Lock Screw（2）．．．．．．． |  | ． 35 | 32 |
|  | K． 52 | Wheel Cutter（2） |  | ． 60 | 3 |
|  | K53 | Feed Nut． |  | ． 30 | \％ |
|  | K54 | $1+8^{\prime \prime}$ dia．Dise |  | ． 75 | ${ }^{3}$ |
|  | K55 | 236＂din．Disc． |  | ． 90 | \％ |
|  | K56 | 27／8＂dia．Disc． |  | 1.10 | \％ |
|  | K57 | $31 / 2^{\prime \prime}$ dia．Disc． |  | 1.30 | 1／2 |
|  | K58 | Body ． |  | 6.00 | $13 / 8$ |
|  | K59 | Center Shaft |  | ． 90 | 1／2 |
|  | K60 | Drive Nut． |  | ． 90 | $\frac{5}{10}$ |
|  | K61 | Retainer Screw（2） |  | ． 50 | 3 |
|  | K62 | Cutter Bushing（2） |  | ． 30 | 3 |
|  | K63 | Cutter Support（2） |  | ． 70 | 1 |
|  | K64 | Key Washer．． |  | ． 30 | 高 |
|  | K65 | Woodruff Key．．．．．．．．．．．．． |  | ． 10 | S |

RADIO CHASSIS PUNCHES<br>ROUND, SQUARE, 'KEY"AND "D" tYpes

Greenlee Tool Co., Rockford, Illinois


No. 730


No. 731

## No. 730 ROUND PUNCH

Swiftly cuts clean, accurate loles in radio chassis for sockets, switches, controls and other equipment. Operates simply with an ordinary wrench for drive power . . . just insert in a small drilled hole and turn drive screw. No reaming or flling . . . loole is smonth, periect. 「"wenty sizes from $1 / 2$ to 2:\% \% 3 " diameter.

## No. 731 SQUARE PUNCH

Cuts square or oblong openings as elesired. Arailable in four sizes for maning $1 / 2 \mathrm{~m} .5 / 8 \mathrm{~m}$, $3 / 4$ " and $1^{\prime \prime}$ square holes. Drive screw lits into 1/2" hole. which can be drilled or made with $1 / 2$ " No. 730 Greenlee Round Punch. Operates with an ordinary wrench for drive power. Individually packed.

## No. 732 "KEY'" PUNCH

Quickly, easily cuts holes for keyed radio sockets. Operates on same principle as other Greenlee Radio Chassis Punches ordinary wrench sumplies the drive power. In four sizes to make openings of $15 / 10^{\prime \prime}, 1^{11} / 64^{\prime \prime}$,
 Individually packed.


No. 732

## No. 733 "D" PUNCH

Simplifies and speeds the work of making "I" shaped openings for high-freguency, miniature tube sockets and other equipment using this type opening. Available in $1 / 2^{\prime \prime}$ and $5 / 8^{\prime \prime}$ sizes. Operates on same principle as other Greenle Radio Chassis Punches with an orclinary wrench supplying the drive power. Drive screw fits into $3 / s^{\prime \prime}$ drilled hole. Individually packed.


No. 733


HOLD A LOT IN A LITTLE SPACE IN SIGHT, IN PLACE, WITHIN REACH...

secupely atteched te wall, tablotep or coiling with only iwe ssrows, handy "SwingBins" make ORDIR out of the confusion of hundreds of little parts, screws, nuts, washors, transisters, cendensors, jowalry, stemps, coins, medel eipplene, beat, aute and train parts and dozens of ether ftems can be quickly stored and labeled for instant eccessilility. Mede of super-atrength, eryatol-slear plantic, each deawer is
 dividous make I to 4 compertments per drawer.

APPI
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APPLD

DRAWER DIMENSIONS (SAME ON AIL MODILS 2-1/2" WIDE $\times 1-1 / 16^{\prime \prime}$ DEEP $\times 9-1 / 2^{\prime \prime}$ LONG

PEDESTAL BASE MODEL "SWING-BINS"

| m0016 | $\begin{aligned} & \text { Mo. Of } \\ & \text { ounawiss } \end{aligned}$ | $\begin{aligned} & \text { Ro. or } \\ & \text { compart- } \end{aligned}$ | 1104 | olamatian of Last | SMIPpino WHIOMT | PRI |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5F-6 | mink | 24 | ${ }_{\text {H/4 }}$ | \% |  | ${ }_{\text {chin }}$ |
| 51.9 | ? | 36 | $12 \%$ | 6 | 675. | 6.38 |
| Sp. 12 | 12 | 48 | $131{ }^{+}$ | ${ }^{\text {\% }}$ | 7 lbs | 6. 50 |

## Portable Cabinets

## take cabinits "right to the job" or wherever neldod!

You can be "Johnny-on-the-spot" with everything frem screw driver and pliers right down to the tiniest screws, nuts and washers. Carry needed tubes, condensers, transistors and dozens of other parts in one of these handy Portable Cabinets. Welded all-steel cabinet is rigidly constructed and tested to carry a 100 pound load safely. Locking front drawers serve as handy tray. Cabinets have solid steel back with 4 key holes for safe hanging and easy removal. Convenient non-slip
handle.
MODEL JC.16-SD


MODEL JC-32-SD

|  | High | Wide | Deep |
| :---: | :---: | :---: | :---: |
| $24 \mathrm{Jr.Ps}$. Diws. | $1.716^{\circ}$ | 23: ${ }^{\prime \prime}$ | 57/8' |
| 1 jr . Sieel Drwr. | 31/ ${ }^{\circ}$ | $11 / 2^{\prime \prime}$ | 57/8 ${ }^{\prime \prime}$ |
| Cabine: | $151 /{ }^{\prime \prime}$ | 121/2' ${ }^{\prime \prime}$ | 612" |

Shipping wi. 15 lbs

MODEL JC. 32
 Shipping Wi. is lbs


# AKRO-MILS, INC. <br> $10 \times 989 \mathrm{~m}$ 

PEDESTAL BASE "SWING-BINS"

Ideal for desks, tables, dressers, counters, displays, work benches . . . in fact, any flat surface. Drawers revolve 360 degrees. Padded, weighted pedestal base will not tip or seratch any surface.


MODEL
JC. 32.6

|  | High | wide | Do |
| :---: | :---: | :---: | :---: |
| ${ }^{\text {dra }}$ Sf. Plastic Drowors | 1.7/16 ${ }^{\prime \prime}$ | 214. | 5\% |
| 2 fr Stool Drowers oo. | 1.71/16 | 394, ${ }^{\prime \prime}$ | 970 |
| 1 Jr. Steol Drower | 1.7/16 ${ }^{\text {c }}$ | 111/2" | $59^{\prime \prime}$ |
| $2 \mathrm{dr}$. Steol Drawers no. | 31/4" | 53/4.4 | 51/81 |
| 1 dr Steol Drawar | 3\%" | 111/2" | 37 ${ }^{\prime \prime}$ |
| Cabinet | 131/4" | 12/2 | $6^{\prime} 7^{\prime \prime}$ |

# BEST YET!!! FOR ELECTRONIC PARTS STORAGE 

KNOW where things are, with "HAZ-BINS" - the handiest CABINETS ever made for storing smell parts.
Molded plastic drawers are crystal clear, lifetime guaranteed, spillproof. JUNIOR DRAWERS divide into 2 or 3 compartments leng hwise or crosswise. SENIOR DRAWERS divide into 2, 3, or 4 crosswise compartments. Welded steel cabinet, baked-on gray finish. Siands on bench, stacks-up or hangs an wall. Saves space, contents always fully visible, dust-proof, orderly, indexed. Price includes complete set of drawer-front index labels, drawer dividers, rubber feet. Unconditional 10 day guarantee, refurn if you're not delighted.
Useful in every shop, lab, office, stockroom, store, home, assembly-line . . . in radio, TV, repair, photographic, hobby or ignition work. provides perfect storage for - PAFPLD. small parts, boits, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, FOR pins, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artist supplies, and anything else you can think of.

# "HAZ-BIN" JR. CABINETS 



EACH CRYSTAL-CLEAR JR. PLASTIC DRAWER 2-3/4" WIDE, 1-7/16" DEEP, 5.7/E" LONG
All medols $6^{\prime \prime}$ deep. J. $t^{2}$ thru J.48 12.1/2" Wide, d.64 thru J.12t, 25.1/8" Wide

| mobil Ne. | NO. Of ORAWERS | NO. Of COMPARTMENTS | Mtignt | SAIPPING WEIOHT | PRICE |
| :---: | :---: | :---: | :---: | :---: | :---: |
| J.128 | 128 | 384 | 301/2 ${ }^{4}$ | 50 lbs . | \$55.95 |
| J.96 | 96 | 288 | 221/2' | 40 tbs. | 42.95 |
| J.44 | 64 | 192 | 131/4* | 23 lbs . | 24.95 |
| j-4I | 48 | 144 | $221 / 2^{\prime \prime}$ | 19 lbs . | 20.95 |
| 3.12 | 32 | 96 | $151 / 4^{1 /}$ | 13 lbs | 12.95 |
| 3.24 | 24 | 72 | 121/a" | 10 lbs . | 9.95 |
| J.20 | 20 | 60 | 121/9: | 9 lbs . | 7.95 |
| J.16 | 18 | 48 | $81 / 8^{17}$ | 8 lbs. | 6.95 |
| J.12 | 12 | 36 | $61 / 8^{11}$ | 6 lbs. | 5.95 |
| J. 1 | 8 | 24 | $4{ }^{\prime \prime}$ | 4 lbs | 4.25 |



## "HAZ-BIN" SR. CABINETS

EACH CRYSTAL-CLEAR SR. PLASTIC DRAWER
(2.7/8" WIDE, 2.3/4' DEEP, 10-3/4" LONG

All models 13-5/16" Wide x $11.1 /$ en' $^{\prime \prime}$ Deep.

| MODIL | No. Of orawils | NO. Of COMPARIMENTS | HEIGHT | SHIP PING WIIGNT | -rict |
| :---: | :---: | :---: | :---: | :---: | :---: |
| \$8.32 | 32 | 128 | 281/2" | 31 lbs | 542.00 |
| B8-24 | 24 | 96 | 2272 ${ }^{\prime \prime}$ | 23 lbs | 32.00 |
| 䢕 16 | 16 | 64 | $141 / 2^{\prime \prime}$ | 16 lbs | 21.00 |
| 2-12 | 12 | 48 | $1{ }^{\prime \prime}$ | $12^{\prime} 2 \mathrm{lbs}$ | 16.00 |
| ns-1 | 8 | 32 | 8 | $9^{12} 2 \mathrm{lbs}$. | 10.75 |

ILIUSTRATED

- All Prices p.o.s. Akron Okia


## SNAP-ON DRAWRR CO. Norrow, Ono

## YOU make up your own small parts cabinet to exactly fit YOUR NEEDS with ...




- MDDERN Light weight, functional in design.
- EFF|CIENT Parts are quickly, easily
- PRACTICAL ocated.
- SELECTIVE

You have a choice of three

- ECONOMICAL
- CONVENIENT

You bur only what you actually need.
When vou need mare room.
Just snap on another SNAP. ON DRAWER

- The sturdy, steel shells of the SNAP-ON DRAWER snap together on sides, top and bottom, with duplicate shells to form a strong metal cabinet. No tools required. Just place the metal buttons of one shell directly over the holes in the adjacent shell and snap the buttons into place, one at a time.

If you wish to change the position of a drawer. the shells can be readily pried apart with a knife blade and rearranged. Finished in GUN-METAL GRAY.

$$
\begin{aligned}
& \text { SENIOR—II } 3 / 4 \text { " } \times 51 / 8^{\prime \prime} \times 31 / 2^{\prime \prime} \\
& \text { No. 3. "SENIOR' Snap-On Drawer, including } \\
& \text { one No. } 30 \text { Divider, net price.......................................................... } 121 / 2 \\
& \text { No. 3D. Divider, net price........ }
\end{aligned}
$$



SMALL— $6 T^{\prime} \mathbf{B}^{\prime \prime} \times 31 / 8^{\prime \prime} \times 17 / 8^{\prime \prime}$
No. I. "SMALL" Snap-On Drawer, including one No.
ID Divider, net price...
No. 18P. Base Plate, net price........................................ . 30
No. ID. Divider, net price............................................. . . 03


JUNIOR— $113 / 4^{\prime \prime} \times 51 / 8^{\prime \prime} \times 21 / 2^{\prime \prime}$
No. 2. "JUNIOR"Snap-On Drawer, including one No.
2D Divider, net price...
No. 2D. Divider, net price..... .... ................ . 12



PLASTIK-707 ACRYLIC SPRAY

Insulates Antennd Connections High Voltage Components: Reduces Corona: Prevents Cerrosion and Rust. IN PRESSURIZED 12 oz . CAN.
UHF-VHF CROSS.OVER NETWORK
Isolates UHF ant. from VHF ant. Two Antennas on Single Transmission Line.

## TYPE RI

LIST \$3.15


TWO-RECEIVER TV COUPLER ALLOWS USE OF TWO TV RECEIVERS ON ONE ANTENNA No Switches - Vo Adjistments. No effect on impedance of transmis sion line.


MICRO.
ADJUSTABLE LOOPS
$=2$
For Small Radios HIGH-Q gives better sensitivity and selectivity. Ind. 183 to 250 uhys. Complete with mounting bracket and instructions.

[^60] picture. Complete with operating instructions.



$\$ 1.95$

TYPE A TEST PRODS WITH SELFHOLDIGG POINTS


TYPE S SBIELDED. LOW LOSS. LOW CKP. PROBE


TYPEAI KLIPZON TEST PROD 50 SOM. hamdLe TENITE-4/4" LOMG


TYPE H-I KLIPRZN JUMBO PROD MAMDLE


## KLIPZON TEST PROD

AND AOAPTOR KIT
A Handy. Compact Test Outfit. Adapts all types of prods to all circuits. Roll-up type with securing cord. Consists of:
1 TYPE A KLIPZON Test Prods and Leads.
2 TYPE T, 2 TYPE Q. 2 TYPE R. 2 TYPE L, 2 TYPE J ADAPTORS.

## 2 industrial safety belt

## - TOOL HOLSTERS •TOOL BELTS



No. 24


No. 23

No. 24
TOOL HOLSTER

Similar to electrician holster except side pockets not attached making the overall di-
mensions 5 x 9 inches.
No. 24 List
$\$ 4.00$ each

## No. 23

Similar to overall dimensions of tool holster No. 2t. One pocket. Dimensions are smatl enough to insert in pocket of trousers.
No. 23 List
$\$ 3.00$ each


## ELECTRICIAN HOLSTER 5 POCKETS

Stitched with seven cord top quality linen hot Wax thread. locked to solid leather back with steel rivets. lockets mede of pliable form fitting Russet Leather
Sperial designed snap allows knife to be remored by use of a one hand upward motion. Orerall dimensions are: \& x 9 inches.

No. 25 List Price $\$ \mathbf{5 . 0 0}$ each $\begin{gathered}(W i t h u n \\ \text { Touls) }\end{gathered}$


No. 1, 2, 3 TOOL BELT

Extra heavy quality leather. Two strong loops formed for heary tools. Latigo thong tape carrier attached. Steel ricets anchor tested buchle to belt. Three sizes. No. 1, 30 to : $8:$ No. 241 . to 46 : No. 3.46 to 52

List Price \$3.50

## INDUSTRIAL SAFETY BELT



## UTHINTEELU

## HAS THESE SAFETY fEATURES

Bady Pad, comfortable form fitting, extra strong (i-ply webbing-4" wide.
Body Belt - $\quad$-ply - complete with drop forged, non-slip buckle, positive locking action. Sizes: Small adjust $: 2$ to 36 , Medium adjust 36 to 40 , large adjust 40 to 44.
Dee, drop forged, stop type, with steel reinforcing plated, eight solid copper rirets, hand set, attached bees to Belt and I'ad.
4 tool loops securely riveted by solid copper rivets. Strap for tool pouch, easily and securely arrange with Post Screw.
Pale Strap (lanyard) - Positive locking adiustable buckle, drop forged, complete with approved drop forged snap.
High tensile strength $\tilde{0}$-ply webbing, complete with harness leather wear pad, full length of working area. Extends to feet.
19 Solid Copper Rivets.
Registration Plate on each belt.

## List Price <br> $\$ 22.50$

 Tape holder, latigo leather.

## No. 401 LINEMAN TOOL BELT

Prime steer harizess leather. Drop forged dee rings. Copper rivets handset. Complete with plier pocket and tape holder. For correct and comfortable size, measure the distance around back, from hip bone to hip bone and add 2 inches.

List Price $\$ 17.50$

## No. 403 <br> POLE STRAP

Prime steer harness leather, extra heaty 2 inch wide Drop forged steel smaps, anchored by lockstitched hot wax linen thread and handset solid copper rivets, and steel reinforcing plate.

List Price $\mathbf{\$ 1 6 . 5 0}$


## (1) vinyl color tape

Our newest. Vinyl plastic tapes in eight colors and three widths... $1 / 2^{\prime \prime}, 3 / 4^{\prime \prime}, 11 / 2^{\prime \prime}$ ... 108" long. For use wherever color can help in wiring, indexing, coding, etc. Conforms to irregular surfaces. High dielectric resistance . . . up to 1000 V . per mil of thick. ness. UL listed. Packed in colorful self-service cartons.
Also available in large size rolls in four widths, $3 / 3$ " $, 1 / 2^{\prime \prime}, 3 / 4^{\prime \prime}, 1^{\prime \prime} . . .36 \mathrm{yds}$. long. Ideal for the industrial user.

## (2) PLASTIC ELECTRICAL TAPE

Plastic Electrical Tape Master Shop Package. This tape is thin and is used in places where space is limited. It has $150 \%$ stretch, high dielectric resistance, resists weather, water, oils, acids and corrosive chemicals. It conforms readily to irregular surfaces. Package contains 5 rolls $3 / 4$ inch by 44 feet each.
(3). 010 PLASTIC has the general charateristics of regular Plasfic except it is heavier for heavy duty work such as winding heavy cables, heavy electrical harness and for use in tape winding machines.
(4) Plastic Electrical Tape Counter Display Carton. DUTCH BRAND plastic is also available in an attractive point-of-sale display carton containing two dozen consumer size rolls $1 / 2$ inch by 150 inches. A convenient size for small repair jobs.
(5) Plastic Tape "Tool Kit" Rolls. Convenient size roll for the home workshop or repair trade. DUTCH BRAND Plastic Tape has many uses around the home and is widely used for professional work. Rolls are $3 / 4$ inch by 20 feet long. Packaged both in Counter Display Carton of 12 rolls and Junior Shop Package of 5 rolls.

## (6) FRICTION TAPE

DUTCH BRAND Friction Tape-This tape has long life, extra strength for easy use. One layer resists up to 2000 volts. Combined
with DUTCH BRAND Rubber Insulating Tape it produces highest dielectric resistance. Individually boxed and packed in attractive display carton. Each No. 8 rell contains 68 ft. of tape.
(7) Narrow Width Friction Tape. The handy size for radio and electrical appliance repair shops, electrical contractors, industrial users. The tape comes in a convenient $3 / 8$ inch width roll, handy for small work.
Special Widsh Friction Tape - Available in special widths for special uses ... comes in widths $1 / 2,1,11 / 4,11 / 2,2,3,4$ inches and wider.

## (8) RUbBER TAPE

For perfect insulation it fuses instantly with. out heat. Has extra high dielestric strength - resists up to 18000 volts through a single thickness. Strong, durable and non-corrosive to electrical conductors. Assures positive in. sulation for high tension lines where highest dielectric resistance is needed.

## (9) "DB" WIRE CONNECTORS

Solderless. Vibration Proof. Weather Proof. Long Skirt. "DB" Wire Connectors are now available for the convenience of the many customers who buy and use the well known DUTCH BRAND Electrical Tapes. Those who use wire connectors for many installations will find that "DB's" are a quality product. Available in four standard sizes to meet all needs. They resist pull-out and vibration. are weatherprool and are molded with the necessary length to give full insulation protection. U.L. listed.

## (10) CAULKING \& SEALING COMPOUND

Here is a light colored, non-staining plastic material that will not crack or dry out. It comes in $3 / 16^{\prime \prime}$ cords, easy ta press in place by hand. It is used ta caulk antenna lead-ins .. stops leaks and keeps out dust and cold drafts. It adheres to any dry surface.


PLASTIC ELECTRICAL




## EG GENERAL CEMENT TV•RADIO CHEMICALS



No.
$30-2$
$34-2$

## G-C RADIO-TV SERVICE CEMENT

The best Cement for wrairine radios and हneakers. Excellont for repairing and replaring torn concs bibration-jumos Brushes attarhed.


## G.C WOOD GLUE



New white resin water-proof stue for rallio cabinets, furnjture, chairs, etc. Will not injure finish. Extra strong.
39.2

$$
2-\mathrm{oz}
$$

List $\$ 0.65$




G-C HOUSEHOLD \& MODEL CEMENT



## G-C PLI-O-BOND CEMENT

Sticks anvething to anvehine (coll suttinge, mherer-like. thermophastis rement that drivs rabind With a flexible athl -1...1. plasp irs, class, choth, bastiof falurios, ule.

> List
> $\$ 0.65$

## G.C NE-O.PRENE CEMENT



Now f.ce cement for cemanting Neroprone rubther to Nopprene on Xenprene to other materials. surh as matals, woml, biter, ete. Falsy (1) usa, fais drying.


| G-C NE-O.PRENE CEMENT |  |
| :---: | :---: |
|  | Nuw frece cement for comantinus Nanorane rubber to Neoprene or Nenprene fo wher materials. stuh as metals, woml, piter, ete. Easy to usu, fatit dryint. |
| No. | List |
| 52-2 | 2-07. |

G-C CEMENT THINNER


ALL CHEMICALS AVAILABLE IN LARGER SIZE CONTAINERS!

Ask your distributor for large, complete G-C CATALOG FREE! or wrife direct!


## G-C BAKELITE CEMENT

|  | For remonting bakelite to bakelite and bakelite to other maturials, for repairing linds. cabincts, parels, for inserts in moldinges, attaching labels to mastios, etc. Bmask attiarhed. |
| :---: | :---: |
| $\begin{gathered} \text { No, } \\ 32-2 \end{gathered}$ | $20 \%$ List <br> 20.85  |

## G-C FABRIC TO METAL CEMENT

Fon cementing eloth and felt to metal or plasties. Bent for arille cloth, plano turntable frlts, ullousterinar, fabrice, ete. Fist drying, water-proof.
List
22-2 $2-0 \% \quad \$ 0.65$

G-C ELECTRICAL AND RESISTOR CEMENT


Heat-proof cement, harilens like porcelain. Same as on resistors, flat irons, cte.

No.
$\because-6 \%$.
List
\$0.65


## G-C RADIO SERVICE SOLVENT



Best solvent for loosinitur cement on speaker coner, frames, eic. Will dissolve all cements on speakers. Isrush attacherel.

| No. | List |  |
| :---: | :---: | :---: |
| $31-2$ | $2-$ oz. | $\$ 0.55$ |

List
$\$ 0.55$

G.C TV TENNA-KOAT

(lear phastic comatiner to minimiza TV antonat forrosion, maintain strong simata. Alsu (wat land com bextions. retard moisture. Apry with trash. last dyyine.

List
$\$ 0.65$

## G-C TELEVISION CHEMICAL KIT


(omplete kit of essential chemicals needed for Tr set servicing. Nawes time and money. Handy metal trox contains! ofsmients such as Coromat bope, Tube-Kinat, Tenna-Kuat, De-0x-In, Leris Cleaner, ete.


List
$\$ 9.50$
G-C TELEVISION HIGH VOLTAGE CORONA DOPE
Used ly manufacturers and serv. icemen to prevent corona slarts
on high voltage circuits in Teleon high voltage circuits in TeleVision kets, Easy to apply, airdrying. It has very excellent high roltage insulatine gualities.
No.
c.7-2

List
$\$ 1.20$
G.C TV LENS \& TUBE CLEANER


Sprecially prepared for cleaning TV lenkes and CR tubes. Eliminatos finger marks and spots, restores sharp, clear picture. finerd item to sell avery TV set owner.


G-C SILYER PRINT
sime "Pure silver", mompound as used ly mamufacharers in printed ('ircuit desizn. newed race Silver lrant to row
 marh "p tha circoit aremod gemets, rivets. parts, ate. Also mons, labmatories, ute.
No.
$21-2$
$21-1$
List
7.75


## G-C LIQUIDOPE


 fer stalines, doping, sulporting rails, utc.

G-C ELECTRONIC HYPO. DERMIC NEEDLE INJECTOR

A handy applicator on the hypodormir principle: for injecting Chanprs and wils into tiatht hlacts. sumpliwl with $\stackrel{-n}{ }$. luttle.
No.
8383
Normic arme \$0.75


CHASSIS CLEANER extril money on pyery repaitr joh. Satisfy your customar. For radio chassis, panels, testers, ete. Non-explosive elraner.
No.
123.8
8.ñ.

List
$\$ 0.95$

# (G) GENERAL CEMENT TV•RADIO CHEMICALS 

## G-C TELEVISION TUBE KOAT



A banck rombuctio matine for outsida glass TV fablus ant inets to armand hizh Init.ntith. huilt up for Tr tubes.
No.
49.2
49.2

NEW G-C RED-X

## G.C MAG.NETIK HEAD CLEANER


flanas tape and wire recortler head mechanimes. Dous not leawe kemm or film. Shoulh bu used regularly for best rermoliness.
No.
53-1
$53-2$
List
$\$ 0.85$
5


G-C FUNGUS VARNISH
 instruments 10 insulat.
Framt funcus arow
moist or humid climatns. Air


G-C INSULATING $\&$
DIPPING VARNISH
For trating ti
or bugans dransfrmer
insulating film. alm
No.
56-2

G.C DE-OX-ID KIT "Ideal for Television Controls'
 jeretor in box.

No.
8460
List
84


## G-C GRAFOLINE



G.C TV SPRA-KLEEN

Prossurized elocirical contart cleaner and lubricant. Fiast, casy to use, mo spillare, Naves rumoting chassis or paris.

No.
List
8666
$\$ 1.20$

## G-C NO-NOIZ TV CONTACT \& DETENT CLEANER



I.ipuibl molist vane low loss coil rone for R1F R1LF, ind V1F amponents. Purforms - $-0^{\circ} \mathrm{F}$

| No. |  | List |
| ---: | ---: | ---: |
| $37-2$ | $2-0 \%$ | $\$ 0.65$ |
| 41.2 | Thinnor | $20 \%$ |

G-C DE-OX-ID
"Television Contact Cleaner" I, inpual chemineal for all when ponir contacts and controle. It
 B.cenmmentar for volume and tomb rantmots, relay wontact: $\begin{array}{ccr}\text { List } \\ \text { No. } & \text { Lisl } \\ 19-1 & 1-n \% & \$ 0.85 \\ 19.2 & & 1.60\end{array}$

## G.C RED ELECTRONIC CONTACT CLEANER



The liest and muly all-purpmese deaner. Dissolves the dirt and remones emrrosion, J.eabes pro thetive tilm onl contacts to [mevent corrision.

\section*{| No |  |  |
| ---: | ---: | ---: |
| 210 O 2 | $2-07$. | List <br> 0.55 | <br> G-C VINYL PLASTIC FABRIC CEMENT}



Made for remputing vinyl plas tir sheets towether. dieall for vinyl insulatine fulbingo. patrl)ing plastie raifecosts. etr. Dries fast.
No,
List
16-2 2.nz, bottle $\$ 0.65$

## (G) GENERAL CEMENT TV•RADIO CHEMICALS




## G.C LUBE-REX

Labriplate-white luthricant for push huttons. phonographs, Pliteo mystery controls, wins, tish-
ing reels, dials, etc, jreing reels, dials, etc. jres.
vents corrosion, repels wate
$\begin{array}{lr}2-\text { n\%. 'Tulur } & \$ 0.65 \\ 2.65\end{array}$
G-C CONTACT \& CRYSTAL CLEANER

Extra pure cleaber. Fistst dre ing for cleaning emutate allud erystals. Will not injure delicate parts.

888
G-C RUF.KOAT WRINKLE VARNISH Air Dry or Bake

fle omle fimish that will air dre and rive profowsimai wrinkle jol, without liakine. satme at
 No. \$0.65


G-C KRYSTAL KOAT CRYSTAL LACQUER


Wake lematifnl foral battern when
 "19ne it! (olom.)

List
63-2 $2-0 \%$ \$0.65


## G-C COIL DOPE KIT

For hists frequituce coils, blata
 nor, and $\cong$ lirushes. The hust'

List -
G.E CARBON CONTROL CLEANER
Fix unisy carbon controls with-
No.
$212-2$

## G-C CONTACT DOPE


G.C SPIRIT VARNISH Ash for tomethine uy wicks am Whe Will ant raise the finich.

List
16.2
(uz.
$\$ 0.65$

G.C KROME-KOAT ALUMINUM


## G-C CHEMICAL LABORATORY



## It's

 G-C
## for All TV!

| G.C CARBON-X |  |
| :---: | :---: |
|  | New improved formula. Fis those old noisy carbon controts. touch up noisy spots on worn controls. Brush in bottle. |
| No | List |
| 1205 | 2-07. $\$ 1.20$ |
| G-C CARBON TETRA-CHLORIDE |  |
|  | $100 \%$ pure for cloansug abut Henrasing clectrical enntats. cumbiols. motors. Absolutely sate-will not hurn. Also kills buses, raches, etc. |
| No. | List |
| 211.2 | 2-0\%. $\quad \$ 0.55$ |
|  | NETRATING STAIN |
| $N>0$ | Gpirit type sfain, pebetrutes and will not injure finish. Cover scratelus, dents. charlien corners in cabinets, etc. Walnut anl Mahogany. Specify. |
| No. | List |
| 162-2 | 2.0. $\quad \$ 0.55$ |
| G-C TELEPHONE BLACK OR GRAY |  |



Hinh wrate lacelter
 covers well. dries tast. Black is satin ebom tinish simblat to telaphomes. Gray is pleasimy slatle. Fur panels, racks, parts, eft. (Specify Color.)

| No. | List |  |
| :---: | ---: | ---: |
| $62-2$ | $2-0 z$. | $\$ 0.65$ |

G-C RMA COLOR CODING KIT

('omplete kit of all stanclard RMA eol ors to colle resis. tots. combletros parts, etc. Chart included. Ten lut tles.
No.

677
Kit
List

## G.C DELUXE CHEMICAL LAB

## 도른 <br> नात्वा <br> NㅏN

amber lahoratory as popular chemicals and cements to tit needs of average shop2 -oK. i-oz., and 8 -oz. bottles. larger bottles of more bopular items. steel rack is FlREF.

Ask Your Distributor for Complete G-C Catalog
FREE... or Write Direct!

# It's <br> G-C <br> for All TV! <br> <br> TV•RADIO CHEMICALS 

 <br> <br> TV•RADIO CHEMICALS}

| G-C POWER SPRAY-KOAT |  |  |  |
| :---: | :---: | :---: | :---: |
| Do lirusi - no nuss - no | No. |  | List |
| *. Your elubice of reght firn- | 8660 | Aluminum | \$1.79 |
| tamers, dust urese the eppecial | 8665 | Plastic, elear | 1.79 |
| nuzzle capt, Aluminum: Coat | 8754 | Gray ${ }^{\text {a }}$ | 1.95 |
| allid protect anterna masts, | 8755 | Black | 1.95 |
| dries to hright, chrome-like | 8756 | Brown | 1.95 |
| finish, Plastic: Corrosion-proof | 8757 | White | 1.95 |
|  | 8758 | ciold | 1.95 |
| parent. Coover 100 square feet | 8759 | Coppertone | 1.95 |

## G.C NON-STICK

IRON TIP COMPOUND


Prevents soldering iron tips from harnibr into irom. saves your iron and tipes.

| No. |  | List |
| :---: | :---: | :---: |
| 1201 | 202 | $\$ 0.65$ |

## G-C STRIP-X



Strips enamel from magnet wire. Dip wire in and wipe insulation off-ruady for solder. ing.

No.
26.2

List
List
$\$ 0.65$

## G.C REK-O-DOPE



Required lubricant whon eording and cuttiner peomes All purpose, it cools, cleatre lubricates, and hardens frooves when cut. Rek-O-longe will Live better tone and lonurr life.

| No. |  | List |
| :--- | ---: | ---: |
| 126.2 | 2 oz. | $\$ 0.65$ |

G.C PORCELAIN GLAZE


Fills in nicks and dents on porcelain and duco refrigerators, sinks, washing machines, etc. Fill in anll let dry.

| No. |  | List |
| :---: | :---: | :---: |
| 911 | 2 oz. | $\$ 0.75$ |

G-C DIAL OIL

For lubricatingr dials, drives, and fine mechanisms. Long lasting.

G.C SOLDERING PASTE


The best non-corrosive paste for radio and eleetrical work. Solders faster and smoother.

| No. |  | List |
| :--- | :--- | :--- |
| 1207 | 207. can | $\$ 0.45$ |
| G-C | RECORD.LIFE LUBRICANT |  |

G-C RECORD-LIFE LUBRICANT
simply wipe record with "Romordifife" and the nerolle will whide over the record stnomthly. Prevents recurd and needle wear; also rliminates noises and seratchinir soumls. Use also for makiner records.

| No. |  | List |
| :--- | :--- | :---: |
| $125-2$ | $20 \%$ | $\$ 0.65$ |

## G.C "RECO" STATIC CHASER

beveloped specially for vinglite recorls, it eliminates static electricity on plastic records and keeps records dust free. Also stops crackling and static: discharge moises. Simply wipe it on and the jol) is done. can he uswl on any type records.


48-2 2 oz. $\$ 0.75$
G.C TV LINE SEAL for UHF and VHF


No.
17-2

Outdoor special acrylic sealer for sealing TV wires, terminals, screws, antennas, TV Lines, cte. seal it with G.0 TV Line Seal and forget it. It will avoil trouble as it seals and prevents corrosion and loosenintr of contacts, screws, etc.

List

# (46) ceneral cement CABINET REPAIR MATERIALS 

G.C LUMINOUS KITS

Complete kits of laminmis paint that flows in the dark. Many uses in shof and lumm hee it at niwht. Easy to usioauply and let dry


## G.C FRENCH VARNISH

[sod by reaftsmom to repair fimbiture and heond in the finish. ('an her anpled with pall. hrash br spmay. lorios fast

No,
List
160.2

2 (z.
$\$ 0.65$

## G-C RUBBING OIL

Rub down mawly finished or repared cabibuts to prot duee rifl satin shoen tinish.

No.
163.16
$160 \%$.
List \$0.95

## G-C CREME-O-WAX POLISH

White nots-staming hatol wax base fonlish produces at hard elossy finish. Excellent for raling. biathes, refrio. erators, fitriture, etc.

No.
$95-2$
List
$\$ 0.50$

## G-C SHELLAC STIEK KIT



Handy assortmont of 10 colore to take eatra of any shate of woul. Same as in G-( kits.

| No. | List |
| :--- | ---: | ---: |
| 925 | $\$ 2.2$ |

G.C MAGIC SCRATCH KIT


Combinatian of th sharlas fillers amblyat and dark sroatch fluid. Easy to ase on bmernency jols.

No.
915
List
$\$ 1.6$ :

NEW G-C DIAL CORD DRESSING STICK


A new, vasy way to treat sliphing cords on dial mechanisms. simply rub the stick on corel and jols is done: Prevents and Etops slipuing. (arry a stick witls you and sare time.

Dressing : Stick
List $\$ 0.25$


## G.C FRENCH EMULSION

 Polishine Methumb.

| No. | List |  |
| :---: | :---: | :---: |
| 164.4 | $40 \%$ | $\$ 0.85$ |

G_CSCRATCH REMOVER POLISHES

## G-C PORCELAIN PATCH STICK



Mabl for white peretlain rufrimpafors. sinks rangers, fixtures, etc. Nimply melt imbo birk ami sllanth all.

| No. | List |
| ---: | ---: | ---: |
| 908 | $\$ 0.50$ |

## G.C SHELLAC STICKS

Hiyh grade sticks for filling dents and nicks in woud calinets and furniture. Sticks $i^{\prime \prime}$ lontr.

| No. |  | List | No. |  | List |
| ---: | :--- | ---: | ---: | :--- | ---: |
| 929 | l.t. Walnu: | $\$ 0.55$ | 979 | Jk, Oak | $\$ 0.55$ |
| 930 | luk. Wialmut | .55 | 980 | Transparent | .55 |
| 933 | Llack | .55 | 981 | Lt. Transparent | .55 |
| 934 | White | .55 | 982 | Walnut | .55 |
| 935 | Maple | .55 | 983 | Mahorany | .55 |
| 978 | I.t. Oak | .55 | 984 | Hlonde Maphe | .55 |

## G.C GENERAL SCRATCH STICK



Rh-mowes scratches. simply run ower seratches aut thes will disappear. Hamly to cars in sour porkel or tool bux for omorwence repatits. Also sell ion homsewives.

No.
List
909
$\$ 0.50$


## G-C SCRATCH REMOVER LIQUID

 over scrateles. Hamly to have in tomblwa.

| No. | List |  |
| :---: | :---: | :---: |
| 917 | 2 «н. | $\$ 0.55$ |

SPECIAL PRICES TO QUANTITY USERS . . . ASK YOUR G-C DISTRIBUTOR FOR COMPLETE INFORMATION AND PRICES.


G－C MASTER DELUXE CABINET REPAIR KIT

Compla，cabinel repait kit it
a promabent matal hax．All binishus ：arn spirit solnhar and
 ate．Kit rontains 10 shbellain aticks．alowhot limp．Frond


| No． |  | List |
| :---: | :---: | :---: |
| 900 | Kit | \＄10．95 |

G．C MASTER CABINET TOUCH－UP KIT


A rompleta．fast tomenorp kit mor ro

 ＊urfare or injur＂surromblater ninish （cmtains frourlh varaish，romulsion coloned mamels，stains，wolisters，an

 fuothers．Put inf in metal hox No． List 907 liit
$\$ 4.75$


G－C FELT KOAT FLOCK KIT
Xew for kit with surecial hlowey was bist ribures flock＂wanly athe apilies a with rowet like mat．Kit is crimpleq and foors undercuat thinger，husb aimer profusionat．thimer，musho．et cathets，rrilles tmol on thrmantre

"tr. Has flomsambe of aprliral yome.

Ki
List


## G．C FELT－KOAT FLOCK


 finish．Ont：pmond rovers approximately an sile ft，Colors：limown，Tallive，Blue． Black，Ivors，Red．Green，Silser，amit rolle．（Numery（olor．）
No．


List
$180-5$
180.7
$\begin{gathered}2 \\ 1 \\ 1\end{gathered} \mathrm{ll}$.

## G－C TELEVISION GRILLE CLOTH


 $A N \mathrm{Na}$ ANA，

New television metallia erill． cloth sperially mallo for or cahintets．

## G－C TV PLASTIC SARAN

 WOYEN GRILLE CLOTH tital pattern．Jusal matirial for castom－hailt rabints amb comm－ furereial sound installations．

No． $8736 \quad$ List $\$ 1.65$
Brotize ic Gold

No． 8739
 No． $8737 \quad$ List $\$ 1.65$ $19^{\prime \prime} \times 18^{\prime \prime}$ ．Ecru di Ivory

No． 8740 List $\$ 9.25$
$36^{\prime \prime} \mathrm{x}$
Eera\＆

## G．C DELUXE CABINET REPAIR KIT

No．
901 ..... List
$\$ 7.50$
















G－C FELT KOAT KITS


# Q6) general cement RADIO•TV ACCESSORIES 

G-C DIAL DRIVE SPRING KIT:

| G-C DIAL CORD CLIPS (a) | Asumtul, for most re |
| :---: | :---: |
| Handy alsontmment for factolitue dial entols | No. List |
| Sthenz. around cord | 1054 \$0.45 |
| with pliers. 30 -1s- | 1054 Small springs |
| o. List | 1054-S |
| 6220-E \$0.45 | 10551.30 |

G-C RCA TELEVISION TUNING BELTT



List
G-C DIAL CABLE TOOL
Hancy terel th aid in ettingine buy Tian cord ant roplacinge rahne sliphod


No. 5096
List $\$ 0.85$

## G-C RECORD TURNTABLE FELT




## G-C DIAL POINTERS

Popular Replacement Pointer
No. (a) 6801 Replacement Pointers $\begin{gathered}\text { List } \$ 0.40\end{gathered}$
$\mathrm{N}^{3 \prime}$ " lintary P'ointer for $1 / 4$ " shatt, wold
No. (b) 6802 List $\$ 0.40$
$5^{\prime \prime} 360^{\circ}$ liotary Pointer for t/a" shatit,
No. (c) $6803^{\text {rnohl and red }}$ List $\$ 0.40$
No. ${ }^{2 \prime \prime}$ (d) 6804 lointer, red translanent

G-C PHONO SPRING KIT


Kit combains assontond surines same as are used int homon turnathes. With his kit without watias or delay in service.

| Kit wis! | List |
| :--- | ---: |
| Kit of 100 | $\$ 2.75$ |
| 4.85 |  |

## G-C DIAL POINTER KITS

1 emmpleta kit oi assorted dial pointors. Poinurrs come in a clear tramsparent plastic cass. whinh kepls the pointers in protuet randition.

| No. |  | List |
| :--- | :--- | ---: |
| 6810 | Kit -10 pointors | $\$ 3.25$ |
| 6805 | Kit -25 pointors | 5.50 |

## G.C HANDY PICK-UP TOOL


G.C HANDY PICK-UP TOOL

Gury hanty for every one picks up bines int hard-to-ger-at places. Will bay for itself in slort time.
No. 5089

## BENERA

## ed

 bement
## ALIGNMENT KITS

G-C TELEVISION ALIGNMENT TOOL KITS


 all exari thin athel are of the lomet grate

No. 8280
List $\$ 12.90$
TV Kit in l.anthenter as.
No. 8281
List \$12.9C
Kit supplien with lamely itand

## G.C NX ALIGNING KIT

10npular apmoxed Army-Navy kit or all sets. Finu-
 iols, and leatherette case.

```
No.
5 0 2 0
Kit
List \(\$ 7.15\)
```


## G-C ALL-PURPOSE TV ALIGNMENT TOOL KIT

Kit contains fomr hasic tools to service mast TV ente. Convenient phastie contamer.
No.
8457
Kit
Li..t
$\$ 2.95$

## G.C PROFESSIONAL ALIGNMENT TOOL KITS


('mulate kits. be preared to servHine Mrrery with these Delanse Nimmont lits. In a handy rollHu" wathrelte case or at sed bar.

No.
List
5024
lit in Inall-Tume Case
$\$ 21.95$

G-C ALL.PURPOSE ALIGNMENT TOOL KIT

 sume of whith thescolte into each orher. Rall-
 5014, 5011, 541\%, 5017, 5053, 5050,50.57.

## G-C VEST POCKET ALIGNING KIT

Easy-to-earry all-purpose kit. four towle with telesespint parts making them equivalent to six. Contains Nos. 5012, 5000,5003,5004 and leatherette case.

| No. |  | List |
| :---: | ---: | ---: |
| 5022 | Kit | $\$ 3.30$ |


| 8987 |  |  |
| :---: | :---: | :---: |
| bixtra loner reach, practically sulatend serewdrivers. super-t ri-gramid. |  |  |
|  |  |  |
|  |  |  |
| $\begin{aligned} & \text { No. } \\ & 8987 \\ & 8988 \end{aligned}$ | Blade | Over |
|  | $7^{\prime \prime}$ | 111 |
|  | 12" | 14 |
| $\begin{aligned} & 8988 \\ & 8989 \end{aligned}$ | $15^{\prime \prime}$ | 78 |
| G-C "SHORTY" T |  |  |
| ALIGNMENT |  |  |
|  |  |  |



Only $2^{\prime \prime}$ loug, fits No. 4 and 6 studs. C"nbreakable plastic, spring steal tips. $\begin{array}{ccc}\text { No. } & & \text { List } \\ 8289 & \text { Trool } & \$ 0.70\end{array}$

G-C TELEVISION
6" DUPLEX ALIGNER

All-purpose for trimmers, I.l transformers, coils, etc. Driver nnit recess tips.

| No. |  | List |
| :---: | :---: | :---: |
| 8276 | Towl | $\$ 0.80$ |

NEW G-C LONG ARM TV TOOL (LONG REACH)


Divera-lone reach for those hard.
 anyl others. 18 List loner. List
No. 8821 Time Type A $\quad \$ 1.50$ 8897 Trol Tipe ( 1.50

## G-C TELEVISION

 CHANNEL TUNING TOOL
howigned for TV remeders. for mahing channel adtust ments, fete (ompletely insulated, nom-metal lic twen, lonk $1 / s^{\prime \prime}$ narrow blade Onwall lengeth approx. $\tau^{\prime \prime}$.
$\begin{array}{ccc}\text { No. } & \text { TV Tool } & \text { List } \\ 80.90\end{array}$


G-C NEW "SHORTY" TV ALIGNMENT TOOL
For R('A, Zonith ans other seln.

No.
List
9051
$\$ 0.75$

## G-C TELEVISION

ALL-PURPOSE ALIGNER


Specially made for TV I.F. ad justments. Plastic handle and hard fibre shaft. Very thin spring strel tip recessed so tool guider itself over acrews.
$\begin{array}{ccc}\text { No. } & & \text { List } \\ 8273 & \text { TV Aligner } & \$ 1.10\end{array}$

## G-C NYLON TELEVISION

 LONG REACH ALIGNER

Sinecial sliort sturdy tool with: fine metal strewdrimer blate to adjust Tellevisim and FM sols Whly 2 "hy she in the sillinet. Only 2 "8" lone oxerall.
$\begin{array}{llll}\text { No. } \\ 5066 & \text { TV Triml } & \$ 0.55\end{array}$
G.C TELEVISION

AND FM TUNING TOOL


G-C GENERAL ELECTRIC ALIGNMENT TOOL


## G-C TELEVISION 2-IN-1

7" DUPLEX ALIGNER


For No. 4 and 6 stuils, foulor conled for easy ingentitiontion. siwing sterl renessed hits.

No.
8722
List
Tin $\$ 1.0$

G-C TELEVISION ALIGNING WRENCH


New Telerision torl with $1 / 2 "$
squat sorket wrelloll,
joc" shaft
 with insulated hande. Approxi-
matrys fi" lones.
No.
5080 Tclevivim Wromh $\$ 0.85$

G-C TELEVISION CORE ALIGNER

For Motorola, stewart Warnor Bromber atco 11sing statekpol mot floterl. Mate of hasci filiro (is" lome with at millon strol insint on mo bul and a thin sirew"Irium hlader on allor (oul.

No.
8271 List


a,mes fibre shafts - witur thin then dia. Sturdy tips on looth nolds ceil the revernand and nsul ovar and

No.
8728 A
8728
8729
engt
$12^{\prime \prime \prime}$
$16^{\prime \prime}$
. 4
.70
.90

G-C UNIVERSAL SCREW DRIVER ALIGNER
(nubreakable flexible clear plasti shaft, amber blastic handle long overall. Very hamely and unisersal all-puryose aligmment toul, Spuint stacl tips $\begin{array}{lrr}\text { No. } & \text { List } \\ 8290 & \text { TV Toon } & \$ 1.00\end{array}$
G.C K-TRAN TELEVISION ALIGNER


G-C K-TRAN TOOL

Ideal Television Tool
Sperially deripned fur K.Tyim and I.F'. transfurmers. Made of bone tilire, screwilriver on hoth ends.

No. List
5097 Tool $\$ 0.85$

## G-C TELEVISION I.F. OSCILLATOR ALIGNER



For I.F. and ascillator arljustmants. Fits all makes of bets R(AA, (i-E, Philco, Admital, me Made of plastic handle and store ehaft, Bhade is extrin thin muring steel for lonit lif.

No. List
8272 TV Osc. Tool $\$ 1.20$

G-C STANDARD TELEVISION ALIGNMENT TOOL KIT


Burs a popular low-priced whigument kit that. has the latent fsential tools for Television Sits. specially engineered for Televisiun sete. A real value in roll-lypue case.
8455 TV Kit Complete List

## （G）GENERAL CEMENT RADIO•TV ALIGNMENT TOOLS



Mats of Genflex．Brass cylinder on one end，tron core on other end，Vsed for adjusting and cherking olls．Inserting iron rore end increases inductance
inserting brass end lowers inductance． $\begin{array}{ccc}\text { No．} \\ 5002 & \text { Tool } & \text { List } \\ \$ 1.10\end{array}$

G－C INSULATED HEX WRENCH AND DRIVER

Tombination hex wrench and insulated serewdriver The serewdraer may trextended from handle to No all flire tool． | No．Extends Prom |  |  |
| :--- | :--- | :--- |
| 5005 | $13^{\prime \prime}$ | List |
| 0.85 |  |  |

> G-C ALLIGATOR WRENCH AND SCREWDRIYER


For Rra，Pbilime and others．Made of $\mathbf{J a n}^{\prime \prime}$ bone fibre and strong metal wrench on one end and metal

| No． |  |
| :---: | :---: | :---: |
| 50 iI Tool | List |
| $\$ 0.55$ |  |



This is the most pophlar alignment tool for most receivers．Made of hone fibre，combination tool． Wrench slotted and sere With metal nib，1／4＂Hex Wrench slotted and 要＂Hex Wrench on other end．
No．
5014 Tool $\$ 1.00$


G－C TELEVISION＂̈SHORTY＂ DUPLEX ALIGNER
limited lione and i．F．t ansformers where space is steel tips．One thbre with extra thin hardened spring other und is recessed

| No． | List |  |
| :--- | :--- | :--- |
| $\mathbf{8 2 7 7}$ | TV Shorty Aligner | $\mathbf{\$ 0 . 8 0}$ |

G－C ZENITH TV WRENCH AND ALIGNER


New flastic moldet spectal tool made specially for
Yew lifastic molded special tool made specially for and the other end a small serewdriver tip．

| No． |  |  |
| :---: | :---: | :---: |
| $\mathbf{8 2 8 2}$ | Zenith TV Tool | List |
| 0.55 |  |  |

G－C DUPLEX ALIGNMENT SCREWDRIVER

$$
\begin{aligned}
& \text { Low-inductance Metal Fip on both ends made of } \\
& \text { Genflex material. one cond is } 1 / 4 \text { " and other end is } \\
& \text { 对" for small holes. sirong, completely insulaterl. } \\
& 5001 \text { Alignment screwdriver } \$ 0.85 \\
& \text { G-C NO-METAL INSULATING } \\
& \text { ADJUSTMENT SCREWDRIYER } \\
& \text { Made of black bone fibre, Indismensable for aligning } \\
& \text { all-waye sets. Will gibe long service. Ents can be } \\
& \begin{array}{l}
\text { re-gri und. } \\
\text { No. }
\end{array}
\end{aligned}
$$

${ }_{5008}^{\text {Low Loss Polystyrene }} \underset{7}{ }{ }_{7}$ Type-Ideal for UHF Sets
Gr-C DUPLEX NO-METAL ALIGNMENT
SCREWDRIYER

Mate of hard bone fibre or Polystyrene－ $1 / 4$＂blade on me ernd and l＇＂blater on otherr．Ni＂long．＂ $\begin{array}{llr}\text { re－graund．} & & \\ 5009 & \text { IRane Fibru—6＂} & \\ 5010 & \text { l＇olysigrene－} 6^{\prime \prime} & \mathbf{0 . 4 5} \\ & & .45\end{array}$

| 5010 I＂olysiyrene－ 6 ＂ |
| :--- |
| G－C WRENCH AND SCREWDRIVER |
| ALIGMING TOOL |

Made of $7^{7 \prime \prime}$＂bone fibre with $1 / 4$＂Hex Wrench on one end andl screwdrj＇er with metal nit on other wrench．
No．
501.

List
$\mathbf{L 0 . 9 5}$

G－C 6－IN－1 ALIGNMENT TOOL


Bonn fllre，combination tool．Consists of Screw－
 No
NO 16
$\$ 1.65$

＂Around the Corner＂screwdrlver for radio work Aprorored by C．S．army and Nary Ns．
5019

Ton？
List
$\$ 2.25$


G－C TELEYISION LONG REACH ALIGNER

Made for Admiral，Zenith，HCA，and other sets co adjust nested iron cores and make front end djustments．The thades are extra thin，made of trone fibre and are extra long．
No．
List

G－C TELEVISION DUPLEX ALIGNER

All purpose TV alloner for trimmers and I．F．trans tcel tips．One end has a projected tin，the other nd has a recessed tlp． No．
8276

## g－C television core aligner



For hard－to－reach nilaces．Has a recessed stcel milled slot to fit over Stackpole and other type stud cores not slotted．Steel jnsert pinned in a flure shaft for extra strength．
No.
8279

## G－C ALIGNMENT SCREWDRIVER <br> 

Low－Induetance Metal Tip Screwdriver made of ientlex－strong，completely insulated．Very joph ${ }_{3}{ }^{2}$ ，all－around allgnment tool．Two slzes－ $1_{4}^{1 / 4}$ am 2

| No． |  | t |
| :---: | :---: | :---: |
| 5000 | 1／4＂Diam．x 6＂Tool | \＄0．45 |
| 5088 | 7a＂Diann．X $6^{\prime \prime}$ Tool | ． 45 |

G－C RCA ALIGNING TOOL

Male of $1 / 4$＂lone fibre．Narrow serewdriver on one b＇A sets ant others for coil and jush－butum wijustanents．
$\qquad$
G－C NON－EXTENSION TYPE WRENCH AND DRIVER

Same as No． 5005 excejt serewhiver formanembly thached iln，wench．Jengith not adjustable．Overail length is 6

| No． | List |  |
| :---: | :---: | :---: |
| 5007 | Tionl | $\$ 0.45$ |

G．C ALLIGATOR AND WRENCH ALIGNING TOOL


Made o！： Ta＂$^{\prime \prime}$ bone fibre with allugator on one end and ${ }^{1}$＂ ＂metal llex Wrench un other end．Vers No
5012

| No． | Tool | List |
| :---: | :---: | :---: |
| 0012 | $\$ 0.55$ |  |

G－C 5－IN－1 ALIGNMENT TOOL


Simllar to our 5014 except supplied with hears luty metal screwdriver．
No．
5015
Tool
List
$\$ 1.65$


HEX INSULATED FIBRE ALIGNING WRENCHES

Hexed full length inside，so end can be cut ofl when worn


ITS G-C FOR ALL TV!
G-C INSTALLERS TOOL KIT
Beautiful steel too
case $181 / 2$, lon case $181 / y^{\prime \prime}$ long ant lots of tamils. compete with $f$ phasific handed forked -blate screw-
drivers. $\begin{array}{lr}\text { No. } & \text { List } \\ \mathbf{9 0 5 2} & \$ 13.50\end{array}$ $9053^{\text {Kit complete }} 5.75$
9053 Tool case only 7.95
9054
shrew driver kit "inly

G-C TELEVISION AND TRIMMER TOOL

Handy tool to adjust smallest size trimmer condeniers. Screwdriver is sa" diameter. Other end has a "he" hex nut wrench.
No.
Trimmer 6" Long $\quad \begin{gathered}\text { List } \\ \$ 1.10\end{gathered}$
GCC ALIGNMENT TOOL FOR PHILCO, RCA, ETC.

Fur nautrallaine air trimmer condensers on Made of $\mathrm{san}^{2}$ Fibre. Metal clip on end.

| No. |  | List |
| :---: | :---: | :---: |
| 5086 | Tool | $\$ 0.65$ |

## G.C TELEVISION AND TRIMMER TOOL $\mathrm{C}=\sim \rightarrow$

Specially made for adjusting neutralizing padding condensers and iron core tuners and rolls, No.
5091 Tool $\mathbf{5 0 . 8 5}$

GCC INSPECTION MIRROR


Inspection Mirror for hard to see places. No.

List 5090


G-C TV PLASTIC PLIERS


Insulated long-nose pliers. shock-proof. Ilish it burt bakelite. Handy for picking up nuts and bolt when set is 'hot.


G-C AMP MINIATURE TUBE PULLER
(Pat. Pending)
Prevents burned fingers and to remove and install tubes sure as Gag, 5013 , e to
Works on vacuum principle Operates just by pressing
on the tube. Releases on n the tube. Releases tube
by pressing button. Tube protected lis rubber sleeve, cant reach. Sturdily construtted.

| No. |  | List |
| :--- | :--- | :--- |
| $\mathbf{5 0 9 3}$ | For 7 -pin tubes | $\$ 1.80$ |
| 8106 | For 9 -pin tubes | 1.80 |



G-C TEST MALLET, SCREWDRIVER AND TUBE TAPPER


Mandy ton made with insulated screwdriver on one end and rubber mallet on other end, Veers handy for tapping tubes to find shorted or interNo mittens
$508{ }^{\text {No }}$


A short neutralizing tool for work in close quarters. Acts can be adjusted without removing from cabinets, it very handy tool
nets.
No.
5084

| No. | List |  |
| :---: | :---: | :---: |
| 5084 | Tool | $\$ 0.65$ |

G-C TELEVISION AND PIJSH-BUTTON TOOL

A specially-designed tool for adjusting iron core censers. and fubh-humoners, coils. alignment conFH A, and (hers, Metal tip on one end, uther end recessed tip.
$\begin{array}{ccc}\text { No. } & & \text { List } \\ 5087 & \text { Toot } & \$ 0.85\end{array}$
ZENITH PUSH-BUTTON WRENCH


Special wrench necessary to use in adjusting Zenith bush-button radius.
No.
5094
Zenith Wremeh $\quad$ List
G-C NEUTRALIZING ANIL ALIGNING TOOL




| 098 | Tool | List |
| :---: | :---: | :---: |
| $\$ 1.10$ |  |  |

G-C TUBE AND PARTS EXTRACTOR

U. S. Signal Corps Part No, TL-201 Handy protif tool for extractart tubes and picking $\mathrm{No}_{2}$,
5092
$\underset{\$ 1.65}{\text { List }}$


## G-C TEST PROBE

Handy new test probe to "dig in" and find the
trouble. Fibre mint on one end. Metal hook on
other end. Excellent for locating loose connections
and shorted Darts.
No.
5082

## G-C ALIGNMENT WRENCH FOR

 PHILCO, RCA, ETC.
## 

Excellent for neutralizing air trimmers on many


| No. |  | List |
| :--- | :--- | :--- |
| 5085 | Tool | $\$ 1.65$ |

## G-C ALIGNMENT SCREWDRIVER

low inductance metal tip screwdriver made of Gen-flex-stronk, durable, completely insulated, ${ }^{2}$ diameter.
No.
5088
List
$\$ 0.45$
G-C CONTACT ADJUSTER


A hands tool to artist contacts on switches, relays on pin ball machines and radio sets.
$\begin{array}{ccc}\mathrm{No}_{2} & \text { List } \\ 5095 & \text { Contact Adjuster } & \$ 0.25\end{array}$
GCC NEUTRALIZING AND ALIGNING TOOL

 $\mathrm{No}$.
Nog
j 09 g $\qquad$
G-C FUSE PULLERS
Guns
For cartridge fuses. If cary duty construction of high dielectric anateria
$\begin{array}{lll}\text { No. } & \text { Distant size, for fuses } 1 / 4 \prime \text { by } 1 / 2 ", & \$ 0.70 \\ 5525 & 1.70\end{array}$ 5526 l.arke size, fur fuses $1 / /^{\prime \prime}$ by $11 / 2 \%$ 1.40



G-C SPEEDEX SLIM-TYPE SOLDER IRON TIPS

New high-heat turndown ti, made of one-piecter con
Tip $41 / 2$
long.

No.
List


G-C DUPLEX TUBE PIN STRAIGHTENER A tube fin straightener for both miniature and jumbo mine
nature tubes of the a and g pin types. Pins on ether type can be straightened by inserting in receptacle. precision constructed steel
dies molded in colorful plastic.
No.
8655


## (G) GENERAL CEMENT RADIO•TV DIAL CORDS, CABLES and BELTS

## DIAL CABLES <br> Available in special bulk lengths and quantities

## WRITE FOR QUOTATIONS

G-C No. 75-A EXTRA THIN NYLON CORD
$.025^{\circ \prime}$ diam. Used on RCA, (GE, Stron. Carl., ete. Braided nylon over tilme glans eore. In plastic container:
No. 75A-25
$75 \mathrm{~A}-50$
75 A .100
$75 A-11$
H395-F
G-C No. 75 STANDARD THIN NYLON CORD

nlas of serts. Braiden nylon ove
Haks cor". In lastic combiner. List
No.
$\mathbf{7 5 - 2 5}$

75.100

H396.F
G.C No. 74 MEDIUM NYLON CORD



No.
74.25
$74-25$
$74-50$
74.100

74-11
List
$\$ 1.40$
2.65
2.65
4.95

H397-F
G.C No. 73 HEAVY NYLON CORD


## G-C SERVICEMEN'S DIAL BELT KITS

 nts. They are easy to ine specially freaton

## BELTS - 50c List Each

G-C SERVICEMEN'S KITS




## INSTRUCTIONS - FOR MEASURING BELTS



 rendies fin thichness of belt.
G.C RADIO BELT SPECIFICATIONS

| d as per belt size |  |  |  |  |  | listed as per belt size |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Circumbenten Arountil Pulleys | $\underset{\text { Length }}{\text { Lent }}$ | $\begin{aligned} & \text { G-C } \\ & \text { Belt } \\ & \text { No. } \end{aligned}$ | Circumference Around Pulleys | $\begin{gathered} \text { Lengt } \\ \text { Cengt } \end{gathered}$ | $\begin{gathered} \text { G.C } \\ \substack{\text { Belt } \\ \text { No. }} \end{gathered}$ | Circumference Around Pulleys | $\begin{aligned} & \text { Cut } \\ & \text { Length } \end{aligned}$ | $\begin{aligned} & \hline \text { G.C } \\ & \text { Belt } \\ & \text { No. } \end{aligned}$ | $\begin{aligned} & \text { Circumference } \\ & \text { Around } \\ & \text { Puileys } \end{aligned}$ | $\begin{gathered} \text { Cut } \\ \text { Cength } \end{gathered}$ | ( G.C |
| " ${ }^{\text {x }}$ |  | 195 |  | -it did" | 112 | 11 | : 14, ...... |  | 11- 117 | 14-39 | 47 |
|  | 6. $2 \cdot 4$ : |  | 8-11 |  | 160 | 11-6it" | 1-17 13:" | 130 | 14-3:/6/6 | . $1.1-3 / 4$ | 48 |
| \%7 | ${ }^{\text {cose }}$ | 161 102 |  | !1 $\mathrm{f}^{\prime \prime}$ | 167 117 | 11-4 61 ", | $11-216{ }^{61}$ | 131 | 11.57 tipt | .15-564 | 151 149 |
| 15 | 7-1 ${ }^{\text {x" }}$ | 158 | 41368 | 口-20) | 115 | 11.316 | 111-3/*" | 171 | 1.7-17,144 | 15-9910 | 49 87 |
| 1 ¢ ${ }_{1}$ | 7-1:34" | ${ }_{106}^{157}$ | 419 \% 19 | 4. | 163 |  | "11-15/32" "5/16" $^{\prime \prime}$ | 1316 | 15-7/16" | .15-5/8" | 83 |
|  |  | 156 |  |  |  | 11-3/8 | 11-9/16" |  | 15-13/16 $6^{\prime \prime}$ |  | 82 |
| 13 | 1 | 177 |  | 11.1 10 | ${ }_{123}^{19}$ | \|1-2-6\%" | ${ }_{\text {11-5/8" }}^{11-37 / 64^{\prime \prime}}$ | 136 173 | ${ }_{\text {stralght }}$ | $16^{\prime \prime}$ - str. | 92 50 |
| $1{ }^{15 / 3}$ | 7-2 ${ }^{7} 1 / 30^{\prime \prime}$ | 103 105 | 9-3.9 \&4" | 111.7'月!" | 127 | 11-21/32 | 11-27/32" | 194 | 16-19/19" | .16-31/64" | 150 170 |
| - ${ }^{-1}$ | 7-23/:2" | 155 | 10-1 $11{ }^{\prime \prime \prime}$ | 10.7 $11^{\prime \prime}$ |  | 11-3/4" | 11-15/16 | 141 | 16-27/61" | .16-39 64" |  |
| $11 / 16^{\prime \prime}$ | 7-7 $8^{\prime \prime}$ |  | $10 \cdot 176$ |  | 164 124 | 11-13/1 |  |  | 16-13, | 17-1 | 85 |
| 1510 | 7-1.0/16 |  | 10-19 44" | 11-3114" | 128 | 12-1/32 | 12-7/32" | 154 | 17-1/16 | 17-1/4"19 |  |
| 1/61" | 8-13/64 |  | 10-2361" | 10-3. ${ }^{\text {a }}$ | 118 | 12-3/3 | - | 142 <br> 140 | 17-37/64" | .17-49/A4" | 179 |
| 13 32" | 8-7 |  |  | 10.37 110 | 122 12 | 12-7/3 | 12 | 193 | 17-\%/ ${ }^{\prime \prime \prime \prime \prime}$ | .17-13/16"' | 90 |
| 8-3/15 | ${ }^{8-9 / 3 / 8^{\prime \prime}}$ |  | 10-1 $0^{\prime \prime}$ | $10.11 / 1 \mathrm{ti}^{\prime \prime}$ | 152 | ${ }_{12-9}$ | 12-15 |  | 18-1/2" ${ }^{\text {c }}$ | .18-11/16" | H1 |
| ¢-13, 54. | $8-25 / 64$; | 162 | 10-4 $61{ }^{\prime \prime}$ | $30.96{ }^{10}{ }^{\text {a }}$ | 129 | 12-1 | 10-11.32", | 144 | 18-4/16" | .18-3/4" ${ }^{\prime \prime}{ }^{18-5 / 8 "}$ |  |
| $\begin{aligned} & 8-15 / 64,0 \\ & 8-25 / \neq 4^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 8-27 / 64^{\prime \prime \prime} \\ & 8.37 / 6 \mathrm{t}^{\prime \prime} \end{aligned}$ |  | 10-11/14". |  |  | 12-1/2" | ${ }_{12}^{12-51 / 1 / 64 "}$ | (178 |  |  |  |
| $8{ }_{8-1 / 20}$ | $8_{8-11 / 16^{\prime \prime}}$ | 109 | 10-4 61. | $11.131 /$ | 120 | 12-13/6 |  | 148 | 21-5/16" | -21-1/12" |  |
| $8-11 / 32 \%$, | 8-27/32" |  | 10-611 "1\% | 11-4,61", | 133 | 13-3/16 ${ }^{\prime \prime}$ | 13-3/8' | 146 | 22-35/44" | -20-47/64" | 176 |
|  | 8-51/64" | 153 | 10-31/32". | 11-2/32" | 132 | 14-7/32" | 14-13/32 | 186 | 22-13/64" | .23-61/64" |  |



New neon test tite for cheeking radius vision sets, fuses, drenits, ete. Nimul
 $A 0^{\circ}$ or 50 .

No.
List
8585


## (G) GENERAL CEMENT WIRE STRIPPERS • TEST LEADS IEST LIIES




G-C SPEEDEX WIRE STRIPPER KIT

## fire sthipper complete with seren differen

 - ite blates put us in a sperially deximed以ermatent stel bux fror silus *
## No.

733-K Etundaral stlbber kit.
witl blates hamatie Ntrimer $\$ 15.60$

Kit whh hultes Nopher 17.25 | $766-\mathrm{K}$ | Nped-0-Matic Kit |
| :--- | :--- |
|  | 17.25 |




## G-C NEEDLE POINT TEST LEADS

 (1) the stratight sohterless type tios.

No .
8461 With sulterless straighll Tills \$1.95



No.
ense ard leathercite cuse and one each tweezers described
fity" Aelf-elosing tweezer. Opens
 lwillts. 1; $1 / 1 /$ Ifears-duty type with slide
lork feature. Holds wires or parts tight. sierrated, blunt points par 1, \% I'rerision Twee\%er. Narrow 1.30

7948 I 1 ". I'recision "wee?er. Narrow
0.60
G.C

## NEON GLOW LAMPS



NE-T2 lamp as used in testers, appliances. as biot
light, etc. $\begin{array}{cc}\text { No. } & \text { List } \\ \mathbf{7 1 7} & \$ 0.25\end{array}$

# Qe general cement TEST PRODS •PLUGS • TIPS 

G-C TELEVISION HIGH-YOLT BAKELITE

## TEST PROD HANDLE



Heavy duty type test prod with fingel ground ring to protert from the high voltage. I'ra fects agulinst the high whtage in a TV Net. Designed so that the minimum of metal is exposel. Made of black bakelite.

No. $8986 \quad$ List $\$ 1.50$ Htgh-volt Test Jrod Jantle


## G-C TEST LEAD ANGLE TIP

New attractive fully insulated. molded plasti antite thone tin pluss. Will take wires up to $11+1$ $\begin{array}{llr}\text { No. } & \text { List } \\ 8149 & \text { Hed, each } & \$ 0.45 \\ 8150 & \text { Hiack, euch } & .45\end{array}$

## G-C TEST PROD TIPS



Nolderless type, hrass nichel-plated. Non-insulatent wire fastens easily.
No

5060 List
$\$ 0.20$
G-C HEAVY DUTY PHONE PLUG


Standard type as used on test frmis, leats, atc Fits smukly in $1 / 4$ " hale. Brass nideiet-plated. No.
7706

G-C PHONO NEEDLE POINT TEST PROD CHUCK jush on type fits snugly $\ln 1 / 4^{\prime \prime}$ hole, I3rass nickelslated. No
7703 List
$\$ 0.22$

## G-C INSULATED SPADE LUG



Tanered spade lup fits all screws or terminal sirips up
to No. 10 . Insuluted female end fits bandmat pluts.

| No. |  | List |
| :--- | :--- | :--- |
| 7712 | Redl | $\$ 0.18$ |
| 7713 | llack | .18 |

G-C INSULATED PHONE TIP JACKS


Standard insulated tupe phosphor bro:ze spring contacts. $3 / 4$ " insuluted head. Fits $1 / 4$ " cole and panels up to $1 / 4$ " thick. Brass parts nickel-plated.

| No. |  | List |
| ---: | :--- | ---: |
| 7715 | Tred | $\$ 0.25$ |
| 7716 | Blaek | .25 |

G-C SET SCREW TYPE BANANA PLUG
Insulated set screw type. Polished insulated plastic handles. Nickel-wated metal parts.
No.
7732
7732

Ited

## G-C SPLIT BANANA PLUG

standard slze with $6-32$ threaded shank. lise on Hug-in coils, terninal strips, etc. Complete with lug and nut. Wrass niekel-blated.
No.
7736
List
$\$ 0.25$

## G-C BANANA JACK

standaral size Janana pin jack. Fits $1 / 4$ " holle up to $3 / 4$ thick pathel. Nut and lug sumblied. Jrass markel-plated. No
7740 List
$\$ 0.17$

## G-C NEEDLE POINT TEST PRODS





## G-C TEST LEAD WIRE

Ideal long-life replacement wire, exti'a flexiblu, toon-volt insulation. Hed and Black, ispecifs No.
No
5049

| 5049 |  |  |
| :--- | :--- | :--- |
| $5049-\mathrm{C}$ | Fnv. 1 Red, 1 Black $50^{\prime \prime \prime}$ long | $\begin{array}{l}\text { List } \\ \\ 50.80 \\ 8.25\end{array}$ |

> G-C INSULATED TEST PROD TIPS
r'nbreakahle polished plastic insulated hanilles. solderless cennectors, brass nickel-plated

| No. 5061 | Red | List $\$ 0.25$ |
| :---: | :---: | :---: |
| 5061 - E | Env. 2 | . 50 |
| 5062 | 131ack | . 25 |
| 5062.E | Env. 2 | . 50 |




G-C SOLID STANDARD PHONE TIP Solid brass type made to RMA spectifeations. Bright nickel-plated.
No.
$6321-E \quad$ Env. 8
$\underset{50.45}{\text { List }}$

## G-C INSULATED PHONE TIP PLUG

Fits standard phone tip jacks. Polished non-breakable low-loss plastic insulated handies. Brass, niekel-plater tip. Minimum contact exposure.

| No. | Red | List |
| :--- | :--- | ---: |
| 7710 | Redack | $\$ 0.23$ |
| 7711 | .23 |  |



## G-C SPLIT BANANA PLUG

Insulated solderless type with polished insulated No.

| 7730 | Red | List |
| :--- | :--- | ---: |
| 7731 | Black | $\mathbf{0 . 3 5}$ |
|  | .35 |  |

## G-C SMALL BANANA PIN PLUG

Approved silver-plated plugs with straight shank, Can be rtveted or soldered. For wires, multiple plugs, ete. No.

Env. 10

## G-C SPLIT BANANA PLUG

Standard size with 6-32 female thread on end. Sup plied with screw and solder lug. Brass nickel-plated

| No. | List |
| :---: | :---: |
| 7737 | $\$ 0.25$ |


|  | G-C INSULATED BANANA JACK |  |  |
| :---: | :---: | :---: | :---: |
|  | Standard size with polished plastic insulators. Fits $1 / 4$ " hole. up to $7 /{ }^{\prime \prime}$ " thick panel. Nut, lug, and insulators supplist, |  |  |
|  |  |  |  |
|  | Brass. $n$ |  |  |
|  | 7741 | Red | \$0.22 |
|  | 7742 | Iflack | . 22 |

G-C INSULATED BANANA PLUG
OR PHONE TIP JACK


Standard size insulated combination jack. Brass nickelplated with phosphor bronze spring contacts. Fils $1 / 4$ $\begin{array}{lr}\text { hole, panels up to \% " thick. } & \text { List } \\ \text { No. } & \text { IRed } \\ 7744 & \text { l } 1 \text { lack }\end{array}$


G-C COMBINATION BINDING POST Dual purpose Instiated head binding post. Banana plug fits in ton phone tips in side. supplied with $6-32 \times 1 / 2 "$ stud and 2 hex nuts, Jed or black. List
No. $\begin{array}{llr}\text { No. } & \text { Led Binding Post } & \text { List } \\ 7725 & \text { Black Bindíng Post } & \mathbf{0 . 4 5} \\ 7726 & .45\end{array}$



# （G）G GENERAL CEMENT RADIO SOCKETS－PLUGS－CONNECTORS SHIMS 



## G－C REPLACEMENT PARTS FOR ANTENNA AND FUSE CONNECTORS



List
$\mathbf{5 0 . 0 7}$
.03
.05
.02
.02
.04

## G－C TERMINAL STRIPS

## SCREW TYPE

laminated bakelite
riadily construltedite vilub ＂ill ter turt and shont．

Nmunted Ga lamainated
stips．lugs nomarely tianelite aml will mut turs．


G．C PHONO PLUG
For all tyine of phomo cumnere－ times on RCC．Zenith．Philco athit others．Alse for alloto radio rom newtor
 1742－E Jill：4 45

G－C PHONO JACK

 No．Contacts Lis1
$\$ 0.05$
.06
.07
.09
.12
.13
.20
.22


## G－C FIBRELOID SPEAKER SHIMS


 Sumplied in gold lettered teatherette suab case whth instretions，

No． 702
Ki
List $\$ 0.65$
G－C SWEDISH STEEL
SPEAKER SHIMS

## (G) GENERAL CEMENT SIGNAL LIGHTS • CONNECTOR • CIIPS

G-C J-INCH JEWEL SIGNAL LIGHT
 - 'lin un and clly down ismes for replacements. Cadmlum-plated.

G.C MICROPHONE

CHASSIS UNIT CONNECTOR


G-C ONE-INCH JEWEL SIGNAL LIGHT
For signal deriees of all types.

## G-C FAHNESTOCK CLIPS AND PLUGS


G.C MEDIUM SOLDER LUG CLIP足等 No.
0306

Each
List
$\$ 0.07$


G.C BRACKET-TYPE PILOT LIGHT SOCKETS
$\qquad$

 Bults ehange frum the front; lew. Ore thell mounting lule. lewel miors: Jed, Green,
Indery, and opal. (SInecifs dewel (oular.) man. (riecirs No. 7901 No. 7902 (11tNo. 7903 Cuth Elumoth
No. 790 Basmet Find


## G-C PANEL JEWELS



| No. | Dia. | Jewel | Mtg. Hole | List |
| :---: | :---: | :---: | :---: | :---: |
| 7913 | ${ }^{6}{ }^{\prime \prime}$ | Jriact | " $11^{\prime \prime}$ | \$0.30 |
| 7914 | 12" | Ftwoth | " 1f" | . 30 |
| 7915 | - | Faret | 11/11" | . 65 |
| 7916 | 1" | fraret | 1 " | 1.40 |

G.C UNMOUNTED PILOT LIGHT SOCKETS

 CONNECTOR
Sinsle contact female type used romnertors, complete, brass chromepated.

onnector $\$ 0.60$

No. 7905 Nin. Serew list

## G-C TEST LEAD PLUG INTERCHANGE KIT

Hathy kit for interchanking alligator
 tips, lucludes red and black phome tirs,
drmbination juchs and phogs. Fioted muhination jatelss and plags. Finted No. List

g.c Spring type banana plug

G.C INSULATED BELL STAPLES


| No. | Fip. 1, ${ }^{3}{ }^{\prime \prime}$ ¢ $1 / 2^{\prime \prime}$ | List |
| :---: | :---: | :---: |
|  |  |  |
| 1751 | liox $50, \mathrm{No}, 1$ | \$0.30 |
| 1752 | Bux 100 No. 1 | . 50 |
|  |  |  |
| 1753 | 130x 50, No, 2 | . 30 |
|  | Hax 100 , No. 2 | . 50 |
|  |  |  |
| $\begin{aligned} & 1755 \\ & 1756 \end{aligned}$ | 130x 50, No. 3 | . 30 |
|  | 1hox 100 No. 3 | . 50 |
|  |  |  |
| 1757 | 13ox 50. No. ${ }^{\text {c }}$ | . 30 |
|  | Hox 100 No. ${ }^{\text {J }}$ | . 50 |
|  |  |  |
| 1759 | Box 100 , No. 6. | . 50 |
|  | Fip. 7, ${ }^{1 / 4}$ "x ${ }^{\text {a's }}$ |  |
| 1760 | 130x 100, No. 7 | . 50 |
|  | Evtra Large gable Nize |  |
|  | Fig. 10, ${ }^{\prime \prime \prime} \times 1{ }^{\prime \prime}$ |  |
| 1761 | Bux 100 , No. 10 | . 85 |



G－C TOGGLE SWITCHES
Rall handle Reneral purpose
 Nickel rlated．

No． 1304 List $\$ 1.70$ No． 1305 List $\$ 1.90$
No． 1306 List $\$ 1.95$
No． 1307 List $\$ 2.15$

## \＆ 6 GENERAL CEMENT SWITCHES • SPAGHETTI • TUBING

 and higher．

| No． |  | List | No． |  | List |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1367 | S．P．S．T．＊ | \＄0．25 | 1369 | D．P．s．T． | \＄0．35 |
| 1368 | S．P．1）．T．＊ | ． 25 | 1370 | 13．1．1．T． | ． 35 |
|  |  |  | 1370A | 10．1．17．1． | .35 |



## G－C GENFLEX PLASTIC TUBING

High grade extremely flevilhe
plastic fubink for Radio and Fluc plastic tubink for Radio and Filic－
ironic tronic Insulation work，Resplstunt
to cold or heat．Hikh dielectrit
 Colori：Black，Red，（irect，Clear
（Specify．）

| No． | Wirs | Pkg． | List |
| :---: | :---: | :---: | :---: |
| 603 | 18 | 20 ft ． | \＄1．00 |
| 605 | 16 | 20 ft ． | 1.00 |
| 607 | 14 | 20 ft ． | 1.00 |
| 609 | 12 | 20 ft ． | 1.00 |
| 611 | 10 | 15 fl | 1.00 |
| 613 | 8 | 15 fl | 1.05 |
| 616 | 6 | 10 ft | 1.05 |
| 617 | 4 | 10 ft ． | 1.10 |
| 620 | 2 | 10 ft ． | 1.25 |
| 625 | Fits over 300 －olm Twin Line 8 ft ．$\quad 1.10$ |  |  |

G－C PLASTIC

Handy kits of essorted colors and sizes．Ideal fur experlmenters and service－ men．

No． 635 List $\$ 1.00$ Kit of 25 ft ．Asstd．

## G－C RABIO SPAGHETTI


best grade Radio and TV spaghetfl．Smooth coated， lest ramblacs．Very flexible． 5000 rolt dielectric．
Approved by ASTM．（rolors：Hlack，Red，Yellow， Gresn，Brown．Npecily evlur． $30^{\prime \prime}$ lengths．

№． 12 flt 12 wire
等＂


G－C INSULATING
G－C LAMINATED BAKELITE PANELS


Th＂thick．Black．
No． $\mathbf{5 9 0} \quad$ List $\$ 0.70$ （ $\mathrm{i}^{\prime \prime} \mathrm{x} \mathrm{r}^{\prime \prime} \mathrm{x} \mathrm{id}^{2 \prime \prime}$
No． 59 List $\$ 1.35$ （\％＂$\times 12^{\prime \prime} \times$ 学＂
No． 592 List 2.65 $12^{\prime \prime} \times 12^{\prime \prime} \times$ 䞠＂


G．C TOGGLE SWITCH
WITH WIRE LEADS
For vacuum cleaners，athblianores radiu sets，etc．Made by II \＆if volto．Nickel Plated．
No．
1335 ＂Hat Hanulle＂
1336 ＂Mailititulle＂\＄1．3

## G－C PUSH BUTTON SWITCH

Two circult．＂slow make arnl IUick break momentary eontact
switeh．Ono dircuit normaliy on ofther off；pubhing hution

yerses circuits in use．Made by
II \＆II for $6-4: 8$ amplas． 125 whlt．Nhank is＂long．
$\begin{array}{cc}\text { No．Switch } & \text { List } \\ & \text { PUSH BUTTON }\end{array}$ PUSH BUTTON
Fur 18．40 switch．Heal or Black $\begin{array}{lll}\text { No．Button } \\ 1343 & \$ 0.40\end{array}$



Flah puper has many uses around tho shojr for ro－ pair jobs where electrleal insulation is requircd． $010^{\prime \prime}-240$ sQ．in．roll．
No．
560

## (4) G) GENERAL CEMENT TELEVISION SERVICE AIDS



Antenna lead wire for indoor type AC-DC sets. $\begin{array}{lcr} & & \text { List } \\ \text { No. } \\ 840 & 25-f o o t ~ c o l l ~ & \$ 0.45\end{array}$
$840 \quad 25$-foot coll $\quad \$ 0.45$


## G-E ANGLE ANODE LEADS

Handy anfic type with spectal "ozone proof" rubber cap that dors not cleteriorate or break up frotu hirh
roltage. 18 leads. rotage. 18
$\mathrm{NO}_{8 .} \mathrm{N}_{3}$
List
$\$ 1.00$

## G-C TY 3-WAY ANTENNA LINE KLIPS

1)eluxe molel - used three ways: Stralcit. Shat
or luci mag-in. No soldering. easy to attacli, Be or HeA thag-in. No soblering. easy to attach. We No.
8744

List
$\$ 0.35$
G-C BEAM-O-CENTER



| No. Enrelope of 8 |
| :--- |
| G-C STRAIGHT ANODE LEADS |

G-C STRAIGHT ANODE LEADS

| Spectal "ozone promf" rubber cap Joes not deteriorate or break up from lagh toltage. 1s" leads. |  |  |
| :---: | :---: | :---: |
| No. |  | List |
| 8636 |  | \$1.00 |
| -C PIN CUSHON - TYPE I |  |  |
|  | 0 | Redures ain cushion or fuzzy effect arount eikpa of meture tube. Used <br>  |
| $\square$ |  |  |
| No. |  | List |
| 8953 |  | \$1.00 |
| B-C PIN CUSHION - TYPE II |  |  |
|  | $\bigcirc$ | similar to sen:\%. but for larger Bliture thbes. Lenath $41 / 2$ ". |
| $\pm$ |  |  |
| No. |  | List |
| 8954 |  | \$1.00 |



Ised by leading TV sit manufacturers. Eass th
install, assure brightesi nlathes. Traps stay put Install. assurt
don't Fobble.
No.

G.C VARI-LOOPSTICK




## G-C BO ELIMINATOR

Barkhausen Oacillation - bertical black bare in TV pleture 二 Is catused by horizuntal sweep output
 Bo Elimisator over tulse muve up
down or tern untrl lines disabpear.

$\qquad$

## G.C TV "SMOOTHER" TUNER DETENTS

Popular ghort shafted detent. Jeplices RCA

 Mr King Caphatt Frada, Emurson, Pack-ard-lhell, etc.
No. List
$8600 \quad \$ 2.80$

|  | Tong shaft detent. Mreplaces lkn l'art No. 72743 used (:91 16'A models 8Ts:30, 721 1'心. $730 \mathrm{TCS}, 730 \mathrm{TV} 2$, ete. <br> $\begin{array}{ll}\text { No. } & \text { List } \\ 8601 & \$ 3.15\end{array}$ |
| :---: | :---: |
|  | Hextra long shaft detent for replacing ddmiral l'art No. 7 BiBl4. Usetl in . idmiral series No. 10-A and No. $81^{\circ}$. ets. Alsu on sets using lact tunc.s tyine 2011:1 - 1'art No. 71531. <br> No. <br> List 8602 |
|  | All whenolic shaft tyse detent used to replate Rr.i labi No. 7340 . dsed as a replacement on 13\%A tuners types $7343 \%$. 74371, and 74941. Insed in 10'A models in the 8T, OT: sTC, \&TR, 8TV, 9Te', 9TW scries. <br> $\mathrm{No}$. 8603 |
|  | Nimitar all phemblic shaft true detent to $\mathrm{B}-\mathrm{f}$ Nu. sion. I'sed to replace $1 \mathrm{c} / \mathrm{A}$ J'art No. 35162. <br> $\begin{array}{cc}\text { No. } & \text { List } \\ 8604 & \$ 4.00\end{array}$ |

## G-C TV PORTO MIRROR

Andust rear centrols and settings Mirrur has rubber lined spring clamp Mirrur mate of heavy elhrome plated metal to prevent distortion.

N 8198 Ty Mirror. complete with clamp $\$ 4.30$ 8199 soft çoth Carrying Bas 1.70

G.C TV MIRROR EXTENSION
LAMP STAND

Iandy metal collapsible stand for No. 8341 mirror or extension lamp. Telesmopes to small package.


List
$\$ 4.55$

Handy glass mirror in chrome frame, rith metal plate and bench bracket. Ese on bench or with No. 8352 stand.

| No. |  | List |
| :--- | :--- | ---: |
| 8391 | $12^{\prime \prime} \times 10^{\prime \prime}$ Glass Mlrror | $\$ 3.45$ |
| 8199 | Soft Cloth Carrying Bag | 1.70 |

IT'S G-C FOR ALL TV!
G-C TELEVISION ROLL-AROUND


The vasy wiy to phat (itstots oll ally (ombole kı"リine, sorvic-intr, seot molbility. Diljusitabs metia] frame fits most
sets. lazil] heariner falssets. labll heariner fus

G-C TV LIGHTNING ARRESTOR
All-weathor, l"ndarwejters approved. Fasy to conmete and install: nowires to strib. For 30 of ohm and 4 borohm open line.
$\begin{array}{lr}\text { No. } & \text { List } \\ 8640 & \$ 1.00\end{array}$

## GENERAL CEMENT

 RADIO•TV SERVICE AIDS
## G-C SPEEDEX SOLDERLESS TERMINALS




## G-C MAGNETIC RECORDING WIRE

For all wire recotders. Inclubles phastic loals. Finest quality reproduction on stainlens steel wire. Fits all stand.
ard recorders.


[^61]Page U-56

## G.C TELEVISION SAF-T-RACK



Suw improwed monlel, adjustabla, ter all farmtahles. Raises the thritahle 15 inches alowe
 ambination or repairs. Stardy stome construc 1 jom. Ilated.

No.
List
5205
$\$ 8.25$

## G-C MASTER-TONE RECORDING TAPE



The new G-C plastic lack master-tone resoriliner tape available in two sizes, for commaraind stops rapidl. Has low a purface friction, hiarh frequency restonse, and is uniform from reel to reel. No magnetic weak eputs.
No.
5180

| 1270 foot reel | List |
| ---: | ---: |
| 040 foot reel | $\$ 5.50$ |
| r" Empty reel | 3.50 |
| $5 \%$ Empty rea | .75 |

## 8Q general cement KITS and BUSHINGS

## It's

 G-Cfor All TV!



| G-C MINI-MAX STRIP |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  <br>  |  |  |  |  |
| No, |  |  |  | List $\$ 0.30$ |
|  |  |  |  |  |
| G.C HUB CAP STATIC SPRINGS |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| metal prints tor firm, smooth combact. Platerl. |  |  |  |  |
| No. $\begin{aligned} & \text { List } \\ & 1058 \text { Eacll }\end{aligned}$ |  |  |  |  |
|  | 1059 | Bus, 24 | Nurins | 3.50 |

G-C STATIC POWDER \& INJECTOR GUN


Injort powder in tuhrs, and eliminate wheel tire Etalic. Basy ta apply. Powater alson cuts down tire tronhbo hy eliminatiner those pin-pmint tube leaks cantod hat tire static disclatrme. Jowner blown into tulue with Ge(" Injmetor (inn.

| No. |  | List |
| :---: | :---: | :---: |
| 5604 | Injector Gun, ouly | \$1.80 |
| 5605 | Packef static lowiler for 5 tires (1 car) | 1.10 |
| 5606 | Kit. ume No, Fitot Injemtar, intl | 2.75 |

## G-C SCREW DRIVER SET

 I hanly strew iriver set in
a hat lipetto case with five interchanmeable blates. ine internanmeane hardes. winbreatable handle with
flamad aluminum serew nlamere
churok

Blade Sizes

ist $\$ 2.75$

G-C TV STAND-OFF 'EYE-OPENER' TOOL
 amen stamb-oll insulators for


No.
8450
List
$\$ 1.25$

## G-C ALLEN-BRISTO WRENCH KIT



Comptrete wrom kit for hex and epline type serewe. Doulhe smap button case of durahio leatheretie. lit No. 2 to ${ }^{3}$ " serwe.
No.
List
$\$ 1.80$
G.C BRISTO-SPLINE WRENCHES AND KITS


Viry popular "Bristo" or "Spline" type wrumbers as usel on phono needles, motors. puthys, knotrs, etc. Made of alloy steel, property hardened.

No.Kit 6 Asstd. Wrencles1.eatherette Case .................... $\$ 0.85$
No. 4

5072
5072
No. 8
5074 No. 10
5075

G－C 8－PIECE VEST POCKET SET


G－C REDUCING BUSHINGS



# Q6）general cement SERVICE AIDS • RADIO KNOBS 

G．C BRASS AND INSULATED SPACERS AND BUSHINGS


EINSULATED

| $\begin{aligned} & \text { No. } \\ & 6617 \end{aligned}$ |  | List |
| :---: | :---: | :---: |
|  | AssortmentsItar lware lath．Jar $12.15 s t d$. |  |
|  | Stasers and Bushings ．．．．．．． | \＄0．85 |
| $\begin{aligned} & 6760-E \\ & 6762 \end{aligned}$ | finc．12 Asst．lus．spacers | ． 45 |
|  | 1．5 Asst．Thuenthel Rrass Bush－ inge ti－3＂thread， $1 / 4^{\prime \prime}$ to $3 / 4^{\prime \prime}$ |  |
|  | lonyr | 1.45 |
| 6763 | 15 Asst．Threarden lirass Mush－ ings s－30 threar， $\mathbf{1}^{\prime \prime}$＂to $3 / 4^{\prime \prime}$ |  |
|  | lonir | 1.45 |
| 6775－E | Finc． $1: 1 / /^{\prime \prime} \times$ \％Ins，Spacers | ． 45 |
| 6761－E | Ens．12 Asst．Metal staters | ． 45 |
| No． | O．D．Length | List |
| 6765 | $1 / \%^{\prime \prime}{ }^{1 \prime \prime}$ | \＄0．05 |
| 6767 | 1／4＂ $1 / 2$ | ． 06 |
| 6768 | 1／7＂3／＂ | ． 07 |
| 6769 | 3＂${ }_{\text {c }}$ | ． 06 |
|  | 3＂）1＂ | ． 07 |
| 6771 |  | ． 07 |
| 6771 | 3／8＂${ }^{\prime \prime}{ }^{\text {／}}$ | ． 08 |


| $\begin{aligned} & \mathrm{No}_{0} \\ & 6775 \end{aligned}$ | O．D． |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | ength | $\begin{aligned} & \text { List } \\ & \$ 0.04 \end{aligned}$ |
| 6776 | 1 ＂ |  | ${ }^{3}{ }_{8}{ }^{\prime \prime}$ | ． 05 |
| 6777 | 1／＂ |  | $1 /{ }^{\prime \prime}$ | ． 05 |
| 6778 | 1／4＂ |  | $3{ }^{\prime \prime}$ | ． 08 |
| 6779 | 呂＂ |  | $1{ }^{1 /}$ | ． 05 |
| 6780 | 3＂ |  | 12＂ | ． 06 |
| 6781 | $3{ }^{3 \prime \prime}$ |  | 嚮＂ | ． 07 |
|  | THREADED | BRASS | BUSHINGS |  |
|  |  | Thread |  |  |
| $\begin{aligned} & \text { No. } \\ & 6785 \end{aligned}$ | O．D． | $\begin{aligned} & \text { Size } \\ & \text { fi- } \end{aligned}$ | Length | $\begin{gathered} \text { List } \\ \$ 0.06 \end{gathered}$ |
| 6786 | $1 / 4$＂ | （6－32 | ：s＂ | ． 08 |
| 6787 | $1 /{ }^{\prime \prime}$ | （i－32 | \％＂ | ． 09 |
| 6789 | 1／4＂ | 1 C －3\％ |  | ． 11 |
| 6790 | 1／＂ | 8－39 | 1／4＂ | ． 06 |
| 6791 | 1／4＂ | 8－32 | $3 \times$ | ． 08 |
| 6792 | \％＂ | －8－32 | 1＇＂ | ． 09 |
| 6793 | 1／1＂ | 8．30 | \％ | ． 11 |

ELECTRONIC HARDWARE


## LABORATORIES

monpere assortment of hardwabe． sential electronic hardware items． Packal in cluar jars with screw


G－C RCA RECORD ADAPTERS
caps．Assorments as below．Free No． 6601 No． 6601 No． $660^{\frac{2}{4}}$ jar assortment st $\$ 17.00$ Delouve Hardware Lalloratory，
hame mastic waptis Rol－tvo reords fir use on stimulard thrn table shafts．Quickly interchante alle．
No．
List
0.45



## Gineri ge binit RADIO KNOBS－KITS

| MAJESTIC BAKELITE KNOBS | ROYAL <br> BAKELITE KNOBS |
| :---: | :---: |
|  |  |
| Prosular battern．Set screy tyre．T／8＂dia．． $1 / 4$＂shaft． | Beautiftl pattern．Sut scresw tyme．$\%$＂dia．． ＂${ }^{\prime}$＂shaft． |
| $\begin{array}{lll} \text { No. } & \text { List } \\ & \text { No } & \text { Walnut } \\ 1100 & \$ 0.24 \\ 1100.1 & \text { lvory } & .24 \end{array}$ | $\begin{array}{llr} \text { No. } & \text { List } \\ 1105 & \text { Walnut } & 50.24 \\ 1105.1 & \text { Ilury } & .24 \end{array}$ |
| MIDGET | MIDGET |
| BAKELITE KNOBS | BAKELITE KNOBS Set Screw Type |
|  |  |
| For small sets．${ }^{\prime \prime}{ }^{\prime \prime}$ dia．， $1 / 4^{\prime \prime}$ shaft． <br> Pointer Type | For small sets．永＂dia． set screw＇，＂． Non．Pointer Type |
| No．List | No．List |
| 1115 Walnut \＄0．14 |  |
| 1117 Red ． 17 | 1113 lied .17 |
| IIIB Black ． 14 | 1114 maiacks ． 44 |



| INSTRUMENT KNOB | POPULAR LARGE |
| :--- | :--- | :--- |
| KNOB |  |

## 4Q general cement RADIO•TV KNOBS and KIIS

IT'S G-C
FOR ALL
TV!


[^62]The MASTER - 20th Edition

# G-C RADIO HARDWARE IN GLASS JARS 



G-C Hardware Laboratory

Hardware in glass jars is convenient for the workshop or laboratory. Supplied in modern clear glass jars with a wide mouth opening. All hardware is labelled for easy identification.
Two assortments of hardware - one a 40 -jar assortment, the other a 20 -jar assortment - are available. Supplied from the jars of hardware listed below.

No. 6601 Hardware Rack Asst. (20 Jars) . $\$ 17.00$ Contains Jars 6605 thru 6624

No. 6604 Hardware Rack Asst. (40 Jars) .
34.00 Contains Jars 6605 thru 6644
the heavy steel rack is free
FREE STEEL RACK
With No. 6601 or No. 6604 Assts.)


[^63]

## (\%) G-C ROUND HEAD MACHINE SCREWS BRASS - NOT PLATED

| Assorted Brass Machēe Screws | H1210-F 30 | $8500-\mathrm{E}$ | 30 |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Machine Screws, Brass, $6-32 \times 1 / 4^{\prime \prime}$ |  |  | $8501-\mathrm{G}$ | 2.00 | $8501-\mathrm{M}$ |
| Machine Screws, Brass, $6-32 \times 1 / 2^{\prime \prime}$ |  | 12.00 |  |  |  |
| Machine Screws, Brass, $6-32 \times 3 / 4^{\prime \prime}$ |  |  | $8502-\mathrm{G}$ | 2.30 | $8502-\mathrm{M}$ |



A! Mallict: G-C SPADE BOLTS or MOUNTINE SCREWS StEEL - NICKEL PLATED


| Hl |
| :--- |
|  |
|  |
|  |



G-C SHEET METAL SCREWS hex head - slotted - self-TAPPINC - nickel plated POINTED TYPE "A"

| Assorted Sheet Metal Screws | H1300-F | 25 | 297-E | 25 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Assorted No. 4 and No. 6 Sheet Metal Screws |  |  |  |  |  |  |  |  |
| Assorted No. 8 and No. 10 Sheet Metal Screws |  |  |  |  |  |  |  |  |
| Sheet Metal Screws, No. $4 \times 1 / 2^{\prime \prime}$ | H1350-F | 35 | 6090.E | 35 | 6090-G | 1.65 | 6090.M | 10.00 |
| Sheet Metal Screws, No. $6 \times \frac{1 / 4}{}{ }^{\prime \prime}$ | H1362-F | 30 | 6091-E | 30 | 6091-G | 1.65 | 6091.M | 9.75 |
| Sheet Metal Screws, No. $6 \times 3 / 8^{\prime \prime}$ | H1363-F | 25 | 6092.E | 25 | 6092.G | 1.65 | 6092-M | 10.00 |
| Sheet Metal Screws, No. $6 \times 1 / 2{ }^{\prime \prime}$ | H1364-F | 25 | 6093-E | 25 | 6093-G | 2.25 | 6093-M | 13.50 |
| Sheet Metal Screws, No. $6 \times 3 / 4$ " | H1366-F | 20 |  |  | 6094-G | 2.40 | 6094-M | 14.50 |
| Sheet Metal Screws, No. $8 \times 1 / 4$ " (Auto Radio Size) | H1382-F | 20 | 8102.E | 20 | 8102.G | 2.90 | 8102.M | 17.25 |
| Sheet Metal Screws, No. $8 \times 3 / 8$ " | H1383-F | 20 | 6095-E | 20 | 6095.G | 2.10 | 6095-M | 12.50 |
| Sheet Metal Screws, No. $8 \times 1 / 2^{\prime \prime}$ | H1384.F | 20 | 6096.E | 20 | 6096.6 | 2.65 | 6096.M | 15.75 |
| Sheet Metal Screws, No. $8 \times 1^{\prime \prime}$ | H1388-F | 15 | 6097-E | 15 | 6097.G | 3.40 | 6097-M | 20.50 |
| Sheet Metal Screws, No. $10 \times 3 / 8^{\prime \prime}$ | H1403-F | 15 |  |  | 6098.G | 3.00 | 6098-M | 18.00 |
| Sheet Metal Screws, No. $10 \times 1 / 2^{\prime \prime}$ | H1404-F | 15 | 6099-E | 15 | 6099.G | 3.20 | 6099-M | 19.25 |
| Sheet Metal Screws, No. $10 \times 3 / 4^{\prime \prime}$ | H1406.F | 12 |  |  | 6100-6 | 3.55 | 6100-M | 21.25 |

Oum G-C ESCUTCHEON PLATE SCREWS

| Assorted Escutcheon Screws | H1500-F 25 | 1090-E 25 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Escutcheon Screws, No. $2 \times 1 / 4^{\prime \prime}$ |  |  | 1091.6 | 2.05 | 1091-M | 12.25 |
| Escutcheon Screws, No. $2 \times 3 / 8$ " |  |  | 1093.G | 2.25 | 1093-M | 13.50 |

CUP POINT Is Standard
G-C RADIO KNOB SEY SCREWS.
slotted - headless - hardened steel



G-C BRISTO SET SCREWS hardened stell - spline type - headless


| Bristo Set Screws, 6-32 $\times$ /16 ${ }^{\prime \prime}$ |  | 7182.G | 12.50 | 7182.M | 75.00 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Bristo Set Screws, $8.32 \times 1 /{ }^{\prime \prime}$ |  | 7186-G | 12.50 | $7186 \cdot \mathrm{M}$ | 75.00 |
| Bristo Set Screws, $8.32 \times 3{ }^{\prime \prime \prime}$ |  | $7187 . \mathrm{G}$ | 12.50 | 7187.M | 75.00 |



GENERAL CEMENT
MANUFACTURING CO.
ROCKFORD, ILINOIS, USA

G-C METAL WASHERS
mickel plated


G-C LOCK WASHERS
internal lock washers


| Assorted Lock Washers, All Types |  | H918-F | 45 | 1717-E | 45 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Assorted Internal Lock Washers |  | H920-F | 50 | 7320-E | 50 |  |  |  |  |
| Screw Size | 0.0. |  |  |  |  |  |  |  |  |
| Internal Lock Washers, Nio. 2 |  | H922-F | 35 |  |  | 7322-G | 1.45 | 7322-M | 8.75 |
| Internal Lock Washers, No. 3 |  |  |  |  |  | 7323-G | 1.40 | 7323.M | 8.25 |
| Internal Lock Washers, No. 4 |  | H924-F | 50 |  |  | 7324.G | . 85 | 7324-M | 5.00 |
| Internal Lock Washers, No. 6 | \%/32 | H926-F | 50 | 7326-E | 50 | 7326-G | . 85 | 7326-M | 5.00 |
| Internal Lock Washers, No. 8 | ${ }^{21 / 64}{ }^{\prime \prime}$ | H928-F | 50 | 7328-E | 50 | 7328-G | . 95 | 7328-M | 5.75 |
| Biternal Lock Washers, No. 10 | $3 / 8^{\prime \prime}$ | H930-F | 45 |  |  | 7330-G | 1.00 | 7330-M | 6.10 |
| Internal Lock Washers, No. $1 / 4 \mathrm{\prime} \mathrm{\prime}$ | 916" |  |  |  |  | 7332-G | 1.30 | 7332-M | 7.75 |
| Internal Lock Washers, No. $5 / 1{ }^{\text {a }}$ | 19313" |  |  |  |  | 7333-G | 1.65 | 7333-M | 10.00 |
| Internal Lock Washers, No. $3 / 81$ | $11 / 10^{\prime \prime}$ |  |  |  |  | 7334-G | 2.60 | 7334-M | 15.50 |
| Internal Lock Washers, ${ }^{\text {No. } 3 / 8 / 10}$ | \%16" | H938.F | 25 |  |  | 7335-G | 2.25 | 7335-M | 13.50 |
| Internal Lock Washers, No. 15/22 | 19/32" |  |  |  |  | 7338-G | 2.90 | 7338-M | 17.50 |


| EXTERNAL LOCK WASHERS Cadmium Plated |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Assorted External Lock Washers |  | H950-F | 60 | 7350.E | 60 |  |  |  |  |
| External Lock Washers, No. 4 |  |  |  |  |  | 7354-G | 1.00 | 7354-M | 6.00 |
| External Lock Washers, No. 6 |  |  |  | 7356-E | 60 | 7356-G | 1.00 | 7356-M | 6.00 |
| External Lock Washers, No. 8 |  |  |  | 7358-E | 60 | 7358-G | 1.00 | 7358-M | 6.00 |
| External Lock Washers, No. 10 |  |  |  |  |  | 7360.G | 1.05 | 7360-M | 6.25 |
| External Lock Washers, No. 1/4" | $1 / 2^{\prime \prime}$ |  |  |  |  | 7361-G | 1.35 | 7361-M | 8.00 |
| External Lock Washers, No. $3 / 8$ " | $11 / 6$ |  |  |  |  | 7363-G | 1.35 | 7363-M | 8.00 |


| SPLIT TYPE LOCK WASHERS Cadmium Plated |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Assorted Split Type Lock Washers |  |  | $\text { H960-F } \quad 60$ |  | 6502-E |  |  |  |  |
| Screw Size | O.D. | Thickness |  |  |  |  |  |  |
| No. 4 | 3/16" | $1 / 32^{\prime \prime}$ |  |  |  |  | 6503-G | . 95 | 6503-M | 5.75 |
| No. 6 | 1564" | 1/32" |  |  |  | 6504-G | . 95 | 6504-M | 5.75 |
| No. 8 | 11/32" | . 025 |  |  |  | 6505-G | . 95 | 6505-M | 5.75 |
| No. 10 | 5/6" | . 050 |  |  |  | 6506-G | . 95 | 6506-M | 5.75 |
| No. $1 / 4$ " | 7/10" | 5/64" |  |  |  | 6507-G | 1.40 | 6507-M | 8.50 |

The MASTI:R 3uth Editin:
Coh.right by U. C. P., Inc


[^64]The MASTER - 20th Editin


G-C EXTRUDED FIBRE WASHERS


| Assorted Extruded and Flat Fibre Washers |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Assorted Extruded Fibre Washers |  |  |  |  |
| A | B | C | D | Screw Size |
| 5/6" | . 187 | . 140 | . 039 | No. 6 |
| 3/8" | . 259 | . 169 | . 031 | No. 8 |
| 7/16 | . 255 | . 196 | . 032 | No. 10 |
| $1 / 2^{\prime \prime}$ | . 375 | . 250 | . 032 | 1/4" Shaft |
| $5 / 8{ }^{\prime \prime}$ | . 437 | . 380 | . 031 | 3/8" Shaft |


| H854-F | 30 | $6512 \cdot \mathrm{E}$ | 30 |  |  |  |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $\mathrm{H} 855 \cdot \mathrm{~F}$ | 30 | $6520-\mathrm{E}$ | 40 |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  | $6525 \cdot \mathrm{E}$ | 40 | $6525-\mathrm{G}$ | 1.55 | $6525 \cdot \mathrm{M}$ |
|  |  |  | $6527 \cdot \mathrm{G}$ | 1.55 | $6526 \cdot \mathrm{M}$ | 9.25 |  |
|  |  |  | $6528 \cdot \mathrm{G}$ | 1.75 | $6527 \cdot \mathrm{M}$ | 10.25 |  |

Assorted Hole Plugs
G-C SNAP BUTTON HOLE PLUGS

| Assorted Hole | ugs | $\rightarrow$ |  |  | H300-F | 6 | 1716-E | 8 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. 1710 Asst. | 50 | in Box | List | \$2. |  |  |  |  |  |  |  |  |
| For Hole Dia. | A | B | C | D |  |  |  |  |  |  |  |  |
| $1 / 4{ }^{\prime \prime}$ | $13 / 32^{\prime \prime}$ | $1 / 4^{\prime \prime}$ | 17/64 ${ }^{11}$ | 564 | H306-F | 8 |  |  | 1711-AG | 5.40 | 1711-AM | 32.50 |
| 5/16 | $716{ }^{\prime \prime}$ | $1 / 4 "$ | 21/64" | 116" |  |  |  |  | 1711-BG | 5.40 | 1711-BM | 32.50 |
| 3/8" | 17/32 ${ }^{10}$ | $3 / 8{ }^{\prime \prime}$ | 25/64 ${ }^{17}$ | 564 | H308-F | 8 | 1711-E | 8 | 1711-G | 5.40 | 1711.M | 32.50 |
| $1 / 2^{\prime \prime}$ | $21 / 32^{11}$ | 17/64 | 17/321 | 56.1 | H310-F | 6 | 1712-E | 6 | 1712-G | 6.25 | 1712.M | 37.50 |
| 5/8" | 51/64 ${ }^{\prime \prime}$ |  | $41 / 64$ " | 564" | H312-F | 6 |  |  | 1713-G | 7.50 | 1713-m | 45.00 |
| $3 / 4^{\prime \prime}$ | 15/16 ${ }^{\prime \prime}$ | 196" | 4964 | ${ }_{3}^{32} 3$ | H314-F | 5 | 1714-E | 5 | 1714-G | 9.15 | 1714-M | 55.00 |
| $7 / 81$ | Fits Switch Box Knockout Hole |  |  |  |  |  |  |  | 1714.AG | 12.10 | 1714.AM | 72.50 |
| 1 " | 15/32" | 11/64" | 11/32" | $564{ }^{56}$ | H316-F | 5 | 1715.AE | 4 | 1715-AG | 12.10 | 1715.AM | 72.50 |
| 11/8" | 1518" | $11 / 32^{\prime \prime}$ | 1964 | 3132 |  |  |  |  | 1715-BG | 12.10 | 1715-BM | 72.50 |
| 11/4" | 1716" | 5/16" | 11764 ${ }^{17}$ | $3 / 32^{\prime \prime}$ |  |  | 1715-E | 4 | 1715-G | 15.85 | 1715.M | 95.00 |



G-C SNAP-IN VENTILATING PLUGS

## NICKEL PLATED

334-F
Ventilating Plugs, $1^{\prime \prime}$ Hole Size, Punched Hole Ventilating Plugs, 1" Hole Size, Screen Vent

| No. 1720 Asst. | 100 Trimounts |  | ice \$1.35 |
| :---: | :---: | :---: | :---: |
| Assorted Trimounts |  |  |  |
| To Fit Hole | A | B | Fig. No. |
| 1/8" | 9/32 | 3160 | 1 |
| 1/8" | $9 / 321$ | ${ }^{13} 16{ }_{4}{ }^{\prime \prime}$ | 2 |
| . 136 | $11 / 32^{\prime \prime}$ | 1764" | 3 |
| . 136 | 23/64" | 9321 | 4 |
| $5 / 32$ | 31/16" ${ }^{11 / 1 / 32}$ | 25\%" ${ }^{\prime \prime}$ | 5 |
| $5 / 32^{\prime \prime}$ | $3 / 16^{\prime \prime} \times 1 / 32^{\prime \prime}$ | 21/32" | 6 |


|  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | H370-F | 20 | $1719-E$ | 20 |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  | $1721 \cdot \mathrm{E}$ | 25 | $1721-\mathrm{G}$ | 2.25 | $1721-\mathrm{M}$ |



Assorted Dial Cable Clips

| Assorted Dial Cable Clips |  |  |  | H745-F | 30 | 6220-E | 30 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Used on Cord No. | A | 8 | C |  |  |  |  |  |  |  |  |
| 75.75A | $1 / 8{ }^{\prime \prime}$ | 7/64" | $3 / 32$ | H746-F | 40 | 6221-E | 40 | $6221 \cdot \mathrm{G}$ | 1.55 | 6221-M | 9.25 |
| 74-74L | $1 / 4{ }^{\prime \prime}$ | $5 / 32^{\prime \prime}$ | ${ }_{5}^{5} .32^{\prime \prime}$ |  |  |  |  | 6222-G | 1.55 | 6222-M | 9.25 |
| 73-73X | 3/10 ${ }^{\prime \prime}$ | \%64 | 3/16" |  |  |  |  | 6223-G | 1.55 | 6223.M | 9.25 |

## G-C FUSE CLIPS NICKEL PLATED



| For 1/4" Glass Fuses, No |  | H600-F 12 | 6311-E | 10 | $6311 \cdot 6$ | 2.90 | 6311-M | 17.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Television Fuse Clip (A) | No. 8618 | (\$0.30 List) |  |  |  |  |  |  |
| Television Fuse Clip | No. 8618-D | (Display 24 No . | \$7.20) |  |  |  |  |  |



HANDY G-C HARDWARE

## In Convenient Packages:

1. Plastic Boxes or Envelopes
2. Boxes of 144 (Gross)
3. Bulk Boxes of 1000 .

DESCRIPTION and SPECIFICATIONS


| PLASTIC <br> ENVELOPES <br> Distributor's Std. Display. 20 Eny List Price 45 Per Env. | BOXES OF 144 <br> (Cross Packages) Distributor's Standard Carton. 7 Boxes of 144 | BULK <br> HARDWARE <br> (Boxes of 1000 ) Supplied onty in Multıples of 1000 |
| :---: | :---: | :---: |
| Part No. $\begin{gathered}\text { Quantity } \\ \text { inkmy }\end{gathered}$ | Part No. List Price | Part No. List prite per. |

## G-C DIAL PULLEYS

 brass
Assorted Knob Springs

| TV Knob Spring Assortment |
| :--- |
| No. 1050 Kit of 35 Spring |

No. 1051 Kit of 100 Springs

| Fig. No. | Width | Length |  |
| :---: | :---: | :---: | :---: |
| K1 | 9/72" Light | 1/6" | 1/" |
| K2 | 93121 Heavy | 7/18 | $1 / 4^{\prime \prime}$ |
| K3 | \%32" | 5/16" | $1 / 4^{\prime \prime}$ |
| K4 | 3/1/ | $5 / 32$ " | $1 / 4 "$ |
| K5 | 1/32" | $13 / 32^{\prime \prime}$ | $1 / 4^{\prime \prime}$ |
| K6 | \% 1312 | 3/8" | $1 / 4^{\prime \prime}$ |
| K6. ${ }^{\text {S }}$ | \% 132 | $1 / 4 "$ | $1 / 4^{\prime \prime}$ |
| K7 | $9 / 32^{\prime \prime}$ | $1 / 2^{\prime \prime}$ | $1 / 4^{\prime \prime}$ |
| K8 | 9/32 | 3/6" | $1 / 4^{\prime \prime}$ |
| K9 | 11/32" | $1 / 4^{\prime \prime}$ | $1 / 4^{\prime \prime}$ |
| K10 | \%/8" | 3/8" | $1 / 4^{\prime \prime}$ |
| $\mathrm{Kl1}$ | 3/3 | 1/8" | 1/4" |
| K12 | 3/8" | K10' | $3 / 180$ |


| V Knob Spring | $.202^{\prime \prime}$ Shaft |
| :--- | :--- |
| TV Knob Spring | $1 /{ }^{\prime \prime}$ Flat Shaft |


| Hl966-F 6 | $6057-\mathrm{E}$ | 6 |
| :--- | :--- | :--- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |


|  |  |  |  |
| ---: | ---: | ---: | ---: |
|  |  |  |  |
| $6057 \cdot \mathrm{AG}$ | 7.75 | $6057-\mathrm{AM}$ | 46.50 |
| $6057 \cdot \mathrm{BG}$ | 11.25 | $6057-\mathrm{BM}$ | 67.50 |
| $6057 \cdot \mathrm{GG}$ | 8.75 | $6057 \cdot \mathrm{GM}$ | 52.50 |
| $6057 \cdot \mathrm{CG}$ | 14.10 | $6057 \cdot \mathrm{CM}$ | 84.50 |
| $6057 \cdot \mathrm{FG}$ | 26.25 | $6057 \cdot \mathrm{FM}$ | 157.50 |

##  $\mathrm{B}-\mathrm{Can}_{-1}$ <br> STEEL - CADMIUM PLATED

| Asst. Regular Dial Drive Springs |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Asst. Small Dial Drive Springs |  |  |  |  |
| No. 1055 Ki | f 25 | sst. Springs | List Price \$1.30 |  |
| No. $1056 \mathrm{Kı}$ | f 100 | sst. Springs | List Price \$4.85 |  |
| Asst. Large Tenston Springs |  |  |  |  |
| Asst. Small Tension Springs |  |  |  |  |
| A B | C | Wire Sıze | Old No. | List Price |
| $1 / 6^{\prime \prime} 3^{\prime \prime}$ | 1/4" | . 019 | TI | \$0.05 |
| 1/9" ${ }^{\prime \prime}$ | 1/4. ${ }^{\circ}$ | 019 | T2 | . 06 |
| \% $_{6010}{ }^{\prime \prime}$ | $5{ }^{10}$ | 020 | T3 | . 06 |
| \% $_{6}{ }^{\prime \prime} 13 /{ }^{\prime \prime}$ | $1 "$ | . 020 | T4 | . 06 |
| $1 / 4 " 11 / 2^{\prime \prime}$ | $1 "$ | . 026 | T5 | . 08 |
| $1 / 4{ }^{\prime \prime}$ 2" | $11 / 2{ }^{\circ \prime}$ | . 026 | T6 | . 10 |


| $H 401-F$ | 8 | $1054-E$ | 8 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | $H 400-F$ | 10 | $1054-S E$ | 10 |  |

A
G-C PHONOGRAPH SPRINGS
steel - cadmium plated


The . U. 157ER 20th トielitiont
Copyright by U.C. P., Inc
Page U-70
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY


GENERAL CEMENT
MANUFACTURING CO.
ROCKFORD, ILINOIS, USA
(A) G-C RUBBER FEET - Screw Type

45c Env. Supplied with'Screws-Cross and Thousands Pkgs. without Screws


G-C RUBBER TACK BUMPERS

| $3 / 8 " 0 . D$. Rubber Tack Bumpers | H071-F | 10 | $1075-\mathrm{E}$ | 10 | $1075-\mathrm{G}$ | 4.40 | $1075-\mathrm{M}$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |



## G-C FELT PADS

$1 / 2^{\prime \prime} 0 . D . \times 1 / /^{\prime \prime}$ Thick Felt Pads
H074-F 40 1069-E

## G-C CORD STRAIN RELIEFS

| 1071-G | .95 | $1071-M$ | 5.75 |
| :--- | :--- | :--- | :--- |


| $\square$ | G-C CORD STRAIN RELIEFS |  |  |  | $\longrightarrow$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Will Fit P.O.S.J. Cord | H048-F | 5 | 6675-E | 4 | 6675-G | 9.75 | 6675-M | 58.50 |
| $\underline{L}$ | G-C ESCUTCHEON PINS |  |  |  |  |  |  |  |


| Asst. Escutcheon Pins |  |  | H560-F | 100 | 6670.E 100 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Length | Diam. | Finish |  |  |  |  |  |  |  |
| 1/4" | No. 18 | Stat. Bronze |  |  |  | 7526-G | . 75 | 7526-M | 4.50 |
| $1 / 4^{\prime \prime}$ | No. 19 | Stat. Bronze |  |  |  | 7527-G | . 90 | 7527.M | 5.25 |
| 1/4" | No. 20 | Stat. Bronze |  |  |  | 7528-G | 95 | 7528-M | 5.75 |
| 1" | No. 15 | Nickel Plated |  |  |  | 7529-G | 1.10 | 7529-M | 6.50 |

## G-C ANGLES and BRACKETS

| Assorted Ang | Id Bra |  |  | H570-F | 12 | 6260-E | 15 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A | B | c | Hole Size |  |  |  |  |  |  |  |  |
| $1 / 4^{\prime \prime}$ | 3/6" | 9317 | 6 |  |  |  |  | 6261-G | 2.80 | 6261-M | 16.75 |
| $3 / 8^{\prime \prime}$ | $1 / 4$ | \%/32" | 6 |  |  |  |  | 6262-G | 2.25 | 6262-M | 13.50 |
| $1 / 2^{\prime \prime}$ | \%" | 3/8" | 6 |  |  |  |  | 6263-G | 2.90 | 6263-M | 17.50 |

## 



200


201

INSULATED SOLDERLESS TIP PLUGS

 Gastic hamble aralable in Kedi. Jilat., Yellow,

| No. 200 |  |
| :--- | :--- |
| No. 201 | Schior Tyße |



250
SOLDERLESS PHONE TIP PLUG
 plate with Rughad Corps drawing and suers. Sul Natlable in Fied a Dilack. speeify color. No. 250 HEAVY DUTY INSULATED PHONE TIP PLUG phag notion hass nickel plated. Fits all standaril


229


203

 | Yellow, Grem. Blue or White. Encoify |
| :--- |
| No. 229 lor. |
| 28.00 Per C | INSULATED SHORT PHONE TIP PLUG Plug wartion brass, nicliel plated, pits all standard Phone tha jacks. Tip insorts right up to bandle Yellow, (ireen, Blue or White. Sme ify color.

No. 203


212242 2242 insulated banana plugs 211 Pluy morticen hexel luass. natckel phited. Fits all stimut.

 able in Hod. Black. Yellom, Grén, Diate oll White No. 212 Indes
 INSULATED BANANA PLUG
suring Tvpe. Phug Fiticill standalal hamath jarke. Fiona mirkel plated.



215
-


270


204
Ine $r$ bronze spting. Wire can be soldered to stuil
 Blark, Yellow, Grect blue or White. Specify color.
No. 211 INSULATED BANANA PLUG Fming l'sne. Plug nortion brass, nickel platcel Hhy an stadard buadit juks, Four leaved phos
 Heal. Black. Yelow, Grecn. Blue or White. Specffy $\begin{array}{lll}\text { volur. } \\ \text { No. } 20 \text { : } & \$ 25.00 & \text { Per } C\end{array}$


213
(0) $\frac{5}{\frac{5}{16}} \frac{7}{4}$


253
INSULATED BANANA PLUG split Trye. Plug portion brass, nicliel plated: cross slutted. Net screw for solderless connection. Molded Grastic hamble apablable in thent. Black. Yellow. No. 213 l or

INSULATED BANANA PLUG
lolut intion frass, nickel plated. Wire can be dinh, Yellow, Gieen, Blue ur White. Spactifs mor
No. 253
rits standard firs jachs. Fing revkimg all twee ail

 HEAVT DUTY INSULATED PHONE TIP PLUC Banana pug inscrts in rear for adan to mone tip mug. Phay poltion lirass. nidkel plated. Fits al Reit. B actr. Yellew or Giecn. Slemify solur. No. 215

For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A
$\qquad$


216

## INSULATED PHONO NEEDLE TIP PLUG

 hians. nirkel platecl Removathle churk. Mokied hamble, Hett. Hack, Yellow, Green, Ibluc or White, No. 216INSULATED BANANA PLUGS
Finholy uty No. 213 Enllt and 204 Sprtng Tym Whos. excelt handies are 1 y ${ }^{2}$ long. Set screw for solderless comnection. Sachined mastic handle in
Hed, Black. Yellow or Green. Specify color. No. 243 Split =vpe $\quad \$ 40.00$ Per C


244

TIP PLUG TO BANANA PLUG ADAPTER

Fits all standard banana jacks. Idupts phone iln pheg to banana plug. Insulated hatdle, Red, Black. Yellow or Green. Speclfy color.


214

## HERMANH. SMITH, INC.



## ALL INSULATED TIP JACK

 In "hole itr mamels up to iis" thith. Rex. Black. Fellow, Green or blue.
No. 240


206
INSULATED COMBINATION JACK Accommodates all standard phone tip or banana phuse. Body is bass, nickel phated; enotact is a sturts bhosphor bronze sprithg. Molded plastic heme
 No. 206

## COMBINATION BINDING POST

Moblet plastic, tree turning, non-removable hearl. Areetots a whome tip pluge a spade lug. or a hamana why. Numally groundelf; cim be insulated by use of No. 2lat shoulder athe 2163 flat tibre washers. Ited or Blaek. speedify color
No. 220 $\qquad$ COMBINATION BINDING POST hut witl Nn. 280


233-234 HEAVY DUTY INSULATED BANANA FLUG
 curer mastic hathate accomandates heavier wirce set seren for solderless
 No. 233
No. 234
siring Type 1hlig $\$ 75.00$
per $C$
$\$ 75.00$
per $\mathbf{C}$

## INSULATED SPADE LUG

Adlapts hamana miug to a spatie lug. steel hot tinned lug $.030^{\circ}$ thick for extra

$\$ 20.00$
$\mathbf{p e r}$ C
$\mathbf{3 5 . 0 0}$
per C

INSULATED BANANA JACK



INSULATED BANANA JACK
 Siretill
No. 219

$\$ 25.00$ per C
$\$ 50.00$ der $C$

260
five way combination BINDING POST
All In ulated Type. Moldeal nta-lic. thes fumane. non-remotable heatl. Bollede-in thase lationes in Washers combletely insulate this pat from manel. Mounts in ${ }^{50}$ " pallol. Aecommonates flutur lip blug. spate lug. batatat plug. allizator atis. or strand of wire. Red or back. smerify colnt No. 2611 $\$ 55.00$ per C

ALL INSULATED TYPE salle at alluse but with metal isisert in bead.
No. 29॥


18


MOLDED METER TIP PLUG



 METAL COMBINATION BINDING POST
Two-piece brass, nickel patal, Areepts ull standati pheme tip or batana pluss. Mounts to chat sis hy use of t-i̛: serew No. 136


136

For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A



125

\section*{HEAVY DUTY PHONE TIP PLUG

## This lavy Duty PHONE TIP PLUG

## This lavy Duty PHONE TIP PLUG

 whon til jalks.
No. 125

BANANA PLUGS - Spring Type

 Hien with lux 1 ut. $\$ 45.00$ Per $C$
No. 135 No. 145 $\qquad$ $\$ 25.00$ Per $C$


Brass nirkel phatert.


## DRAWN HOLLOW SOLDER TIP


No. 158


Hex.ul lrass, nickel plathet. Spring is fomr-

 buphlien with strew and phenthor hromza cinnet mis Internal temale permits use of this | pluy |
| :--- |
| No. 100 |

## BANANA PLUG

Hexed lrasf, nickel plated. Four-lcaved phosfhor bronze sprinct, nickel plated, 6-32 No. 102


MIDGET BANANA PLUG AND JACK


1 llue
$\$ 15.00$ Per C
$\$ 12.00$
Per C

## MIDGET BANANA PLUG

Rivet Type

 Also mand to rix id ilas suces No. 121


128


104

NEEDLE TIP AND CHUCK

 No. $128 \quad \$ 20.00$ Per $C$

## BANANA PLUG - Split Type

 Hoxed lmass, nicknl plated. (ross slotted for fosition amd lasting romtact. F'its all stanhex mut.
No. 104
$\$ 20.00$ Per C


## For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A

## 



300
ALLIGATOR CLIP
Steel. cadmium plated. Jaws match accurately for firm trip. Ranama plus fits in rear of No. $300 \quad \$ 10.00$ Per C
 STEEL ALLIGATOR CLIP Screw Type
Steel. cadmium plated. Jaws match accurately for tim prop. Supplied with screw for solder lees connection.
$\begin{array}{llll}\text { No. } 350 & \text { : } 1+\cdots)^{2} & \$ 11.00 & \text { Per C } \\ \text { No. } 360 & \text { (оррет } & \$ 15.00 & \text { Per C }\end{array}$


## ALLIGATOR CLIP ADAPTER

Adapts stambard solderless tips to Mllizator Clip. This novel thick adaptor is a must for all tres bench work No. 310
$\$ 25.00$ Per C

## BANANA PLUG SPLICE



Molded in lass insert is molded bakelite head supplied only in hack. lipase, nickel plated suphinime washer. Supplied complete wits

No. 265
$\$ 25.00$ Per C


301306
INSULATED ALLIGATOR CLIP
Embatios our Jo. son steel cadmium plated alligator clip with molded paste Rend on Black handle. specify color.
$\begin{array}{lrl}\text { No. } 201 & 3 /{ }^{\prime \prime} \text { Handle. } & \$ 18.00 \\ \text { No. Per C } \\ \text { No. } 206 & 11 \text { " Hanna. } & \$ 35.00 \text { Per C }\end{array}$
No. $206 \quad 11$ " 1\{andle. $\$ 35.00$ Per C


351
INSULATED STEEL ALLIGATOR CLIP
 molded plastic e Red or fatback handle. Succity



366
PHCNE TIP OR BANANA PLUG TO ALLIGATOR CLIP ADAPTER
300 alligator clip with No. 206 comb. phone tip and hanatha plus jack in rear of
 No. 305 $\qquad$ $\$ 60.00$ Per C
same. except with N. 3 sion screw type copper alligator clip.
No. $335 \quad \$ 65.00$ Per $\mathbf{C}$


BATTERY TEST CLIP — Midget Size stent. calcium plated, for radio ami inanition
 (apatite
No. 365 $\$ 9.50$ Per C

BATTERY TEST CLIP - Small Size


 No. 366
$\$ 10.00$ Per C

## PHONE TIP TO

## ALLIGATOR CLIP ADAPTER

 gath in rap ot gamble. mats phone tit specify color
No. 304
$\$ 50.00$ Per C

Mopper alligator lib $\quad \$ 55.00$ Per C
No. 334


690 PATCH CORD
 instreonnect circuits. Molded plastic handle Moe portion hasa, michel plated, Fits a tl hat da cd hamamat jacks. Four -leased phosphor
 use miles. specify color.

No. 691 :2" Wire Length \$ .90 Each
No. 692 Qt" Wire Length \$1.00 Each
No. 693 3:" Wire Latish \$1.10 Each

For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A

## HLHERMANH．SMITH，INC． <br> ＂If＇s Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS＂




NEW！＂＇SLIM JIM＂＇TEST LEADS Iombe with prothe tips fully insulated what vingt thome haved 10 get at spots．supplied with moded tu＊ter tig：jlugs． No． 698
$\$ 1.75$ Per Pr．


ALL PURPOSE TEST LEAD KIT

| No． | Descriptior | Each |
| :---: | :---: | :---: |
| 610 | $R$ it w／solderless prols | \＄2．75 |
| 611 |  | 2.75 |
| 609 |  | 2.00 |




628


ALLIGATOR CLIP TEST LEADS

| No． 604 | $1: 3$ | Wips | I．ength | \＄0．85 | Per | Pr． |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No． 605 | －1＂ | Wir． | 1．0いどち | \＄0．95 | Per | Pr． |
| Na． 606 | 31：＂ | Wire | Lernth | \＄1．10 | Per | Pr |
| No． 607 | 心＂ | Wir． | 1．$\cdot 11 . t h$ | \＄1．20 | Per | Pr |




TEST LEAD INTERCHANGE KIT


 allikatow elig hark．and lathathat fluse with phome No． 640
$\$ 3.25$ Each
HEX AND SPLINE KEYS

|  | Mate of sturial alles stow to－mperent for <br>  <br>  <br>  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| HEX KEYS |  |  | SPLINE KEYS |  |  |
| No． | Screw Siz | Per C | No． | Screw | e Per C |
| 370 | Sir，－ | \＄11．00 | 370 | No． 4 | \＄11．00 |
| 341 | N6，3， 1 | 11.00 | 371 | So．${ }^{\text {d }}$ | 11.00 |
| $3+2$ | Nu，$\overline{\text { N，}}$ | 11.00 | 372 | Sis，${ }_{1}$ | 11.00 |
| 343 | No． | 11.00 | 373 | Su．${ }^{\text {d }}$ | 11.00 |
| 3.44 | Su． 10 | 13.20 | 374 | No． 111 | 13.20 |
| 345 | ${ }^{1}+$ | 13.20 | 375 | 1／4＂ | 13.20 |
| 346 | ${ }_{16}{ }^{4 \prime}$ | 13.20 | 376 | ${ }^{3}{ }^{3 \prime \prime}$ | 13.20 |

 $\$ 1.85$ Per Pr




 （＇ombrination kit of 3 lux and 3 splinn keys fom No．fi－m．14 sronus．
No． 390 $\qquad$ $\$ 85.00$ Per $C$ I＇mbination kit of $\bar{z}$ hex koss for serows fom So． 3 to ic＂and 1 sulise kess from

No． 395 $\$ 180.00$ Per $C$ DISPLAY CARDS



390024 （Combination Kits No．3：90 20.40
3950 20（ombination kits No．3y5 36.00

For Other Components，Send for Complete HERMAN H．SMITH INC．Catalog No．55A

## HERMANH. SMITH, INC. 15 <br> 



## SOLDERLESS TEST PRODS

Wire fits thern hamble, and is wrapperel around the scrow promen and 1:lark plastic- lazadle, Spercify colom.




## PHONO NEEDLE TEST PRODS

 chmek for replacitur needes. Red or black plastice hamble. Finetity




FIBRE TEST PROD
"iofe fits throgh hamble and is wapped around sorew fursion and fightom with the knurbed nut. (large I.J, of gime burmits has of hany duty wire.) Brass nickel plated tip with ladd or Black hamlle. No. 323
$\$ 0.35$ Each

## PLASTIC CABLE CLIPS

Those catole clips are fablocicabol from a thunt. durable phast ic material. Ettel ( Cellulosi- and will give maximam service at a minimum cost Holds opren wirr, cahles, etce, firm!y in
position. position.


| No. | Size | D | E | Per C |
| :---: | :---: | :---: | :---: | :---: |
| 831 | 1/8" | .11\% | 3190 | \$3.90 |
| 832 | 参" | .172 | 423 | 4.00 |
| 833 | 1/4" | . 234 | $45:$ | 4.30 |
| 834 | \%" | .2!\% | $4!9$ | 4.75 |
| 835 | $3 / 81$ | . 359 | 529 | 5.00 |
| 836 | $3{ }^{7 / 6}$ | 420 | 510 | 5.50 |
| 837 | 1/2" | .4N4 | 59 | 6.00 |

## NYLON LACING CORD

The lacing cord muts surecitiontion for varolawe and tersile strencth and is mathe 10 meit sper

$\left|\begin{array}{ccc}\text { CLASS 2 } \\ \text { 48 Lb. } & \text { Test } \\ \text { Approx. } & \text { Each } \\ \text { No. } & \text { Ydge. } & \text { Each } \\ 735 & \text { suII } & \$ 14.00\end{array}\right|$
${ }^{\text {CLASS }} 3$
32 Approx.
No. Ydge. Each
$73611411 \$ 14.30$

## LINEN LACING CORD

## 




SOLDERLESS PHONO NEEDLE TEST PROD No. 313


 No. 322
\$0.40 Each


## HEAVY DUTY TEST PROD

I: xtra sturns: larass nickel plated tip with Rend or biack plastic handle. specify molor.
 No. 329 51e" Hanll. (S) ,il!" wrorall (B) \$0.55 Each

## SOLDERLESS CO-AXIAL CONNECTORS





CABLE ADAPTER ASSEMBLY
Cunsists of whe wach =16.51, 1711
 $\mathrm{No}_{12}$
$17{ }_{12}$
12 able Bhatice Each



For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A

## H5, HERMANH. SMITH, INC <br> "If's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS"

TELEPHONE TYPE PLUGS


SLIM BARREL
BAKELITE PHONE PLUG

| No. 225 | Hentur kink | $\$ 65.00$ Per C |
| :--- | :--- | :--- |
| No. 226 | Whinde-d | $\$ 90.00$ Per C |

BAKELITE DOUBLE PHONE PLUG


No. 227 :3-11., Hahelite Barme
$\$ 105.00$ Fer C



IN-LINE
PHONE JACK
No. $274 \$ 60.00$ per C
SHIELDED IN-LINE JACK


No. 273
$\$ 140.00$ Per C

A. MICROPHONE CONNECTOR

No. 116 Sinsle contart Frmald $\$ 0.53 \mathrm{Ea}$ B. MICROPHONE CONNECTOR $\quad \$ 0.35 \mathrm{Ea}$
C. PHONE PLUG ADAPTOR

Fror Mikt C'ahles. Fits stambard Jar
No. 113 \$0.50 Ea.
D. CHASSIS CONNECTOR

No. 117 simgle ('untite Mahe
$\$ 0.38$ Ea.
E. CAP \& CHAIN

No. 118
$\$ 0.60 \mathrm{Ea}$


 No. 663 $\$ 2.40$ Ea.

## EXTENSION CORDS



## SMITH HI-FI JUMPER CABLES <br> PHONE PLUG CONNECTOR CORDS



No. C65 $\qquad$ $\$ 2.00 \mathrm{Ea}$.
 Uthew T:mi Mripurd and Thumed.
No. 667 $\qquad$ $\$ 1.75 \mathrm{Ea}$


Arceples Phom Pluy or tach emi.
No. 661
$\$ 1.00 \mathrm{Ea}$.


- Hains - Labarataries - Servicemen


 turnt as newted. Contains: 4.40, 6.32, 8.32, 10.32 Taps with eight corresponding tap and body drills.
No. 750 Kit
replacement drills available - write for catalog


## JUMPER CORDS

|  arip handle on each end. |  |  |
| :---: | :---: | :---: |
| No. 631 | 1s Inches | \$1.05 |
| No. 632 | 24 liches |  |
| No. 633 | 3; Huchers |  |
| No. 634 | ts lnclues |  |
| No. 635 | -2 Inchers |  |
| No. 636 | 120 Inches |  |

## EXTENSION CORDS

## 日 $\triangle=\square$

Male l'home Plur (mir \#1201) with filuror. Hrip handle. one end. Female In-Line Jack (our \#1237) wher ent.


Nate thono Plug (our \#1201) with fincor.


## $\rightarrow=5=$

Mate lhono Plug (our \#1201) with fingor. grip handle, ore end. Oither emb strigped and finned.
No. 637 \$1.00 Ea. No. 638

TH INC. Catalog No. 55A

For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A

[^65]Copyright by U. C. P., Inc.

## HERMANH.SMITH, INC.





## (N) HEAVY DUTY POWER SWITCHES

Made by H. A H. Nentral utr in center presition. Hated at 10 amps. ie. sults; itambs. 2.50 volts. Mounting sleeve diameter Power Rating ling. Each
No. Type
574





PANEL INDICATORS AND JEWELS - Supplied in Red, Green, Amber, Blue, Opal and Clear


For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A

## HSt, HERMANH. SMITH, INC <br> 

SOLDER TYPE LUGS—Hot Tinned

## © <br> 1481

TIE DOWN TERMINAL STRIPS
${ }_{8}^{989}$




\section*{ <br> No. 1301

No. <br> PARTS FOR CONNECTOR AND RETAINER <br> | No. | Type |
| :---: | :---: |
| 1305 |  |
| 1306 |  |
| 1307 | 1 mulat form =1300 $\mathrm{N}=13017$ |
| 1308 | 以以ine tor $=13000 \pm=1: 301$ |
| 1309 |  |
| 1310 | busulatimur Tuls for $\# 1301$ | $\$ 20.00$ Per C

Per C
 JACK

 No, 1237 \$25.00 Per C



## DOUBLE END WRENCH



- procialle desizuted offiset wrencth for rear of
 No. 999



## 

## instrument knobs



With Pointer


With Skir

LEVER KNOBS
WITH $1 / 4^{\prime \prime}$ BRASS INSERT


| No． | ＂ityle | Length | Hot． | Color | Per C |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2232 | A | 15. | － | bilark | \＄27．00 |
| 2233 | $\wedge$ | 1 \％${ }^{\text {an }}$ |  | W：atout | 28.00 |
| 2234 | B | $1 \%$ \％ | ，$\cdot$＂ | filack | 37.00 |
| 2235 | ： | $1{ }^{\prime}$ | ＂＂ | Walna | 40.00 |
| 2236 | c | $21 / 2$ | ＂ | H1ach | 33.00 |
| 2237 | （ | $\because 1$ | is | 1 F ：annut | 34.00 |
| 2238 | （） | 2 | S | Iblack | 42.00 |
| 2239 | 1） | $20^{\prime \prime}$ | ＂ | W＇almut | 43.00 |



Noblifil bathelite confrat hnules Suppliod witl



## METER OR INSTRUMENT CASES




 No． 2256 （own fon 225－（＇in Each $\$ 1.25$



Each \＄2．10

## SNAP BUTTON HOLE PLUGS


 finlfes in mulal．Mastio or wonl．F＇irsm Lrip
 No．Hole A B C D Prongs PerC










## RUBBER TACK BUMPERS



## ANTENNA HANK

Colton rovered cotper althenas lannk．
No． $1222 \$ 40.00$ per C


No． 2190
N .2 .40 C
$\$ 2.4$


2192


2196


2194



2197


RUBBER BUMPERS


RUBBER BUMPER
WITH SCREW
WITH SCREW
Supplied complete hex nut．For panala un to for bunds un 10 perify latyer screw
fur latger wanels．
$\begin{array}{cr}\text { No．} & \text { Per C } \\ 2196 & \$ 4.90 \\ 2197 & 5.25 \\ 2198 & 6.25\end{array}$

TEST PROD
＂MAKE YOUR OWN R．F．PROBE


 and rondernets，heceseary lom the as an R．F．
 101）Mas soldorime
No． 630
$\$ 1.20$ each
No．630．0－1lisplay of 12
$\$ 14.40$ each

## RUBBER GROMMETS

0．1）


17： 1.11
11010
10 11：THMな

| No． | A | 8 | C | D | E | Per C |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2185 |  | 1／4＂ | is＂ | $\mathrm{ct}^{\prime \prime}$ | 「 ${ }^{\text {a }}$ | \＄2．20 |
| 2172 | $7^{7011}$ | $1^{38}{ }^{\text {a }}$ | ${ }_{\text {B }}{ }^{\text {c }}$ | 18＂ | 18 | 3.30 |
| 2170 | ＂\％＂ | 品＂ | \％＂ | 1！＂ |  | 3.85 |
| 2174 | 5＂ | $5_{5}^{6 \prime \prime}$ | $77^{76}$ | 1／4＂ | 1．＂ | 3.60 |
| 2175 | 11＂ | ＂／＂ | $1 / 2$＂ | 1／4＂ | ！${ }_{\text {ln }}$ | 3.85 |
| 2177 | ＊＂ | \％＂ | fit＂ | 1／4＂ | Tit，＂ | 3.60 |
| 2186 | $1{ }^{\prime}$ | 1 12 | \％＂ | 10＂ | 11．＂ | 4.95 |
| 2187 | 11／n＂ | \％＂ | \％＂ | ${ }_{\text {B }}^{\text {d }}$ | 14＂， | 5.20 |
| 2188 | 1 11＂ | 16＂ | $13 \times$ | ${ }^{6} 6$＂ | ${ }^{1.1 / \prime \prime}$ | 5.50 |
| 2189 | $1^{\prime \prime}$ | \％ | ？${ }^{\text {a }}$ | \％＇ | 1 | 8.00 |

For Other Components，Send for Complete HERMAN H．SMITH INC．Catalog No．55A

| For No. 6 Screw |  | $\begin{aligned} & 1 / "^{\prime \prime} 0.0 . \\ & \text { Length } \end{aligned}$ | For No. 8 Screw |  |
| :---: | :---: | :---: | :---: | :---: |
| No | Per C |  | No. | Per C |
| 2100 | \$ 5.00 | $1,{ }^{\prime \prime}$ | 2105 | \$ 5.00 |
| 2101 | 6.50 |  | 2106 | 6.50 |
| 2102 | 8.00 | $1:$ | 2107 | 8.00 |
| 2103 | 9.50 |  | 2108 | 9.50 |
| 2104 | 11.00 | '" | 2109 | 11.00 |
|  |  | ${ }^{3} 8{ }^{\prime \prime} 0 . \mathrm{D}$. |  |  |
| 2110 | \$ 8.00 |  | 2115 | \$ 8.00 |
| 2111 | 9.50 |  | 2116 | 9.50 |
| 2112 | 11.00 | $\cdots$ | 2117 | 11.00 |
| 2113 | 12.50 |  | 2118 | 12.50 |
| 2114 | 14.00 |  | 2119 | 14.00 |


| THREADED BRASS SPACERS CADMIUM PLATED |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Mase hushines !!" O.D. <br>  |  |  |  |  |
|  |  |  |  |  |
| Threa | d 6-32 |  | Thre | ed 8-32 |
| No. | Per C | Length | No. | Per C |
| 2120 | \$ 6.00 | 1, " | 2125 | \$ 6.00 |
| 2121 | 7.50 | \% | 2126 | 7.50 |
| 2122 | 9.00 | \% | 2127 | 9.00 |
| 2123 | 11.00 | \%" | 2128 | 11.00 |
| 2124 | 12.50 | $1 "$ | 2129 | 12.50 |
| INSULATED SPACERS |  |  |  |  |
| For No. | 6 Screw | 1/4" 0. D. | For N | 8 Screw |
| No. | Per C | Length | No. | Per C |
| 21.30 | \$ 6.00 | 1/" | 2140 | \$ 6.00 |
| 2131 | 6.75 | "\% | 2141 | 6.75 |
| 2132 | 7.00 | 1/6" | 2142 | 7.00 |
| 2133 | 9.00 | \% | 2143 | 9.00 |
| 2134 | 10.75 | 1" | 2144 | 10.75 |


| $\equiv$ | BRASS AND INSULATED COUPLINGS |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | $\begin{aligned} & \text { in } \\ & \text { math } \\ & \text { scro } \\ & \text { for } \end{aligned}$ |  |  |
| o. | Type | O.D. | Material | Each |
| 120 | " "\%-1/4 | 7: | l3mas | \$0.25 |
| 140 | 11". $1 / 4$ | \%" | Fibre | 0.25 |
| 131 |  | 120 | Mrats | 0.25 |
| 141 | 30"1/" | 1/2" | Filre | 0.25 |
| 133 |  | '"' | Brass | 0.25 |
| 142 | "8".34" | 1. | Fil)re | 0.25 |


|  | BRASS AND INSULATED SHAFT EXTENDERS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Shaft | Overall |  |
| $\begin{aligned} & \text { No. } \\ & 150 \end{aligned}$ | Type. | Material Mrass | Length | Length | Each |
| 130 | 1\% "-1/", | fibue | $1:$ | 13 | 0.30 |
| 132 |  | Brass | $1: 3$ | $1 \%$ | 0.30 |
| 134 | $3 \times \cdots$ - $1 / 4$ | Fribut | 13 " | $1 \%$ | 0.30 |

THREADED BRASS RODS



## MINI-SPRING FOR MINI-TUBES


MINI-SHIELDS FOR MINI-TUBES


FAHNESTOCK SPRING BATTERY CLIPS

Brass, wiokel platemd Length Per C 2.40
2.80 $\begin{array}{r}2.80 \\ 14.00 \\ \hline\end{array}$


BEARING FOR PANEL ASSEMBLY
Made of lirass, and fits in a," Made of lurass, and fits in "',
diameter hole in pansls up in $\mathrm{Fs}^{\prime \prime}$ thick. liearing is mathe to
accommodate $1 / 4^{\prime \prime}$ shafis. Wremall accommorlate $1 / 4^{\prime \prime}$ shafis. Wremal
limeth $1 / 2^{\prime \prime}$. No. $119^{2}$
$\$ 0.25$ each
 rod, $1 / 4^{\prime \prime}$ O.1). with our stambard No. 110 'iamel 13atrins. Nichel plated overall.

| No. | A | Each |
| :--- | :---: | ---: |
| 148 | $3^{\prime \prime}$ | $\$ 0.50$ |
| 149 | $6^{\prime \prime}$ | .60 |

## PANEL BEARING ASSEMBLY



INSULATED GROMMET BUSHINGS


For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A

## HERMANH. SMITH, INC. <br> "If's Sound Planning to Specify SMITH for ELECTRONIC COMPONENTS

| STEEL MACHINE SCREWS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Round Head Cadmium Plated |  |  |  |  |
| No. | Per M | Size | No. | Gross |
| 1000M | \$5.90 | 16:32x | 1000G | \$1.00 |
| 1001 M | 6.30 |  | 10016 | 1.10 |
| 1002 M | 6.80 | 6-32 $\times 1 /$ | 1002G | 1.15 |
| 1005 M | 7.60 | $\cdots$ | 1006 G | 1.25 |
| 1007m | 8.30 | $\cdots-32 \times{ }^{*}$ | 1007 G | 1.35 |
| 1008M | 8.80 | $\cdots 38$, $1 / 2$ | 1008 G | 1.40 |


| FLAT WASHERS Brass Nickel Ploted |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Per |  |  | $\begin{gathered} \text { Per M } \\ \mathbf{s o} \\ 0.70 \\ 0.70 \\ 0.70 \end{gathered}$ |
|  |  |  |  |  |
|  |  |  |  |  |
|  | LOCK WASHERS Steel, Cadmium Plated Internal Teeth |  |  |  |
| No. | Per M | Type | No. | Gross |
| 1127M | \$4.50 | So. 4 | 1127G | \$0.65 |
| 11215 | 4.80 5.40 | (io) 10 | ${ }_{11286}$ | 0.75 0.80 |
| 1133M | 7.20 | \%" ${ }^{\text {a }}$ | 1132 G | 1.10 |
|  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 1145M | \$9.00 | ternal 'Tentl\| |  | \$1.45 |
| External Teeth |  |  |  |  |
| No | Per M | Type | No. | Gross |
| 1139 M | \$4.50 | \o. + | 1139G |  |
| 1129 M | 4.00 | \o. 8 | 1129 G | 0.75 |
| 1142 M | 4.80 5.40 |  | 1140G | 0.75 |
| 1144 M | 7.20 |  | 1144 G | 1.10 |
| 1143M | 9.00 | 㐯" | 1143 G | 1.45 |


BRASS AND STEEL ANGLES



| Round Head-Type Z-Blunt Point |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No. | Per M | Size | No. | Gross |
| 1807M | \$9.25 | \& $\times$ 1 | 1807G | \$1.45 |
| 1808M | 8.50 | (i) $\times 1 / 4$ | 1808G | 1.35 |
| 1809M | 8.75 | 5 1i $x^{3}$ | 1809G | 1.40 |
| 1810M | 9.25 | $6 \times 1 /$ | 1810G | 1.45 |
| 1811M | 10.00 | -x ${ }^{\text {a }}$ | 1811G | 1.55 |
| 1812M | 10.50 | $\cdots 1$, | 1812G | 1.65 |
| Slotted | Hex | Head-Type | B-Blunt | Point |
| No. | Per M | Size | No. | Gross |
| 1830M | \$8.50 | ${ }^{6} \times 1$ \% | 1830G |  |
| 1831M | 8.75 | (1) $x$ \% | 1831 G | 1.40 |
| 1832M | 9.25 | fix $\times$ | 1832 G | 1.45 |
| 1833M | 10.00 | - $x$ " | 1833G | 1.55 |
| 1834 M | 10.50 | - x ${ }^{\text {d }}$ | 1834 G | 1.65 |






FLAT WASHERS Brass Nickel Plated

BRASS MACHINE SCREWS Round Head Nickel Plated

| No. | Per M | Size |
| :---: | :---: | :---: |
| 1044M | \$6.50 | 1.315 |
| 1045M | 8.10 | 1.36 |
| 1046M | 10.00 | 1-313 |
| 1047M | 6.50 | 1-10) |
| 1048M | 8.10 | 4.10 |
| 1049M | 10.00 | 1.11 |
| 1050M | 9.30 | (i.3) |
| 1051M | 10.90 | f.30 |
| 1052M | 12.50 | (5.32-x |
| 1056M | 13.70 | 4.32x |
| 1057M | 15.60 | - . ${ }^{\text {a }}$ |
| 1058M | 17.60 | \%-3 |
| vOLUME CONTROL AND TOGGLE SWITCH NUTS |  |  |
| Nickel Plated |  |  |


| No. | Type | Dimensions | Per M |
| :---: | :---: | :---: | :---: |
| 1195 | Vol. Cimm, Brass | - 5 | \$25.00 |
| 1199 | Val. 6 (mm, Stuel | 4 | 20.00 |
| 1596 | Torele sw. Hex | 15.3 | 30.00 |
| 1197 | Tocghasw. hing | $17 \times 8{ }^{1-4}$ | 50.00 |


| HEXAGON NUTS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Brass Nickel Plated |  |  |  |  |
| No. | Per M | Size | No. | Gross |
| 1188M | \$9.00 | $1.36 \times 1{ }^{\text {a }}$ " | 1188G | \$1.45 |
| 1168 M | 9.00 | 1-10 ${ }^{1 / 4}{ }^{\prime \prime}$ | 1168G | 1.45 |
| 1189M | 12.90 | (6.30x ${ }^{1 / 4}$ | 1189G | 2.10 |
| 1190M | 12.90 |  | 11906 | 2.10 |
| 1191 M | 14.10 | $8-32 \times 1 / 4$ $8.30 \times$ | 11916 | 2.30 2.30 |
| 1193M | 15.90 | $10.32 \times$ | $1193 G$ | 2.65 |
|  | Steel, | Cadmium | Plated |  |
| No. | Per M | Size | No. | Gross |
| 1179 M | \$7.10 | $6.32 \times 1 / 4$ | 1179G | \$1.10 |
| 1180M | 7.90 | 6-32 x ( | 1180G | 1.30 |
| 1181 M | 7.90 |  | 11816 | 1.30 |
| SELF TAPPING SCREWS CADMIUM PLATED |  |  |  |  |
| Round Head-Type A-Sharp Point |  |  |  |  |
| No. | Per M | Size | No. | Gross |
| 1801M | \$9.25 | $1 \times 16$ | 1801G | \$1.45 |
| 1802M | 8.50 | fi $x$ 年 | 1802 G | 1.35 |
| 1803M | 8.75 | fi $x^{\prime \prime}{ }_{\text {m }}$ | 1803G | 1.40 |
| 1804 M | 9.25 |  | 1804 G | 1.45 |
| 1805 M | 10.00 | $8 \times 8$ | 1805G | 1.55 |
| 1806M | 10.50 | $\times 1$ | 1806G | 1.65 |

For Other Components, Sen

| No. | L1 | L2 | T | H1 | H2 | W | Per C |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 14.4 | $7,16{ }^{\prime \prime}$ | 7119" | .03:" | 17161" | $14^{\prime \prime}$ | * " | \$1.10 |
| 1445 | $1^{\prime 2 \prime}$ | 1/: ${ }^{\prime \prime}$ | $0.30{ }^{\prime \prime}$ | 11/39" | 11/61" | $5 / 16^{\prime \prime}$ | 1.40 |
| 14.46 | 1910 10" | $2: / 6 \ddagger$ | . $030^{\prime \prime}$ | (3) 64 " | 1.1/64" | S/113" | 1.30 |
| 1447 | 1-9/4\% ${ }^{\prime \prime}$ | 1/2" | . $0500^{\prime \prime}$ | 1i1/64" | $41 / 64^{\prime \prime}$ | $1 / 3^{\prime \prime}$ | 1.60 |

## 

 HEAVY DUTY BAKELITE BARRIER TERMINAL STRIPSShown below are our popular serew type terminal blocks. Male of mobled themosetting phastios in hirh tensile strenath hakelite for




## 601 Series

| No. | Each | No. | Each | No. | Each | No. | Each | No. | Each | No. | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 601-1 | \$0.20 | 601-ST-1 | \$0.24 | 601-3/ST-1 | \$0.24 | 601-Y-1 | \$0.24 | 601-XY-1 | \$0.28 | 601-Z-1 | \$0.28 |
| 601-2 | 0.31 | 601-ST-2 | 0.41 | 601-3ST-2 | 0.41 | 601.Y-2 | 0.41 | 601-XY-2 | 0.49 | 601-Z-2 | 0.49 |
| 601-3 | 0.42 | 601 -ST-3 | 0.57 | 601-3, ST-3 | 0.57 | 601-Y-3 | 0.57 | 601-XY-3 | 0.69 | 601-Z-3 | 0.69 |
| 601-4 | 0.54 | 601-ST-4 | 0.74 | 601-3+ST-4 | 0.74 | 601-Y-4 | 0.74 | 601-XY-4 | 0.90 | 601-Z-4 | 0.90 |
| 601-5 | 0.64 | 601-ST-5 | 0.90 | 601-3+ST-5 | 0.90 | 601-Y-5 | 0.90 | 601-XY-5 | 1.10 | 601-Z-5 | 1.10 |
| 601-6 | 0.75 | 601 -ST-6 | 1.07 | 601-3, ST-6 | 1.07 | 601.Y-6 | 1.07 | 601-XY-6 | 1.31 | 601-Z-6 | 1.31 |
| 601-7 | 0.88 | 601 -ST-7 | 1.23 | 601-3, ST-7 | 1.23 | 601-Y-7 | 1.23 | 601-XY-7 | 1.51 | 601-Z-7 | 1.51 |
| 601-8 | 0.99 | 601 -ST-8 | 1.40 | 601.3. ST-8 | 1.40 | 601-Y-8 | 1.40 | 601-XY-8 | 1.72 | 601-Z-8 | 1.72 |
| 601.9 | 1.10 | 601-ST-9 | 1.56 | 601-3.ST-9 | 1.56 | 601-Y-9 | 1.56 | 601-XY-9 | 1.92 | 601-7-9 | 1.92 |
| 601-10 | 1.22 | 601-ST-10 | 1.73 | 601-3 ${ }_{4}$ ST-10 | 1.73 | 601-Y-10 | 1.73 | 601-XY-10 | 2.13 | 601-Z-10 | 2.13 |
| 601-11 | 1.33 | 601-ST-11 | 1.89 | 601-3+ST-11 | 1.89 | 601-Y-11 | 1.89 | 601-XY-11 | 2.33 | 601-Z-11 | 2.33 |
| 601-12 | 1.44 | 601-ST-12 | 2.06 | 601.3.ST-12 | 2.06 | 601-Y-12 | 2.06 | 601-XY-12 | 2.54 | 601-Z-12 | 2.54 |
| 601-13 | 1.56 | 601-ST.13 | 2.22 | 601.3, ST-13 | 2.22 | 601-Y-13 | 2.22 | 601-XY-13 | 2.74 | 601-2-13 | 2.74 |
| 601-14 | 1.67 | 601-ST-14 | 2.39 | 601.3 ST-14 | 2.39 | 601-Y-14 | 2.39 | 601-XY-14 | 2.95 | 601-2-14 | 2.95 |
| 601-15 | 1.78 | -601-ST-15 | 2.55 | 601-3.ST-15 | 2.55 | 601-Y-15 | 2.55 | 601-XY-15 | 3.15 | 601-2-15 | 3.15 |
| 601-16 | 1.90 | 601-ST-16 | 2.72 | 601-3+ST-16 | 2.72 | 601-Y-16 | 2.72 | 601-XY-16 | 3.36 | 601-Z-16 | 3.36 |
| 601-17 | 2.01 | 601-ST-17 | 2.88 | 601-3.4T-17 | 2.88 | 601-Y-17 | 2.88 | 601-XY-17 | 3.56 | 601-Z-17 | 3.56 |
| 601-18 | 2.12 | 601-ST-18 | 3.05 | 601-3, ST-18 | 3.05 | 601-Y-18 | 3.05 | 601-XY-18 | 3.77 | 601-Z-18 | 3.77 |
| 601-19 | 2.24 | 601-ST-19 | 3.21 | 601-3. ST-19 | 3.21 | 601-Y-19 | 3.21 | 601-XY-19 | 3.97 | 601-2-19 | 3.97 |
| 601-20 | 2.35 | 601-ST-20 | 3.38 | 601-3+ST-20 | 3.38 | 601-Y-20 | 3.38 | 601-XY-20 | 4.18 | 601-Z-20 | 4.18 |
| 601-21 | 2.47 | 601-ST-21 | 3.55 | 601-3 ST-21 | 3.55 | 601-Y-21 | 3.55 | 601-XY-21 | 4.38 | 601-Z-21 | 4.38 |
| 601-22 | 2.59 | 601-ST-22 | 3.72 | 601-34 ST-22 | 3.72 | 601-Y-22 | 3.72 | 601-XY-22 | 4.58 | 601-Z-22 | 4.58 |
| 601-23 | 2.71 | 601-ST-23 | 3.89 | 601-3+ST-23 | 3.89 | 601-Y-23 | 3.89 | 601-XY-23 | 4.78 | 601-2-23 | 4.78 |

## 602 Series

| No. | Each | No. | Each | No. | Each | No. | Each | No. | Each | No. | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 602-1 | \$0.23 | 602-ST-1 | \$0.30 | 602-3, ST-1 | \$0.30 | 602-Y-1 | \$0.30 | 602-XY-1 | \$0.34 | 602-Z-1 | \$0.34 |
| 602-2 | 0.36 | 602-ST-2 | 0.50 | 602-3, ST-2 | 0.50 | 602-Y-2 | 0.50 | 602-XY-2 | 0.58 | 602-Z-2 | 0.58 |
| 602-3 | 0.51 | 602-ST-3 | 0.70 | 602-3+ST-3 | 0.70 | 602-Y-3 | 0.70 | 602-XY-3 | 0.82 | 602-Z-3 | 0.82 |
| 602-4 | 0.65 | 602-ST-4 | 0.90 | 602-3 ST-4 | 0.90 | 602-Y-4 | 0.90 | 602-XY-4 | 1.06 | 602-Z-4 | 1.06 |
| 602-5 | 0.78 | 602-ST-5 | 1.11 | 602-3 ST-5 | 1.11 | 602-Y-5 | 1.11 | 602-XY-5 | 1.31 | 602-Z-5 | 1.31 |
| 602-6 | 0.92 | 602-ST-6 | 1.31 | 602-3-ST-6 | 1.31 | 602-Y-6 | 1.31 | 602-XY-6 | 1.55 | 602-Z-6 | 1.55 |
| 602-7 | 1.07 | 602-ST-7 | 1.52 | 602-3+ST-7 | 1.52 | 602-Y-7 | 1.52 | 602-XY-7 | 1.80 | 602-Z-7 | 1.80 |
| 602-8 | 1.20 | 602-ST-8 | 1.72 | 602-3 ${ }_{4}$ ST. 8 | 1.72 | 602-Y-8 | 1.72 | 602-XY-8 | 2.04 | 602-Z-8 | 2.04 |
| 602-9 | 1.34 | 602-ST-9 | 1.93 | 602-3, ST-9 | 1.93 | 602-Y-9 | 1.93 | 602-XY-9 | 2.29 | 602-Z-9 | 2.29 |
| 602-10 | 1.49 | 602-ST-10 | 2.12 | 602-3, ST-10 | 2.12 | 602-Y-10 | 2.12 | 602-XY-10 | 2.52 | 602-Z-10 | 2.52 |
| 602-11 | 1.62 | 602-ST-11 | 2.33 | 602-3 ST-11 | 2.33 | 602-Y-11 | 2.33 | 602-XY-11 | 2.77 | 602-Z-11 | 2.77 |
| 602-12 | 1.76 | 602-ST-12 | 2.53 | 602-3, ST-12 | 2.53 | 602-Y-12 | 2.53 | 602-XY-12 | 3.01 | 602-Z-12 | 3.01 |
| 602-13 | 1.90 | 602.ST-13 | 2.74 | 602-3, ST-13 | 2.74 | 602-Y-13 | 2.74 | 602-XY-13 | 3.26 | 602-Z-13 | 3.26 |
| 602-14 | 2.04 | 602-ST-14 | 2.94 | 602-3 ST-14 | 2.94 | 602-Y-14 | 2.94 | 602-XY-14 | 3.50 | 602-Z-14 | 3.50 |
| 602-15 | 2.18 | 602-ST-15 | 3.15 | 602-3 ST-15 | 3,15 | 602.Y-15 | 3.15 | 602-XY-15 | 3.75 | 602-Z-15 | 3.75 |
| 602-16 | 2.32 | 602-ST-16 | 3.34 | 602-3 ST-16 | 3.34 | 602.Y-16 | 3.34 | 602-XY-16 | 3.98 | 602-Z-16 | 3.98 |
| 602-17 | 2.45 | 602-ST-17 | 3.54 | 602-3, ST-17 | 3.54 | 602-Y-17 | 3.54 | 602-XY-17 | 4.32 | 602-Z-17 | 4.32 |
| 602.18 | 2.58 | 602-ST-18 | 3.74 | 602-3/ ST-18 | 3.74 | 602-Y-18 | 3.74 | 602-XY-18 | 4.46 | 602-Z-18 | 4.46 |
| 602.19 | 2.76 | 602-ST-19 | 3.99 | 602-3 ST-19 | 3.99 | 602-Y-19 | 3.99 | 602-XY-19 | 4.75 | 602-Z-19 | 4.75 |
| 602-10 | 2.90 | 602-ST-20 | 4.20 | 602-3/4 ST-20 | 4.20 | 602-Y-20 | 4.20 | 602-XY-20 | 5.00 | 602-Z-20 | 5.00 |
| 602-21 | 3.04 | 602-ST-21 | 4.41 | 602-3 ST-21 | 4.41 | 602-Y-21 | 4.41 | 602-XY-21 | 5.25 | 602.Z-21 | 5.25 |
| 602-22 | 3.19 | 602-ST-22 | 4.62 | 602-34ST-22 | 4.62 | 602-Y-22 | 4.62 4.62 | 602-XY-22 | 5.50 | 602-Z-22 | 5.50 |
| 602-23 | 3.33 | 602-ST-23 | 4.83 | 602-3 ST-23 | 4.83 | 602-Y-23 | 4.83 | 602-XY-23 | 5.75 | 602-Z-23 | 5.75 |
| 602-24 | 3.48 | 602-ST-24 | 5.04 | 602-3/ST-24 | 5.04 | 602-Y-24 | 5.04 | 602-XY-24 | 6.00 | 602-Z-24 | 6.00 |
| 602-25 | 3.62 | 602-ST-25 | 5.25 | 602.3 ST-25 | 5.25 | 602-Y-25 | 5.25 | 602-XY-25 | 6.25 | 602-Z-25 | 6.25 |
| 602-26 | 3.76 | 602-ST-26 | 5.46 | 602-3硠T-26 | 5.46 | 6C2-Y-26 | 5.46 | 602-XY-26 | 6.50 | 602-Z-26 | 6.50 |

[^66]
## HERMANH.SMITH, INC. (S)



| No. | Each | No. | Each | No. | Each | No. | Per C |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 603.1 | \$0.55 | 603-ST-1 | \$0.66 | 603-3/4ST-1 | \$0.66 | MS603-1 | \$7.60 |
| 603-2 | 0.94 | 603.ST-2 | 1.13 | 603-3/4ST-2 | 1.13 | MS603-2 | 9.40 |
| 603.3 | 1.32 | 603-ST-3 | 1.60 | 603.3/4ST-3 | 1.60 | MS603-3 | 11.10 |
| 603-4 | 1.71 | 603-ST-4 | 2.07 | 603.3/4ST-4 | 2.07 | MS603-4 | 12.90 |
| 603.5 | 2.09 | 603-ST-5 | 2.53 | 603-3/4ST-5 | 2.53 | MS603-5 | 14.70 |
| 603-6 | 2.48 | 603-ST-6 | 3.00 | 603-3/4 ST-6 | 3.00 | MS603.6 | 16.40 |
| 603.7 | 2.86 | 603-ST-7 | 3.46 | 603-3/4ST-7 | 3.46 | MS603-7 | 18.20 |
| 603-8 | 3.25 | 603-ST-8 | 3.92 | 603-3/4 ST-8 | 3.92 | MS603.8 | 20.00 |
| 603.9 | 3.63 | 603-ST-9 | 4.40 | 603-3/4 ST-9 | 4.40 | MS603-9 | 21.80 |
| 603-10 | 4.02 | 603-5T-10 | 4.80 | 603-3/4ST-10 | 4.80 | MS603-10 | 23.50 |





603 SERIES
Heirht $3 / 4$ ". Widelt $11_{6}^{3 / 2}$. Thicku minals

Il. inwlt
Screws.



| $604-1$ | $\$ .94$ | $604-$ ST |
| :--- | :--- | :--- |
| $604-2$ | 1.71 | $604-$ ST |
| 604.3 | 2.48 | $604-S T$ |
| $604-4$ | 3.25 | $604-S T$ |
| $604-5$ | 4.02 | $604-$ ST |
| $604-6$ | 4.79 | $604-$-ST |
| $604-7$ | 5.56 | $604-$ ST |
| $604-8$ | 6.33 | $604 . S T$ |

605 SERIES

1'rrminal
" Screws

|  | Marker Strips |  |  |  |
| :--- | ---: | :--- | ---: | :--- | :--- | :--- | :--- |

410 SERIES
MINIATURE TERMINAL BLOCK
With Double Screw Terminals

## curce



| GENERAL PURPOSE AND CFG MATERIAL |  |  |  | MFE, MME. CMG, MDG MATERIAL |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | Each | No. | Each | No. | Each | No. | Each |
| 410-1 | \$0.43 | 410.12 | \$2.30 | $410 \cdot 1$ | \$0.92 | 410-12 | \$3.78 |
| 410-2 | . 60 | 410-13 | 2.47 | 410-2 | 1.18 | 410-13 | 4.04 |
| 410-3 | . 77 | 410-14 | 2.64 | 410.3 | 1.44 | 410-14 | 4.30 |
| $410-4$ | . 94 | 410-15 | 2.81 | $410-4$ | 1.70 | 410-15 | 4.56 |
| 410-5 | 1.11 | 410-16 | 2.98 | 410-5 | 1.96 | 410-16 | 4.82 |
| 410.6 | 1.28 | 410-17 | 3.15 | 410.6 | 2.22 | 410.17 | 5.08 |
| 410-7 | 1.45 | $410-18$ | 3.32 | 410-7 | 2.48 | 410-18 | 5.34 |
| 410.8 | 1.62 | 410-19 | 3.49 | 410-8 | 2.74 | 410-19 | 5.60 |
| 410-9 | 1.79 | 410-20 | 3.66 | 410.9 | 3.00 | 410-20 | 5.86 |
| 410-10 | 1.96 | 410-21 | 3.83 | 410-10 | 3.26 | 410-21 | 6.12 |
| 410-11 | 2.13 | 410-22 | 4.00 | 410-11 | 3.52 | 410-22 | 6.38 |

## 599 SERIES - SPECIAL NARROW WIDTH BLOCK

With Single Screw Terminal


| No. | Each | No. | Each | No. | Each | No. | Each |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 599-1 | \$0.15 | 599-7 | \$0.68 | 599-12 | \$1.12 | 599.18 | \$1.66 |
| 599-2 | 0.25 | 599-8 | 0.77 | 599-13 | 1.21 | 599-19 | 1.75 |
| 599-3 | 0.33 | 599-9 | 0.86 | 599.14 | 1.31 | 599-20 | 1.84 |
| 599-4 | 0.42 | 599-10 | 0.95 | 599-15 | 1.40 | 599-21 | 1.93 |
| 599-5 | 0.51 | 599.11 | 1.03 | 599-16 | 1.49 | 599.22 | 2.02 |
| 599.6 | 0.59 |  |  | 599-17 | 1.57 |  |  |


| STRADDLE PLATE (SP) |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| No. | A | B | C | D | $E$ | $F$ | Per M |
| 410-SP | $1 / 2$ | . $\because 0$ | 3/11i | -12. | .193: | . 12.9 | \$35.00 |
| 600-SP | ! $/ 17$ | .312 | 1/3:3 | .12- | . 1138 | . $1+1$ | 35.0 |
| 601-SP | 23/32 | .421 | 5/1\% | . 14. | .11:3:2 | .14, | 40.0 |
| 602-SP | 7/8 | . 11141 | 13/3: | .197 | . 113.3 | .1~! | 45.00 |

## MARKER STRIPS or 600, 600-ST and

 600-3/4 ST Black filuer marker strips $3^{\prime} \geq{ }^{\prime \prime}$ thick im printo to specs Sakelite marker srips art available. spequest.rep. Pricess on No. Per C MS600-1 $\quad \$ 2.90$ MS600-2 $\quad 3.8$ MS600-3 4.7 MS600-4 5.7 $\begin{array}{ll}\text { MS600-5 } & 6.60 \\ \text { MS600.6 } & 7.60\end{array}$ $\begin{array}{ll}\text { MS600.6 } & 7.60 \\ \text { MS600.7 } & 8.50\end{array}$ $\begin{array}{ll}\text { MS600-8 } & 9.50 \\ & \end{array}$ $\begin{array}{ll}\text { MS600-9 } & 10.40 \\ \text { MS600-10 } & 11.40\end{array}$ $\begin{array}{ll}\text { MS600.10 } & 1.40 \\ \text { MS600-11 } & 1.30\end{array}$ $\begin{array}{ll}\text { MS600-12 } & 13.30 \\ \text { MS600.13 } & 14.20\end{array}$ $\begin{array}{ll}\text { MS600-14 } & 15.2 \\ \text { MS600-15 } & 16.10\end{array}$ $\begin{array}{ll}\text { MS6000-15 } & 16.10 \\ \text { MS600.16 } & 17.10\end{array}$ $\begin{array}{ll}\text { MS600.16 } & 17.10 \\ \text { MS } 600-17 & 18.00\end{array}$ $\begin{array}{ll}\text { MS600-17 } & 18.00 \\ \text { MS600-18 } & 19.00 \\ \text { MS600.19 } & 19.90\end{array}$ $\begin{array}{ll}\text { MS600-18 } & 19.00 \\ \text { MS } 600-20 & 20.90 \\ \text { MS600-21 } & 21.90\end{array}$ $\begin{array}{ll}\text { MS600-20 } & 20.90 \\ \text { MS600-21 } & 21.80 \\ \text { MS } 600-22 & 22.70\end{array}$

| MARKER STRIPS for 600-Y Series |  |
| :---: | :---: |
| Black filher marker |  |
| printed to spers. |  |
|  |  |
| bakelite markerstrips are avalabe. |  |
| sureify XP, Prices on |  |
|  |  |
| No. | Per C |
| MS600-Y-1 | \$6.60 |
| MS600-Y-2 | 7.60 |
| MS600-Y-3 | 8.50 |
| MS600-Y-4 | 9.50 |
| MS600-Y-5 | 10.40 |
| MS600.Y. 6 | 11.40 |
| MS600-Y-7 | 12.30 |
| MS600-Y-8 | 13.30 |
| M S600-Y. 9 | 14.20 |
| MS600-Y-10 | 15.20 |
| MS600.Y. 11 | 16.10 |
| MS600-Y-12 | 17.10 |
| MS600. Y -13 | 18.00 |
| MS600.Y. 14 | 19.00 |
| MS600. $Y$-15 | 19.90 |
| MS600.Y-16 | 20.90 |
| MS600.Y-17 | 21.80 |
| MS600.Y. 18 | 22.80 |
| MS600-Y-19 | 23.70 |
| MS600-Y-20 | 24.70 |
| MS600-Y-21 | 25.60 |
| MS600-Y-22 | 26.5 |

MARKER STRIPS
for 601. 601-ST and 601-3/4 ST

| 601-3/4ST |  |
| ---: | ---: |
| No. | Per C |
| MS601-1 | $\$ 3.20$ |
| MS601-2 | 4.40 |
| MS601-3 | 5.70 |
| MS601-4 | 7.00 |
| MS601-5 | 8.20 |
| MS601-6 | 9.50 |
| MS601-7 | 10.80 |
| MS601-8 | 12.00 |
| MS601-9 | 13.30 |
| MS601.10 | 14.50 |
| MS601-11 | 15.80 |
| MS601-12 | 17.10 |
| MS601.13 | 18.30 |
| MS601-14 | 19.60 |
| MS601-15 | 20.90 |
| MS601-16 | 22.10 |
| MS601.17 | 23.40 |
| MS601-18 | 24.70 |
| MS601-19 | 25.90 |
| MS601-20 | 27.20 |
| MS601-21 | 28.50 |
| MS601-22 | 29.80 |
| MS601.23 | 31.10 |

## MARKER STRIPS

for 601-Y Series

| No. | Per C |
| :---: | :---: |
| MS601-Y-1 | \$7.00 |
| MS601-Y-2 | 8.20 |
| MS601-Y-3 | 9.50 |
| MS601-Y-4 | 10.80 |
| MS601-Y-5 | 12.00 |
| MS601-Y-6 | 13.30 |
| MS601-Y-7 | 14.50 |
| MS601-Y-8 | 15.80 |
| MS601-Y-9 | 17.10 |
| MS601-Y-10 | 18.30 |
| MS601-Y-11 | 19.60 |
| MS601.Y-12 | 20.90 |
| MS601.Y-13 | 22.10 |
| MS601-Y-14 | 23.40 |
| MS601-Y-15 | 24.70 |
| MS601.Y.16 | 25.90 |
| MS601-Y-17 | 27.20 |
| MS601.Y.18 | 28.50 |
| MS601.Y-19 | 29.70 |
| MS601.Y. 20 | 31.10 |
| MS601.Y. 21 | 32.30 |
| MS601-Y-22 | 33.60 |
| MS601.Y.23 | 34.90 |

MARKER STRIPS
for 602. 602-ST and $602-3 / 4$ ST $^{2}$
$\qquad$
No.
MS 602
MS602-1 PerC

MARKER STRIPS
for 602.Y Series

| No. | Per C |
| :---: | :---: |
| MS602-Y.1 | \$7.30 |
| MS602-Y-2 | 8.90 |
| MS602-Y-3 | 10.40 |
| MS602-Y.4 | 12.00 |
| MS602-Y-5 | 13.60 |
| MS602-Y-6 | 15.20 |
| MS602-Y-7 | 16.80 |
| MS602-Y.8 | 18.30 |
| MS602.Y.9 | 19.90 |
| MS602-Y-10 | 21.50 |
| MS602-Y-11 | 23.10 |
| MS602-Y. 12 | 24.70 |
| MS602.Y-13 | 26.30 |
| MS602.Y-14 | 27.80 |
| MS602-Y-15 | 29.40 |
| MS602-Y.16 | 31.00 |
| MS602.Y.17 | 32.60 |
| MS602.Y-18 | 34.20 |
| MS602.Y-19 | 35.80 |
| MS602-Y-20 | 37.40 |
| MS602-Y-21 | 39.00 |
| MS602-Y-22 | 40.60 |
| MS602.Y-23 | 42.20 |
| MS602-Y-24 | 43.80 |
| MS602-Y-25 | 45.40 |
| MS602-Y-2C | 47.00 |



TWO-SIDED LUG

| No. | Per C |
| :---: | ---: |
| 410-STL | $\$ 4.40$ |
| 600-STL | 4.40 |
| $601-$ STL | 5.90 |
| 602.STL | 7.20 |
| 603.STL | 10.00 |
| $604-$ STL | 18.00 |
| $605-$ STL | 26.00 |



| FLAG | LUG |
| :---: | :---: |
| No. | Per M |
| $600-S L F$ | $\$ 20.00$ |
| $601-S L F$ | 21.00 |
| $602-S L F$ | 23.00 |
| $603-S L F$ | 45.00 |



| JUMPER |  |
| :--- | ---: |
| No. | Per M |
| $410-J$ | $\$ 35.00$ |
| $600 . J$ | 35.00 |
| $601-J$ | 40.00 |
| $602 . J$ | 45.00 |
| $603 . J$ | 55.00 |
| $604 . J$ | 65.00 |
| $605 . J$ | 75.00 |

For Other Components, Send for Complete HERMAN H. SMITH INC. Catalog No. 55A

## GIANT BANANA PLUGS and JACKS

FOR HEAVY IOUTY APPI.ICATIONS


Giant insulated banana plug
High volthge insulat ad banana lark. comblete with jusu-
lating washers, solder luik and nut. To moint. drill
and hole.
Hug fNer all length az",
Excellent for lieaty tuty Cat No Pb, 475
Cat. No. I'J-4i6A $\underset{\text { Dealer Cost } \$ .45}{ }$

BANANA PLUGS and JACKS
(Irass Nickel I'lated)


SOLDERING LUGS and TERMINALS

|  |  |  | B |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Catalog | Type | Length | Mounting Hole | Width | Wire Opening | Desiler <br> Cost |
| TL-42 | A | 27/32" | 5/32" | 11/32" | 3 32" | \$ .59C |
| TL-44 | B | 15/16" | 7/32" | 11/32" | $3^{16}{ }^{\prime \prime}$ | .86C |
| TL-45 | B | $11 /{ }^{\prime \prime}$ | 9/32" | $1^{1} 2$ " | 316 " | 1.18 C |
| TL-46 | C | 13/16" | 1/4" | 3/8" | 1/8" | .66C |
| TL-47 | C | 3/4" | 9/32" | 13/32 ${ }^{\prime \prime}$ | 3/32" | .76C |
| TLL-48 | C | 11/16" | 5/32" | $5 / 16^{\prime \prime}$ | 3 32" | .50C |
| TL-59 | C | $7 / 8^{\prime \prime}$ | 25/64" | $9 / 16^{\prime \prime}$ | 1/16" | 1.55C |
| TL-50 | C | 9/16" | 1/8" | 3/16" | 3/32" | .50C |
| TL-51 | C | $9 / 16^{\prime \prime}$ | 5/32 ${ }^{\prime \prime}$ | $5 / 16^{\prime \prime}$ | 1/16 ${ }^{\prime \prime}$ | .50C |
| TL-52 | C | $5 / 8^{\prime \prime}$ | 7/32" | 3/8" | 1/16 ${ }^{\prime \prime}$ | .50C |
| TL-54 | D | 13/16" | 7/32" | 3/8" | $3 / 32^{\prime \prime}$ | .92C |
| TL-55 | D | $3 / 4^{\prime \prime}$ | 3/16 ${ }^{\prime \prime}$ | 5/16" | 1/16" | .72C |
| TL-56 | D | $5 / 8^{\prime \prime}$ | 5/32" | 15/64" | $5 / 64^{\prime \prime}$ | .50C |
| TL-57 | B | 11/16" | 3/16 ${ }^{\prime \prime}$ | 11/32" | 3/32" | .86C |

## WALL LEAD-IN I-742



This Lead-In is used to facilitate bringing in antennas or feeders through a wall or window casing with ease and safety. Unit consists of a $12^{\prime \prime}$ threaded brass rod insulated with heavy plastic tubing, and two heavy ceramic insulators. Rod and insulator may be readily cut to any length.
I-742
Dealer Cost \$1.18

## SHAFT COUPLINGS, REDUCERS and EXTENSIONS



As indicaterl in the heading. these items are intended for connecting two sharts changing diameter of shafts, or for increasin. shaft lengths. Units made of brass.


| ,., Description | Dealer Ciost |
| :---: | :---: |
| 1/4." Coupling | \$0.22 |
| 3/7, Coupling | 27 |
| 1/4" to "/8" Coupling | 2 |
| 1/4" Male to 1/4 Female | 2 |
| \%". Female to $1 / 4$ " Male | $\therefore 0$ |
| 1/" Female to 3/8" Male | 30 |
| $1 / 4 \times 6{ }^{\prime \prime}$ Brass Shaft | 19 |
| $1{ }^{-1} \times 12^{\prime \prime}$ Brass Shaft | 35 |
| 1/4 Coupling | . 22 |
| \%/* Coupling | 28 |
| $1 / 3$ ", to ** Coupling | - |
| 1/4" Male to $1 / 4{ }^{\prime \prime}$ Female | 21 |
| $3 / 4$ "Female to $1 / 4$ " Male | . 28 |
| $1 / 4$ Female to $8 / 8$ " Male | - |
| 1/4"x $6^{\prime \prime}$ F'iber Shaft | 28 |
| $1 / 4 "$ x 12" Fiber Shaft | 10 |
| 1/4* x 6" Bakelite Shaft | 1 |
| $1 / 4 \times 12^{*}$ Bakelite Shaft | . 73 |

## LICITE FEEDER SPREADERS

Designed for all average feeder remiruments. A 600 ohm line can be made with any size wire from No. 12 to No. 1 k b using one of the spreaders listed below. The spreader used for this application de* pends on the wire size. Further data on handbook These handbook. These spreaders are furnishet with locking screws to clamp the wire in place. All spreaders are $3 / x^{\prime \prime}$ in diameter.

| Catalog No. | Wire Spacing | Std. l'ackage | Dealer Cost |
| :---: | :---: | :---: | :---: |
| I-1900 | 2" | 25 | \$0.33 |
| 1-1901 | $4^{\circ}$ | 25 | . 411 |
| 1-1902 | 5" | 25 | . 43 |
| I-1903 | $6{ }^{\prime \prime}$ | 25 | . 16 |


| INNFL IBEAIRING ASNEMIBLIFS |  |  |  |
| :---: | :---: | :---: | :---: |
| 532 is b |  | -530 and PB-5 1/4" shaft beari of $1 / 4^{\prime \prime}$ brass place by wast m shifting. Th facilitate the rs, potentiomet mounted a dis earing fits in s up to $5 / 16^{\prime \prime}$ |  |
| Catulog Number | Overall Length | Distance behind panels | Deater Cust |
| P13-530 | $6^{\prime \prime}$ | $4 \% "$ | \$0.50 |
| PB-531 | 3" | 1夝" | . 111 |
| P1-532 | Rearing Only |  | .17 |



## DIAL LOCK DL-1917

This dial lock is a dual purpose item. sincu functions as both a dial lock and a position indi. cator. The problems of dial slimpage and arei dental movement of dials are absolutely eliminater by this inexpensive and precise lock. Made of hrass. nickel plated.
DI.-1947. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Dealer Cost su.ٍ0

Only a few of many InID Productm are thown. Write for complete catalog.

## ＂VISE－CRIP＂TEST PRODS

No longer is it necessary to use a soldering iron wr screw－driver to replace a broken or worn lead on a test prod or plug．＇「o install a wire in this unique，patented prod，moely insert end of wire in hole，screw down handle to finger tightness and q positive contact is assured．Hy far the fastest．most eflicient way of doing this job．
（hrough hole in tip．

screw cap tightly on 10 tip．
TEST PRODS WITH I＂PLASTIC IIANDLE


Prod is made of brass rod，and is nickel plated．l＇lastic hanile is threaded at one end and prod screws into same．

| Citalog Number |  | Dealer Cost |
| :---: | :---: | :---: |
| ＇11＇－93 | Needle Chuck 1＂plastic handle－red or hlact： | \＄． 21 |
| ＇113－94 | Phone Tif $1^{\prime \prime}$ plastic handle－red or hact： | ．18 |
| ＇11－4：7A | fianama Plug $1^{\prime \prime}$ plastic handle－red or black | ． 18 |

TEST PRODS WITH $4^{\prime \prime}$ PLASTIC IIANDIEE
Prods are identical o those described above．Plastic handle is $4^{\prime \prime}$ long and made of the best material obtainable．
Needle Chuck－IBack or Red
Cat．No．T1＇－95 Dealer Cost $\$ 0.36$ Phone Tip Black or Red．
Cat．No．TP－96 Dealer Cost $\$ 0.27$ Banana Plug－Black or Red． Cai．No．TP－97 I Mealer Cost \＄0．30

## SUPER TEST LEADS



All BUD Super Test Leads use BUD＂Visedirip＂Prods that surew into the bighly wished $4^{\prime \prime}$ or $1^{\prime \prime}$ phatic hindles an tath end of the leads．The finest，flexible，kinklugs，mubher covered wire obtainable is used un all BUD Fist lads．

No．TL－178 is supplied with $4^{\prime \prime}$ handles at one end of the wires with removable needle points and on other and $1^{\prime \prime}$ handle with phone tips． Cat．No．TL－178

Dealer Cost \＄1．35
No．TL－179－4＂handles，une with renovable needle point and the other with phone tip and removable alligator clip，1＂ handles with phone tips． Cat．No．TL－179．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．Dealer Cust \＄1．35

No．TL－180 have $4^{\prime \prime}$ plastic handiles with phofe tips on one end． Other end， $1^{\prime \prime}$ handles with whone tips al：illustrated ahove． Cat．No．TL－180．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．Cost $\$ 1.20$

## s MALL JACKS

 These panel mounting jacks are desirable for con－ is at a premium．Parts are aceurately machined，with nickle plated finish and contacts are formed from shring hrass．Each jack comes complete with insulating washers and will accommodate standaid phugs．Overall length l．＂．| Catalog Ňo． | Contacts | Distance | Prohilud | Panel | Deal ${ }^{\text {a }}$ | Cost |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| －1－1038 | 2 |  | 15／16＂ |  |  | －． 33 |
| J－105x | 3 |  | $15 / 16^{\prime \prime}$ |  |  |  |

## NLLPURPOSE JACKS



Although small in size．this is one of the fincst limes of jacks available．I＇ho careful design ame high quality materials nsed in thes commpoments
 balidite insulabom prevobits breakdown butworn springs at all ordinary voltages．Suppled with batid insulating，woshors．Inoght its＂，distince bellad lanw

| Catalop <br> N゙いmber | Circuit <br> l）esign | Contart <br> Arringement | Dealer Cost |
| :---: | :---: | :---: | :---: |
| J－1324 | $4 \sim$ | Open rireuit | \＄0．39 |
| ．1－1325 | 4 | Closed circuit | ．5） |
| J－1326 | $\square$ | 3－Contact open circuit | ． 63 |
| J－1327 |  | Brak contacts on tip and ling spring | ． 83 |
| J－1328 |  | Separate make－contact surinos | ． 6.3 |
| J－1329 | $\xrightarrow{\square}$ | Wreak contacts on tip spring－ separate make－rontact spring | ．6：3 |
| J－1330 | 02 | Rreak－make contacts on top spri | \％．R 3 |

## HIDCFT JACKS

|  | The construction of this jack allows its use in ：ap－ Hifatlons havinf limited space behimat the manel． The spmong hrass continet itssurns a good combore tion．These jatrs come with insulating washers and accommodate standard phone pluss． |  |  |
| :---: | :---: | :---: | :---: |
| Catalog | Type D | Distance l3ehind | ）ealer Co |
| J．232A | Open Circuit | $13.16^{\prime \prime}$ | \＄． 3 |
| －233A | Closed Circuit | 1 1316＂ |  |

## PIIONE PLUGS

All methi parts on these exrellent phone plugs are mitehined from irass，and are niekn mated．have attractive brase handed of black bakelfe：shieldmaty
handas bright niekn plated．

No．FP－1946 is suppliod Wibhout a Handle，and is used as an adapter between a female microphone cable connector and a regular plug jack．

| Catalog Numbir | Contaris | Handle | 1）verall <br> Tength | bushing Diam， | Jialer Cost |
| :---: | :---: | :---: | :---: | :---: | :---: |
| FI－230 | 2 | Wakelite | 2：1＂ | \％＂， | $\$ 0.39$ |
| FP－282 | 2 | Shieliled | 2＂＊＂ | ＂81 | ． 60 |
| F1P－1057 | 3 | Hakelite | 2：3／＂ | \％ | ． X 1 |
| FP－284 | 3 | Shiclated | $2{ }^{\text {¢ }}$ | $y_{1}{ }^{\prime \prime}$ | ． 49 |
| FP－1946 | 2 | None | 1－7／16＂ | 11／16＂ | ． 21 |

## FLEXIBLE SHAFTS and COUPLERS



When construction necessitates the mounting of condensers or potentiometers away from the manel and at unusuat angles， hese Flexible Shafts simplif panel control broblems．Both lengths are remarkably free from backlasl，and will turn at any angle up to $90^{\circ}$
Nos．FSS－859 and FS－860 have ${ }^{1}$＂bushings sweated to each end to fit either plain or insulated couplings．Nos．FS－862 and FS－K63 have Steatite insulated couplings attached to earh end to fit $1 / \mathrm{s}^{\prime \prime}$ shafts．

Owrall Length
$31 / "^{\prime \prime}$
$6 y^{\prime \prime \prime \prime}$
$41 \% "$
Hester Cost ISS－859
FS－860
FS－862
FSS－862
$\$ 1.12$
.33
.63
1.32
1.32

# ШАL5CO 

ELECTRONIC HARDWARE Buy the " 50 " and " 99 " line in handy. transparent plastic boxes. Easy to store, open, and re-use. Ends last or stray parts.



$$
\begin{aligned}
& \text { Fits } \\
& \text { Scre } \\
& \text { Size }
\end{aligned}
$$


SPACERS, INSULATORS \& SCREWS

| METAL \& INSULATING SPACERS <br> V゙arimus lorlith <br> and lule sizes. Assorted Metal <br> Assorted Insulatinn | $\begin{array}{r} 7640-\mathrm{F} \\ 7630 \mathrm{~F} \\ \hline \end{array}$ | 12 <br> 12 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| fuse clips <br> Clibs single lale tymu Assorted Clips | 7600-F | 12 |  |  |
| FUSE INSULATORS <br> Insulators the "c" diam, fusts. <br> Assoried Insulators | 7640.F | 20 |  |  |
| STEEL SET SCREWS | $8623-F$ $8633-F$ $8634-F$ $8634-\mathrm{F}$ $8605-\mathrm{F}$ 8605 | 15 15 15 15 15 | 8605-N | 55 |
| ORNAMENTAL HEAD SCREWS | $8252 . \mathrm{F}$ $8253-\mathrm{F}$ $8255 . \mathrm{F}$ $8250 . \mathrm{F}$ | 25 20 12 20 | 8252. 825 825 825 | 125 125 80 |
| ESCUTCHEON \& WOOD SCREWS <br> Runmi atmi <br> Ass't'd. Wood Screws <br> flathead <br> Ass "t'd. Escutcheon <br> standiart size. <br>  | $8502-\mathrm{F}$ $8500-\mathrm{F}$ | 25 25 |  |  |



# WAL5CO 



MACHINE, SELF-TAPPING, RACK SCREWS
(Continued)

| SHEET METAL \& SELF-TAPPING SCREWS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $\cdots$ 回 | 8362-F | 30 | 8362 N | 150 |
|  | 8363 - F | 25 | 8363-N | 150 |
|  | 8366 -F | 20 | ${ }_{8366 .} \mathrm{N}$ | 125 |
|  | 8368 -F | 20 | $8368 \cdot \mathrm{~N}$ | 125 |
|  | $8382 . F$ $8383 . F$ | $\stackrel{20}{20}$ | $88382 \cdot \mathrm{~N}$ | 125 |
|  | $8384 . \mathrm{F}$ | 20 | $8384 . \mathrm{N}$ | 125 |
| 1403 $\quad \begin{aligned} \text { a }\end{aligned}$ | 8386 -F | 15 | 8386 - N | 80 |
| $=10 \times 3 / 8$. | 8403 - | 15 | ${ }_{8}^{8}+03 \mathrm{~N}$ | 80 |
|  | 8404 - F | 15 | 8404 - N | 80 |
| $\cdots \cdots-{ }^{-1}$ - ${ }^{\text {assorted }}$ | $8406-F$ $8300-F$ | 12 25 | $8+06 \cdot \mathrm{~N}$ $8300 \cdot \mathrm{~N}$ | 80 125 |
| SMALL MACHINE SCREW \& NUT ASSORTMENT <br>  | 8002 -F | 35 |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| RACK SCREWS \& |  |  |  |  |
|  |  |  |  |  |
| 6-32 ${ }^{3 / 8}$ | 8265-F | 30 | $8265 . \mathrm{N}$ |  |
| Serews $\begin{aligned} & =8.32 \times 3, \\ & =8.32 \times 3,\end{aligned}$ | 8269-F | 25 | $8269 . \mathrm{N}$ | 150 |
|  | $8273-\mathrm{F}$ 7806 F | 20 4 | ${ }_{8806 . N}$ | 100 400 |
|  | $7806 . \mathrm{F}$ <br> 7808 F <br> 8 | 45 | $7806 . N$ $7808 . \mathrm{N}$ | 400 300 |
| ( $=10$ (9 16"0.0.) | 7810-F | 35 | $7810 \cdot \mathrm{~N}$ | 250 |
| Assorted Screws and Washers | 8005.F | 15 |  |  |

HEX, LOCK, SPECIAL \& SPEED NUTS. MISCELLANEOUS FASTENERS


ELECTRONIC HARDWARE


## FASTENERS, BRACKETS, PLUGS, PHONE TIPS

## CABLE CLAMPS

\begin{tabular}{|c|c|c|c|c|}
\hline CABLE CLAMPS \& \& \& \& \\
\hline  \& \[
\begin{aligned}
\& 7502-F \\
\& 7503-F \\
\& 7505-F \\
\& 7500-F
\end{aligned}
\]
\[
7500-F
\] \& \[
\begin{aligned}
\& 25 \\
\& 20 \\
\& 16 \\
\& 20
\end{aligned}
\] \& \[
\begin{array}{r}
7502 \cdot \mathrm{~N} \\
7503 \mathrm{~N} \\
7505 \cdot \mathrm{~N}
\end{array}
\] \& 125
100
75 \\
\hline \begin{tabular}{l}
ESCUTCHEON PIN ASSMT. \\
Various sizes. I-ength from Assorted
\end{tabular} \& 7560-F \& 100 \& \& \\
\hline TWIN-LEAD WIRING NAILS For 3no OHM win-leal wire. \& 7565.F \& 35 \& 7565.N \& 200 \\
\hline \begin{tabular}{l}
ANGLE BRACKET ASSMT. \\
Assorted Steel \& Brass
\end{tabular} \& 7570-F \& 15 \& \& \\
\hline \begin{tabular}{l}
SPADE BOLTS \\
Sturl size fo-?2: hole for No. if screw or \(1 /{ }^{\prime \prime}\) rivet. \\
Length \({ }^{3}{ }^{4}\) ". (Straight) (Offset) Assorted
\end{tabular} \& 8570-F \& 15 \& \(8572 \cdot \mathrm{~N}\)
\(8573 \cdot \mathrm{~N}\) \& 75
45 \\
\hline  \& \[
\begin{aligned}
\& 7306-F \\
\& 7308-F \\
\& 7310-F \\
\& 7312-F \\
\& 7314-F \\
\& 7316-F \\
\& 7300-F
\end{aligned}
\] \& \[
\begin{aligned}
\& 8 \\
\& 8 \\
\& 6 \\
\& 6 \\
\& 6 \\
\& 5 \\
\& 5 \\
\& 6
\end{aligned}
\] \& \[
\begin{aligned}
\& 7306 . \mathrm{N} \\
\& 7308 . \mathrm{N} \\
\& 7310 . \mathrm{N} \\
\& 7312 . \mathrm{N} \\
\& 7314 . \mathrm{N} \\
\& 7316 . \mathrm{N}
\end{aligned}
\] \& 50
50
40
30
25
20 \\
\hline VENTILATING hOLE PLUGS Assorted \& 7330-F \& 3 \& \& \\
\hline \begin{tabular}{l}
PHONE TIPS \\
Fit all standatl tip jarks.
\end{tabular} \& 7645-F \& 10 \& 7645.N \& 60 \\
\hline  \& \[
\begin{aligned}
\& 7110-F \\
\& 7120-F \\
\& 7130-F \\
\& 7140-F \\
\& 7150-F \\
\& 7160-F \\
\& 7170 . F \\
\& 7180-F \\
\& 7190 . F \\
\& 7100 . F
\end{aligned}
\] \& 20
25
25
25
16
15
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35

25
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30 \& $$
\begin{aligned}
& 7116 \cdot \mathrm{~N} \\
& 7118 \cdot \mathrm{~N} \\
& 7126 \cdot \mathrm{~N} \\
& 7128 \cdot \mathrm{~N} \\
& 7136 \cdot \mathrm{~N} \\
& 7138 \cdot \mathrm{~N} \\
& 7146 \cdot \mathrm{~N} \\
& 7148 \cdot \mathrm{~N} \\
& 7156 \cdot \mathrm{~N} \\
& 7158 \cdot \mathrm{~N} \\
& 7166 \cdot \mathrm{~N} \\
& 7168 \cdot \mathrm{~N} \\
& 7169 \cdot \mathrm{~N} \\
& 7179 \cdot \mathrm{~N} \\
& 7189 \cdot \mathrm{~N} \\
& 7199 \cdot \mathrm{~N}
\end{aligned}
$$ \& 125

125
125
125
135
135
90
90
100
100
250
250
200
140
80
35 <br>
\hline
\end{tabular}

PHONO HARDWARE AND RUBBER ITEMS


# WAL5CO 



## HARDWARE ASSORTMENT • SERVICE AIDS • SPECIAL TOOLS DIAL CORDS \& CABLES • DRIVE BELTS

HARDWARE ASSORTMENT


PROTECTO TUBE KIT



ALL PURPOSE WIRE STRIPPERS



NYLON DIAL CORD




## BRONZE DIAL CABLES







$$
\begin{aligned}
& 8 \quad 9 \\
& \text { Catalog }
\end{aligned}
$$




$$
10
$$

$$
\begin{array}{ll}
10 & 11 \\
\text { List } &
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\begin{array}{ll}
\text { Catalog } & \text { Pri } \\
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\end{array}
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\left.\begin{array}{l}
11
\end{array} 12 \begin{array}{llllll}
12 & 13 & 14 & 15 & 16 & 17
\end{array}\right] \begin{gathered}
\text { Picture } \\
9
\end{gathered}
$$

$$
=2508
$$

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.45
$$

WALSCO ALIGNMENT TOOLS


倉Catalog Pric .70

|  | 二1＊れ小 | $\pm 2519$ |
| :---: | :---: | :---: |
| 14 |  | ¢ 2524 |



\＃2526 ． 55
：7 Inspection Mirror
：8 Contactene Injector
Tlabise michas aphlisator the all
19 Solder－Eze Tool


20 ＂Glas－Sticks＂


$\pm 2537$
$\pm 2538$
1.00
-.75

21 ＇＂Slim Sticks＂


|  | \＃25 |
| :---: | :---: |
|  | 판 |
| B 3－2＂Hamm 12＂lons | \＃ 25 |
|  | ＋25 |


（＇ontains 1：2 must－usenil of almore terls rase or in compact wallrack．
Cat．\＃580－Lemberate case
Cat．\＃581－Wiallrack
an daralile loatheretta
List Price \＄12．65 List Price 12.65

## SERVICE TWEEZERS

| SERVICE TWEEZERS |  |
| :---: | :---: |
| s．lforlusing twourn with cruss－ 570 <br>  |  |
| Hlotit winints． |  |
| Ca\％．\＃570 ．．．List Price \＄1．05 |  |
|  |  |
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| ｜rints <br> Cat．$\# 571$ List Price $\$ 1.30$ | Tweezer kit（hatherritel．（r．mb－ tains one of eath twaterer liva．4． |
| pointerl omuls for delis ato work <br> Cat．\＃572．．．．．．．．List Price $\$ 0.60$ |  |
|  |  |
|  |  |
| HEX \＆SPLINE WRENCH KIT |  |
| Ine ludes 1is assurterl，most popular |  |
|  |  |
| Cat．\＃560 |  |
| List Price ．．．．．．．．．．．．．．．．．．．．．．．．．$\$ 1.80$ |  |
| Dealer Net ．．．．．．．．．．．．．．．．．．．．．．$\$ 1.08$ |  |
| Standaril Pack： 25 |  |

## ACCESSORIES <br> SERVICEAIDS

walseo quality earnerl its reputation

walseo quality carned its reputation

| Product | Size Cat. List Price | RH CLEANACt | Size Cat. List Price |
| :---: | :---: | :---: | :---: |
| LUBRIPLATE |  |  | Ther jucal whmical elanmer fim tap or wire |
|  |  <br>  |  | mending hoaks. Recommended and usend hey |
|  |  |  | 1 1\% latile $\quad=9309$ |
| WALSCOLUB-B |  |  | Stanlard Pack: 10 |
|  |  <br>  <br>  | WALSCOCLEAR <br> (Formula 91) | Xintralizes statio clectricity in mastias ans it Mrans. Will mot fuy on thal! phatice. Fan amb Manic records, TV lemsts, opical sysme, ofo. 4 az hotll. <br> Stimulard Fack: 12 $=91$ |
|  |  |  |  |
|  <br>  |  |  |  |
| FLOCK FINISH |  | DIAL OIL |  sath for ervor most da-licate lrearians and dial merhamisms. <br> $\because \mathrm{F} \%$. bottlo. $=72$ |
| SPRAY KIT |  <br>  |  |  |
|  | fions. |  |  |
| TUNERLUB |  <br>  | CARBON <br> TETRACHLORIDE |  |
|  | -withles. Free tum zink ous hatmoul in lail |  |  |
|  | "7\% 1 \%\%. fulue $=\mathbf{2 6}$ |  |  |
| "NO-SLIP" |  | CARBONEX |  patchins moty and wom eathon controls. <br> 1 us. Wottle $=96$ <br> - Iambaral l'ack: 1ㄹ. <br> .80 |
|  |  |  |  |
| STRIPVAR |  <br>  pamber. | SUPER POLISH |  111"s and protects cabinct finishos. |
|  | $\because$ ar. lotle $\quad=1300.75$ |  |  |
|  |  |  |  |
|  |  | SCRATCH-REMOV. ING POLISH | Mahes screathers disatherar. U"so "-l)ath" for <br>  <br>  - Made of catimet. |
| WALSCOFLUX |  <br>  |  |  |
|  |  $\because$ az bottlo <br>  |  |  |

## PAINTS \& LACQUERS • CABINET REFINISHING KITS



The , 11.15TER -
TRADE DISCOUNT APPLIES TO LIST PRICES ONLY
walseo quality earned its reputation



| Size B \＆S <br> Gauge No． | Appr Inch | D. | Quantity per pkg． | Cat． | List Price per pkg |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1， | ．11：＂ | 1 | こ0 11 | $\pm 600$ | $\$ 1.00$ |
| $11 ;$ | ．11．8：${ }^{\text {\％}}$ | 1.1 | $\because 011$. | $\pm 601$ | 1.00 |
| 14 | ． $11 / 18 i^{\prime \prime}$ | 1．1； | 1811． | \＃602 | 1.00 |
| 1－1 | ．11－．1＂ | $\because$ | 10才 | \＃603 | 1.00 |
| 1 ！ | ． $110{ }^{\circ}$ | $\cdots 7$ | 11 fl ． | \＃604 | 1.00 |
| $*$ | ． $1: 3 \%^{*}$ | ：$:$. | $1 \pm 11$. | \＃605 | 1.00 |
| 1 | ． 1 ＇ifi＊ | 1 | 1011. | $\pm 606$ | 1.00 |
| 1 | 回い＂ | $\therefore$ | fift． | \＄607 | 1.00 |
| $\because$ | －$\because$ ¢ ${ }^{\prime \prime}$ | 6，${ }^{\text {a }}$ | fil． | \＃608 | 1.00 |

SLIDE SWITCH（Stackpole）


Spacing Width Length

| ＊r心 T ， | $1^{\prime \prime}{ }^{\prime \prime}$ | 17 $\mathrm{i}^{\prime}$ | $1^{1 /}$ | $\pm$－-367 |
| :---: | :---: | :---: | :---: | :---: |
| ＊ 110 | $1^{1} 8$ | 17／3 $\square^{+}$ | $1{ }^{\text {\％}}$ | \＃S－368 |
| 1）\％心T | $1 \%$ | 17：34＊ | 1．5．5／1．1＂ | \＃S．370 |
| い1， 1 T | ！${ }^{\text {\％}}$ | 17\％＊＊ | 1．37／6．4＂ | \＃S－370 |

ALL SWITCHES U．L．APPROVED－MADE FOR WALSCO BY H \＆H

# TV HARDWARE <br> AND ACCESSORIES 

walseb quality carned its reputation


REEL-EASY


This wire real holder makes
it "ratal vasy" 10 carry abl
insiall lead-in wires. Vo
momo problalo with tatelod

wires. ('ompart. porrabla.
Wirn reed holler:
(Nallalad J'ack: ti)


U-BOLT BRACKET
ASSEMBLY

.60 (standallat Parla: en)


MAST SWIVEL
BASE

$$
\begin{array}{llll}
\text { Fow l" diam. m.s.s. } & =4005-2 & .85 \\
\text { F"or 1 1", diam. masts } & & \neq 4005-27 & .95
\end{array}
$$




| Product | Description | Cat. L |  | ist Price |
| :---: | :---: | :---: | :---: | :---: |
| SCREW EYES |  | Cat. | Each | Per Gr. |
|  |  | \#1540 | \$0.05 | \$5.40 |
|  | (Niamdard Patk: 1 11) |  |  |  |
| - |  ( Na:allatif Jack: | $=1542$ | . 08 | 8.25 |
|  |  | \#1544 | . 15 | 15.00 |

TWIN LEAD
WIRING NAILS


Fow standara Twin Lead (Flatline)




$$
\text { \#7565 } 7.70 \text { per M }
$$

For Tubulat. Oval, ('ois, and "ofnen" linu" A Apmox. 1000 por phy. \#1547-M 12.40 per $M$

WAL5CD
walseo quality earned its reputation

## "'CHEATER’' CORDS <br> ANODELEADS <br> COUPLERS - DETENTS

Description
TV INTERLOCK RECEPTACLE

## DELUXE INTERLOCK CHEATER CORD

| fore tosters, soldering irons, trow- <br> her lights, ente. Oine and has mobleml bakelite prong plug for wall ondlat: other are two femaile reraphardes-oner a stamdard mondenl rulbuer tylu', the ather for Groith, Emorsma, and Shlaniat TV' s.ts. Provides all combertions herossary for Th sorvicille. I.L. |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| tV tube anode lead |  |  |  |  |
| Stimiard tepe. |  | 13 | \#1628 | 1.00 |
| INSULATED GRID CAPS with LEADS | $\begin{aligned} & 1 / 4 " \text { sizn } \\ & 3_{x} \text { sizi } \\ & \text { (Ntandard latck: } 2 \pi \text { ) } \end{aligned}$ |  | \#1630 | . 45 |
|  |  |  | \#1631 | . 45 |

TV TUBE ANODE LEAD EXTENSION CORD

| 3 Bi" longr, flexilhe, with high di. |  |  |  |
| :--- | :--- | :--- | :--- |
| "lnetric mastic insulation. | 12 | $\# 1625$ | 1.50 |

## TV TUNER DETENTS

| High macision replarements. Three point bath-bearine suspen- |  |
| :---: | :---: |
|  |  |
| siom gives smooth, low-torghe |  |
| buninge Detront spring mande of |  |
|  |  |
| sarvice shatts mate of linen- |  |
|  |  |
| plabolie. Risid, precise, non- | Shatithoth |
| "arping. | (from ' ${ }^{\text {" }}$ " washer) |
| \#1:10 replaces RCA \#71463 |  |
| \#1011 replaces R(C'S \#72743 | lrass 3n" Phenolic 3\%" 3.15 |
|  |  |
| for ust with Tuner \#ins31 |  |
| \#1セ1: ruplaces R(CA \#-3440 | 4.75 |
| \#1014 replaces RCA \#75162 | 4.00 |

Description Standard Pack Cat. List Price JIFFY COUPLER


 1:u-1 . . . Vasy to install.

$$
=1595
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1.85

## 2 \& 4 SET COUPLERS


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losare wilh maximum dr-cтй
line. Fxediont impenansur math

for rail which aives a mesitiar
:3口1 whm input on the antrma
beminals and on with set tomi-
math. Guich alma beisy the install.

| $2-$ set coupler |  | $=1592$ |
| :--- | :--- | :--- |
| I-sit conpler |  | 4.75 |
|  |  |  |

## TV ACCESSORIES



QUIK-KLIP and
Quicknst was lo attarll hate in wires to TV set. High impact pulystyme with jaws of heavy stoel and lums platis.


| Quik-kliu | \#1525 | .35 ea. |
| :--- | :--- | :--- |
| Sperdy-Klip | $\# 1526$ | .35 ea. |

walsco quality earned its reputation


## PHONO DRIVE KIT



## PHONO MOUNTING SPRING KIT



Cat. No. 1498

## RECORD ARM SLEEYE

 Cat. No. 1412 List . 25 pr.


## IDLER AND DRIVE WHEELS

 constructions thromehniut.


 ㄹ..








 Cat. No, 1447. Li=1 :


$\qquad$


Cat. No.
1460/1470
$1460 / 1470$
$1461 / 1471$ $1462 / 1472$


Cat
Cat. No. Speed
1466 - - lir!




$$
\begin{array}{ll}
\text { Cat. No. } & \text { Speed } \\
1463 & \text { SNIM } \\
1464 & \text { SllM }
\end{array}
$$

$$
\begin{aligned}
& \text { List } \\
& 1.50 \\
& 1.50
\end{aligned}
$$






 reqoommendations. If model mom
 biar mimber is mot known, usi litin series, fion most mumeses those twa serias arm interchanase able.







fit. No. 1 this nseal wh Wromem mondels $1: 35$, $1: 36$ and other late - hampers.

TELEVISION
ANTENNAS
walsco quality earned its reputation


 inserls. ("bues complety assembied. I-seat uncontitimal fualamter.

| Cat. | Description | List Price |
| :---: | :---: | :---: |
| $=4010$ | Single Hay-mo mast | \$ 3.77 |
| $=4012$ | Wua! Stack-mo mast | 8.54 |
| $=4010.2$ | comerts two sinkle lfays | 1.00 |

## WALSCO DUAL VEE (VHF-UHF)

 This. couphed whth the highly directice kestan oftimums gerformance. elin



## WALSCO IMPERIAL (VHF)

Fig. C-I"nconkithonal guaramee for ? full years: I'masually hizh kain wit

Ooscription List Pr

| Cat. | Ooscrlption | List Price |
| :---: | :---: | :---: |
| $\pm 4060 . F$ | Mngle lay | \$ 9.25 |
| F 4062-F | lual stark | 19.85 |
| $=4064-\mathrm{F}$ | Four lsay | 41.50 |
| $=4060-\mathrm{A}-1$ | For moncert | 1.50 |

## WALSCO SIGNAL KING (VHF)

Fig. D-Ithe coutstamding all-weather, all-Incation VNH antemba, Jusigh and gnsitime of new hifrembency direcom har giwes extremely hish path dh



## WALSCO BOW KING (VHF.UHF)

Fig. E-Recommended for any arimaty or seromdary atpas for both vilf
 dirt, and moisture. Inconilitional i-vear pharantee.


## WALSCO SKY KING (VHF)

Fig. F-bxeclemt wibn, all-channel VHF reception. litht. strong alumibum


| Cat. | Oeseription | List Price |
| :---: | :---: | :---: |
| $=4030 \cdot \mathrm{~F}$ | Sinate lisa, 8 elements | 54.95 |
| $=4032-\mathrm{F}$ | Dual stack, \& elements. | 11).811 |
| $\pm 4040 . \mathrm{F}$ | Sinule dray. 10 elements | 5.50 |
| $=4042 \mathrm{~F}$ | bual stark. 10 elements | 11.90 |

Fig. G—llesizned for all filnge witra-fringe. and diffrult recebtion areas. Comblimes featares of sazi on channels $\mathbf{i}-1: 3$ with broad band conical desifontumed directur. : deflecturs for low channels. Guick-rig, snap-in element hobler. I'momditional 1 -year gharantere.

| Cat. | Oeseription | List Price |
| :---: | :---: | :---: |
| $=4110$ | *inkle lay | \$13.75 |
| $=4112 \cdot 0$ | lual statk at guatter Wase | 27.50 |
| $=4112 \mathrm{H}$ | blaal stark at llalf Wine. | 29.50 |
| $=4110.20$ | $\because$ Bay Stackink Bar duarter W'ave. | 1.00 |
| $=4112.2 \mathrm{H}$ | 2. Bay Starking Bat latf Ware | 2.75 |

## WALSCO "TROMBONE" (VHF.UHF)

Fig. H-First partioal fringe atea antonta for hikly win reception on all

 I'nambitional 1 year ghatantere.


## WALSCO F.M. ANTENNA KITS

$=$ ltioti Turnatyle is desimed for instablation where F.M. stations are in realy range. It recibes from all diretions. and features WAlsio's exclusise stbremp "barrier bisp imsmators.
 bereiting pawer thallif: it the average
Both mondels completply pre-assemhert and complete with all accessories nec-


| Cat. | Description | List Price |
| :---: | :---: | :---: |
| $=4656$ | Tumstyle | \$14.95 |
| $=4666$ | - E-kement Yiasi | 22.75 |

## WALSCO U-INSTALL ANTENNA KITS

Kits comtain ererghtong needed for most home fistalations, including: Antenta,





| Cat. | Description | List Price |
| :---: | :---: | :---: |
| $=4016$ |  | \$ 9.00 |
| $=4046$ | *ky K゙ink 1 Inatall K゙it | 13.65 |
| $=4666 . F$ | Imben iad I-lustall Kit | 15.75 |
| $=4096$ | Simbal Kinc U-Install Kit | 15.75 |
| $=4106 . \mathrm{A}$ | 1ual Vie t Install Kit | 14.00 |
| $=4306$ | Cond ljimali Yazi to-Install Kit | 16.50 |
| $=4406$ |  | 16.50 |
| $=4407$ |  | 16.00 |
| $=4456 \mathrm{~F}$ | -umor Reflector $\mathrm{V}^{\text {- }}$ Install Kit | 19.95 |
| $=4656$ | F3 'rurnstylo l' Install Kit | 14.95 |
| $=4666$ |  | 22.75 |

walseo quality earned its reputation


WALSCO "STAR" (Indoor)
 lesign is whtalmed hy Waseris exclusive new diter timal switely whim siterts rikht romanatimy of


| Cat. | Coler | List Price |
| :---: | :---: | :---: |
| Star $=\mathbf{4 6 0 0}$ | Chatreme biase | . \$12.95 |

Star $=4600 \quad$ Nan
ctar $=\$ 600$
fand hase
12.95
12.95

WALSCO 5 ELEMENT YAGIS (VHF)
 arailable for chamels $2=13$. The "natmow'strated" \# 1176 serits at math for channels 2 -ti onls. All

 1-gear ghatanle.

STACKING BARS— $1 / 4$ WAVE LENGTH Cliannels: 2lirmukh
Cat. $=4181$-(Chan.)

Example
Stackink fir for chanmel 1 is $=1181-\mathrm{A}$
STACKING BARS- $1 / 2$ WAVE LENGTH
Chanmele 7 throukt 1 :
Cat. $=4181$-(Chan.)
lxampla:
Starking Bar for chantel 11 is $=\{181-11$

| Chan. | WIDE SPACED 4160 SERIES |  |
| :---: | :---: | :---: |
|  | Single bay | DUAL STACK |
|  | Cat. List Price | Cat. List Price |
| 2 | $=4160-2 \ldots$. $\$ 17.50$ | = $4162-2 . . . \$ 36.00$ |
| 3 | $=4160-3 . .16 .50$ | \# 4162 -3... 34,00 |
| 4 | $=4160-4 . \ldots 14.95$ | $=4162-4 . . .30 .90$ |
| 5 | $=4160-5 \ldots 14.50$ | -4162-5... 30.90 |
| t | $=4160-6 . .14 .50$ | - 4162 -6... 30.00 |
| 7 | \# 4160-7... 7.50 | $=4162.7 \ldots 16.00$ |
| 8 | $=4160-8 \ldots 7.50$ | $=4162-8 . .16 .00$ |
| 9 | $=4160.9 \ldots 7.50$ | =4162-9... 16.00 |
| 10 | $=4160-10 \ldots 7.50$ | $=4162-10 \ldots 16.00$ |
| 11 | $=4160-11 . .7 .50$ | $=4162-11 \ldots 16.00$ |
| 12 | $=4160-12 \ldots 7.50$ | $=4162-12 \ldots 16.00$ |
| 13 | \# 4160-13... 7.50 | \# 4162-13.. 16.00 |
|  | NARROW SPACED | 4170 SERIES |
| 2 | \$4170-2... \$13.50 | \#4172-2... $\$ 28.00$ |
| 3 | \# 4170-3... 12.50 | $=4172-3 . . .26 .00$ |
| 4 | \# $4170.4 . \ldots 11.75$ | $=4172-4, \ldots 24.50$ |
| 5 | $=4170-5 \ldots 10.95$ | \#4172-5... 22.90 |
| 6 | \# 4170-6, .. 10.25 | $=4172.6 \ldots 21.50$ |

## WALSCO 10 ELEMENT YAGIS (VHF)







STACKING BARS— $1 / 4$ WAVE LENGTH "hamuls " through (i)
Cat. $=4181-$ (Chan.)
Evamblo:

STACKING BARS— $1 / 2$ WAVE LENGTH Cat. $=4181-$ (Chan.)
$\$ 1.25$ List Prire



| Chan. | SINGLE BAY |  | DUAL STACK |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Cat. | List Price | Cat. | List Price |
| 2 | = $4180-2$ | . $\$ 29.75$ | $=4182-2$ | \$60.50 |
| 3 | $=4180-3$ | 28.95 | \# 4182.3 | 58.90 |
| 1 | $=4180-4$ | 27.75 | $=4182-4$ | 56.50 |
| $\square$ | $=4180.5$ | 26.50 | =4182-5 | 54.00 |
| $1 ;$ | $=4180-6$ | 24.25 | =4182-6 | 49.50 |
| 7 | $=4180-7$ | 13.25 | \# 4182.7 | 27.50 |
| s | $=4180-8$ | 13.25 | - $4182-8$ | 27.50 |
| ! | $=4180-9$ | . 13.25 | -4182-9 | 27.50 |
| 10 | $=4180-10$. | 13.25 | $=4182-10$ | 27.50 |
| 11 | $=4180-11$. | 13.25 | $=4182.11$ | 27.50 |
| 12 | $=4180-12$. | 13.25 | $=4182-12$ | 27.50 |
| 1:3 | $=4180.13$. | 13.25 | $=4182-13$ | 27.50 |

## WALSCO BROAD BAND YAGIS (VHF)

Fig. M-10 eldment yagis with two "stagher-
 $=417.4$ reveives ehammels $7-13$. A combination of these fwn mordels mastitutes the highest wain allvhantel Vff atitemat atailable. "ompletely preassombled, T-nconditional 1 -year מuarantee.

| Cat. | Description |  | List Price |
| :---: | :---: | :---: | :---: |
| $\# 4165$ | 'llammels $2-15$ |  | \$39.75 |
| $\# 4167$ | Dual stark |  | 79.50 |
| \#4165-29 | Starkink Hars | (Quarter Wiar) | (.) 1.25 |
| $\pm 4175$ | ('hamnels 7-13 |  | . 18.50 |
| \$4177 | Dual stark |  | 38.00 |
| \# 4175-2 H | Starking Bars | (Half Wave) | 1.25 |

WALSCO REFLECTO FAN (UHF)



| Cat. | Description | List Price |
| :---: | :---: | :---: |
| $=4400$ |  | \$ 5 |
| $=4.402$ | lual stark (fess mast) | 11.7 |
| 4405-1 | Slaking Fit to comsert wo |  |

## WALSCO CORNER REFLECTOR (UHF)

Fig. 0-The ultimate in likly thing frimse in"il


 Cat. $=4450-F$ (Wialmut Mast $\$ 10.9-$

## WALSCO GOLD DIPOLE YAGI (UHF)

Fig. P-Fidures 24 carat gold plated. litass dinu! 4






| Cat. | Description | List P |
| :---: | :---: | :---: |
| $=4300$ | Sincte Hay | S 7.50 |
| $=4302$ | ]ual stark | 16.0 |

## WALSCO STACKED VEE (VHF . UHF)


 F 'wombtional 1 - year guaranter
Cat. Description
List Price
$=4460 \quad$ Sinale Bus.
$\$ 7.50$

## WALSCO QUADRI-BOW (UHF)

Fig. R-Fterommemed for areas where weak sismal. Chats. or falling art prohlems. Irre-ithstalled surtad
 guarantere.
Cat_ Descriptien List Price

$$
=4415 \quad \begin{gathered}
\text { 1-Hay lHF Row Tle } \\
\text { lieflector } \\
\end{gathered}
$$

\#4414-1 Reflector Assembly Only
To fonvert $=4+1410=+11.3 . \quad 6.25$

| KEYSTONEDESIGNERS 8 <br> MANUFACTURERS <br> STANDARD <br> CUSTOM TO JAN | STANDARDIZED ELECTRONIC HARDWARE CUSTOM-BILT TERMINAL BOARDS TO JAN SPEC-SPECIAL ASSEMBLIES |  |
| :---: | :---: | :---: |
| ADE TERMINAL BOARDS |  | CRYSTAL DIODE MOUNTNG BOARDS |

STANDARDIZEDTERMINALS TO JAN SPEC illustrations full size. made of brass. available in hot tin dip or silver plate.


## CONTROLLED TORQUE KNOBS with the built-in SAFETY FACTOR



Madel K1375


Madel K1376

JAN CONTROLLED TORQUE KNOBS are designed to safeguard delicate and castly instruments against careless or inadvertent cranking beyand their narmal stap:., Designed for multi-furn devices such as varioble copacitors, inductars, patentiameters, etc., the knobs wark on the principle af the slip clutch, outamatically disengaging and slipping when o predetermined tarque is exceeded. The knobs which are fluted ta aid in sensitive adjustment also have spinners far fost furning. Featuring distinctive styling, the knabs measure $17 \mathrm{~s}^{\prime \prime}$ O.D. \& $15 / 16^{\prime \prime}$ thick. They fit standard $1 / 4^{\prime \prime}$ diameter shoffs.
Model KI376 is the same as the model K1375 with the additional feafure of a retractable spinner. The retractable feature is useful when equipment must fit into small storage spaces or where there is danger of inadvertent movement af protruding controls. It has a positive toggle type action, being spring loaced either open or closed.

## "JOLTA" SHOCK TESTER

Madel No. 1001
This new shack tester for meters and small mechanisms provides for rapid and precise testing af the ability of campanents to withstand shack stresses. Designed for lobaratory testing of instruments such as relays, electric meters, clacks and ather electrical and electranic devices, if is accurately calibrated for direct readings in accord with specifications naw required in mast military and commercial cantracts. Known as "JOLTA," the tester is a sturdily built bench madel machine capable af accommadating all shapes and sizes of specimens up to a weight of 4 pounds and measuring up ta $5^{\prime \prime} \times 5^{\prime \prime} \times 5^{\prime \prime}$. Mechanisms may be fested while in actual aperation and under electrical laod. Camputation charts are supplied.
Designed to comply with specifications JAN-S-44 and MIL-STD-202; Method 202.


## PANEL BEARING \& SHAFT ASSY.

The versatile Panel Bearing and Shaft Assembly is used for contral of a remote component. Passivated stainless steel shaft is $1 / 4^{\prime \prime}$ dia. with one end flatted for attaching to control knob by set screws. Supplied completely assembled with two retaining rings, jam nut with lock washer, and brass panel bearing, nickel plated. Fits all panels up to ${ }^{3}$.' thick; mounts in ${ }_{13}^{2}$ " dia. hole. Cat. No. 'L'" Shaft Length AP15350 Panel bearing assy. API5350-1 API5350-2 API5350-3

## JACK COVER

These sturdy Jack Covers are used to keep out dust and moisture and to prevent inadvertent disturbance of control settings. They are made of steel and firished in enamel, affer bonderizing for rust prevention. Supplied assembled with stainless steel spring, hinge pin and neoprene pad. Fits or jack or panel bushings. For black wrinkle finish, specify ( -11 , smooth gray (-2) and olive diab (-3).

Fig. 1..................
Fig. 2
fig. 3

J1303 ()

## SHAFT LOCK

This shaft lack securely halds in position the shaft af valume cantrals, copacitors, switches, etc., which are $1 / 4^{\prime \prime}$ in diameter. Bady and lack nul af nickel plated brass. Supplied with nickel ploted steel lack washer. Bady and lack nut are available in stainless steel an special order.

Cat. No. AK5100

## BUSHING EXTENDER

This special bushing extender permits staggered mounting of components (having $1 / 4^{\prime \prime}$ dia. shafts) behind a pane. Pola tomelers or a premponity can be located in close proximity cn a pane wincel plated brass supplied in nickel plated brass in eight sizes.
"8'I Exten-

Cal. No. sion behind " A " Bush-

|  | panel | ing Length |
| :---: | :---: | :---: |
| AK5075-1 | 5/8.' | 3/8,', |
| AK5075-2 | 5/8."' | 1/4.". |
| AK5075-3 | 5/8.', | 1/." |
| AK5075-4 | 21/4." | 1/4.' |
| AK5075-6 | 15/.' | 1/4' |
| AK5075-7 | $1{ }^{9}{ }^{\text {¹, }}{ }^{\prime \prime}$ | د ${ }^{\text {a }}$ |
| AK5075-8 | 1910 | $14^{\prime \prime}$ |



HIGH VOLTAGE INSULATED COUPLING WITHSTANDS GREATER THAN 15 KV!


INSULATED UNIVERSAL COUPLINGS
$\pm 30^{\circ}$


This coupling permits chossis or panel adjustment of high valtage controls withaut danger of electrical shock to aperating persannel. Stainless steel shaft and precision screwdriver tip are molded into a single unit, melamime-ta-metal, campletely vibra tion and shack praaf. Operates with ease aver an ambient temperofure range of $-75^{\circ} \mathrm{C}$ to $+175^{\circ} \mathrm{C}$. Supplied cam plete with nickel plated hordware. Shaft mates slat af al standard patentiameter shafts WITHOUT FURTHER MACHINING. U.S. Pat. No. 2,681,378

| Caf. No. |  | " 4 " <br> Mounting Bushing | ' $C^{\prime}$ <br> Pot. Shoff length |
| :---: | :---: | :---: | :---: |
| $\begin{aligned} & \text { LOCKING IYPE } \\ & \text { AK-5079-X.1 } \\ & \text { AK-5079-B.1 } \end{aligned}$ | $\begin{aligned} & 1 / 6^{\prime \prime} \\ & 1 / 8^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 9 / 16^{\prime \prime} \\ & 9 / 16^{\prime \prime} \end{aligned}$ | $\begin{aligned} & 1 / 4 " \\ & 1 / 4 " \end{aligned}$ |
| PLAIN TYPE <br> AK-5164-X-2 <br> AK-5164-B-2 <br> AK-5164-X-3 <br> AK-5164-B-3 <br> AK-5164-X-4 <br> AK-5164-8.4 | $\begin{aligned} & 7 / 16^{\prime \prime} \\ & 7 / 16^{\prime \prime} \\ & 15 / 16^{\prime \prime} \\ & 15 / 16^{\prime \prime} \\ & 1.7 / 16^{\prime \prime} \\ & 1.7 / 16^{\prime \prime} \end{aligned}$ |  | $\begin{aligned} & 1 / "^{\prime \prime} \\ & 1 / 4 " \\ & 1 / "_{" \prime \prime} \\ & 1 / 4 " \\ & 1 / "_{" \prime \prime} \\ & 1 / 4 " \end{aligned}$ |

## ELIMINATES BACKLASH AND COSTLY FLEXIBLE SHAFTS!

This varsatile and extremely durable nylan caupling mokes it passible to jain twa parallel drive shafts offsel fram each other plus or minus 30 degrees in any direction and separatians greater than 3 inches.

- Secures firmly to the drive shaft thru a nickel plated brass insert and 2 set screws.
- Used with $1 / 4^{\prime \prime}$ caupling shaft of any length (nal furnished).
- Shaft is keyed ta the coupler by zinc plated steel pins supplied by JAN.
- Eliminates backlash and replaces castly flexible shafts.
- Provides far insulatian and caupling from frant panel to remate cantral such as patentiometer, selector switch and other devices (ratoting).

Cat. Na. API 5299

## BEZEL ASSEMBLIES

JAN BEZEL ASSEMBLIES cansisl of cast aluminum alloy bezels finished in smaath dull ar wrinkle black enamel paint. Buno.S rubber shock mounts scole calibrated light filters and maunting hardware. JAN EDGE-LIT BEZELS hove engraved calibration scales on the windaw and accammodate pilot bulbs for edge lighting. All JAN BEZELS are designed for universal application and are specifically adaptable to JAN'S MAGNETIC SHIELOS.

| Cot. No | fig. No. | C.R.T. | Foce | Panol Hole |
| :---: | :---: | :---: | :---: | :---: |
| STANDARD TYPE |  |  |  |  |
| CP. 1328.1 | 1 | $3^{\prime \prime \prime}$ | Curved | $31 / 2{ }^{\prime \prime}$ |
| CP. 1328.2 | 1 | $3^{\prime \prime \prime}$ | Flat |  |
| CP. 13549.1 CP. 13549.2 | 2 | $5^{\prime \prime}$ | Curved | $6_{6}^{20}$ |
| Camera mount type |  |  |  |  |
| CP.13584.1 | 3 | 5 " | Curved | $6 "$ |
| CP-13584-2 | 3 | $5{ }^{\prime \prime}$ | Flat | 6 " |



## ran HARDWARE MANUFACTURING CO., INC. BROOKLYN 11, N. Y. <br> MAGNETIC SHIELDS FOR CATHODE RAY TUBES

JAN MAGNETIC SHIELDS are made of the highest grade of magnetic metals and are carefully annealed by a special process to assure optimum orientation of the specific grain structure of the alloy. JAN SHIELDS prevent distortion and intensity modulation of the electron beam due to stray magnetic fields and protect personnel against the dangers of accidental tube breakage. Mount ing holes are tapped for \#6.32 screw.
All cathode ray tubes with curved faces are underlined. Bezels with designations ( -1 ) are used with these tubes only. All of hers not under lined are flat faced fubes which are used with beaels designated as $(-2)$. See inside page for specifications or JAN EEZEL ASSEMBLIES. * Opening for anode provided when required.

| $\begin{aligned} & \hline \text { SHIELD } \\ & \text { CAT. NO. } \\ & \hline \end{aligned}$ | FOR USE WITH C.R.T. NO. | MATCHING JAN BEZEL | DIMENSIONAL OUTLJNE |
| :---: | :---: | :---: | :---: |
| \$2001 | $\begin{aligned} & 2 \mathrm{APPI} \\ & 2 \mathrm{BPI} \\ & 2 \mathrm{BPII} \\ & 902 \end{aligned}$ | $:$ | Fig. 1 |
| S3001 | $\begin{aligned} & 3 \mathrm{RPI} \\ & 3 \mathrm{RPA} \end{aligned}$ | (P1328.2 | Fig. 2 $\begin{aligned} & A=\theta \frac{1}{4} "^{\prime \prime} \\ & 8=1 \frac{5^{n}}{8} \end{aligned}$ |
| \$3002 | 3MP1 | (P1328-1 | Same os Fig. 2 except: $\quad$ A $=7 \frac{1}{4}$ |
| S3003 | $\begin{aligned} & \frac{3 A P 1}{\frac{3 K P 1}{3 K P 4}} \quad \frac{3 K P 11}{908-A} \end{aligned}$ | CP1328-1 | Same os Fig. 2 except: $\quad \begin{aligned} & \\ & A=10 \frac{11}{4} \\ & 8=1 \frac{7 " 1}{8}\end{aligned}$ |
| S3004 * | $\frac{3 B P 1-A}{\frac{3 J P I}{3 A C P}} \quad \text { 3JP7 }$ | (P1328-1 <br> CP1328-2 | Some us Fig. 2 except: $\quad \begin{aligned} & \\ &=8 \frac{711}{8} \\ & B\end{aligned}$ |
| \$5001 | $\frac{\frac{\text { SUPI }}{\text { SUP7 }}}{\text { SUP 11 }}$ | $\left\{\begin{array}{l} \text { CP13584.1 } \\ \text { CP1 } 3549-1 \\ \text { CP19495-1 } \end{array}\right.$ | Fig. 3 |
| S5003 | $\begin{aligned} & \frac{\text { SUPI }}{\text { SUP7 }} \\ & \frac{\text { SUPII }}{} \\ & \hline \end{aligned}$ | $\left\{\begin{array}{l} \text { CP13584-1 } \\ \text { (P 13549-1 } \\ \text { CP19495-1 } \end{array}\right.$ |  |
| S5002 * |  | $\begin{aligned} & \left\{\begin{array}{l} \text { CP13584.1 } \\ \text { CP1 } 15549-1 \\ \text { CP19495-1 } \end{array}\right. \\ & \left\{\begin{array}{l} \text { CP13584-2 } \\ \text { CP } 13549.2 \\ C P 19495 \cdot 2 \end{array}\right. \end{aligned}$ |  |
| S5004* |  | $\begin{aligned} & \left\{\begin{array}{l} \text { CP13584.1 } \\ \text { CP13549.1 } \\ \text { CP19495.1 } \end{array}\right. \\ & \left\{\begin{array}{l} \text { CP } 13584-2 \\ \text { CP13549-2 } \\ \text { CP19495-2 } \end{array}\right. \end{aligned}$ | Some os fig. 4 except: $A=15 \frac{7^{n}}{8}$  <br>  $B=2 \frac{1 \text { " }}{4}$  <br> Hole for anode provided $C$ $=3 \frac{1^{\prime \prime}}{2}$ |
| 57001 | $\begin{aligned} & \text { 7GP4 } \\ & \text { 7JP4 } \\ & \text { 7JP1 } \\ & 7 \mathrm{VPI} \end{aligned}$ | - | Fig. 6. |
| S7002* | 7 P 1 |  | Same as Fig. 6 except anode opening provided. |

SHIELDS FOR PHOTO-MULTIPLIER AND OTHER C.R. TUBES IN STOCK


G．L $=1220$ FRONT CHANNEL KNOB Platel guhl finish inlay．21． dia．＂品＂hujght．F＂its ．250＂ dia slaft＂itls 1 ．abi＂flat． Calibraterl fur standard Tuner．
No． 1220
List $\$ 1.25$


G－L $=1225$ REAR KNOB FOR $=1220$
o．：＂गla．？＂Ileight．Fits
 No． 1225 List $\$ 0.45$


G－L $=1230$ FRONT KNOB OFFON，ETC ＂latell welli finish inlay．21e＂ Itia．Slaft with 1．5bi＂flat No． 1230 List $\$ 1.10$


G．L $=1235$ REAR KNOB FOR $=1230$
 2ntb＂Dia．Slaft with ．2：3＂ No． 1235

G．L $=3470$ FRONT KNOB OFF－ON，ETC Ilated Enha pinish inlay． Wia．Misht．Fits 1ia．Shlift with ． $156^{\prime \prime}$ flat．
No． 3470
List $\$ 1.10$


G－L $\# 3475$ REAR KNOB
FOR \＃3470
 ＂何＂lia．Shaft wifl ：32 $4^{\prime \prime}$ flat．Wisger Tije Cmint．
No． 3475

Gee－Lar AUTOMOBILE RADIO KNOBS
To fit $1 / 4^{\prime \prime}$ Shofts； 3 16＂Bushings to Accommodate 3 16＂Shofts ineluded．
tenite plated GOLD INLAY
$21 /$＂$^{\prime \prime}$ Dis． $1 / 2^{\prime \prime}$ H． Fits $1 / 4$＂Shaft．

No．J． F 40 List $\$ 0.50$ ivnurl Type

KNOBS


Complete sut of feur ory bued lut mals：Fur stamdird＇foners．

No． 3480


TENITE PLATED GOLD INLAY ＂Dia se＂Heiuht． fits $1 / 4^{\prime \prime}$ Shaft． No． 1544 List $\$ 0.30$ No． 154 o． 1544 S List $\$ 0.35$ Spring Type
Walnut or Ivory


TENITE PLATED
TENITE PLATED
GOLD INLAY 1＂1）ia．1／＂Heigh Fits 1 ＂Siluft No． 1545 List $\$ 0.28$ No． 1545 S List $\$ 0.30$
spring lype Walnut or Ivory


TENITE PLATED GOLD INLAY Hits＂＂lid． 1 ＂staft．II． No． $15+2$ List $\$ 0.38$ No． 1542 S List $\$ 0.40$ Nring fint fin


TENITE PLATED GOLD INLAY Dia 3＂Lay its ${ }^{1 / 4}$ Shaft． o． 1546 List \＄0．28
o． 1546 S List $\$ 0.30$
Spring＇Type
Waltunt or Jurs

INSTRUMENTKNOBS



No．580SS List $\$ 0.70$ Dia． $11 / \mathrm{s}^{\prime \prime}$ ，1I． $5 / 4 \mathrm{~m}$ ． $3 / 4$＂Pointer．

No．590SS List \＄0．77 Dia． 1 高＂，H．t？＂， $1{ }_{10}{ }^{\prime \prime}$ Pointer．
No．600ss List $\$ 0.88$ Din．1跁＂，H．3／4＂， 1 多＂Pointer．

No．610SS List $\$ 1.10$ Hia．， $23 / 4$＂，11． $7 / \mathbf{s}^{\prime \prime}$ 13＂＂Pointer．


No．660SS List \＄0．38 Dia． $11 / \mathrm{m} "$ ，H．＂＊＂．

No．670SS List \＄0．4 4 Hia． $1 \%$＂，II．I！＂． No．680SS List \＄0．55


No．690SS List $\$ 0.83$ Dia． 2 学＂＂H．$/ \mathrm{s}^{\prime \prime}$ ．
6 670SS List 50.41



No Brass Inserts

No．700SS List $\$ 0.28$ Skikt IIa． $13 / 4{ }^{\prime \prime}$ ，H Set Screw Tyse

No．710SS List $\$ 0.28$ Skirt Dia． $11 / 2^{\prime \prime}$ ．It $2 /{ }^{\prime \prime}$ ．Set Screw Type．



Tenite
TENITE PLATED GOLD INLAY llia ？＂LAY No． 1547 List $\$ 0.26$ Knurl Tipe． No． 1547 S List $\$ 0.30$ Spring＇Tym Walant or lomes．

No．List
No．

8loss 50.40
Hial I．．＂．II．！，＂＂ 820SS I）1 ${ }^{\prime \prime \prime}$ ，II 1 ， Sul Sicen trype

No．List


##  <br> Tenite

 No．840 S $\$ 0.40$


D． $3 / 4{ }^{\prime \prime}$ ．I1．1／4＇
set saren Tyoe

11 M． 88
ค
sit seter Type


Tenite
Chrome Ploted Metol Knob
$\begin{array}{cccc}\text { No．} & \text { List } & \text { No．} & \text { List } \\ \text { 851SS } & \$ 0.35 & 852 S S & \$ 0.35\end{array}$
II． $1 / 2{ }^{\prime \prime}$ ，U． $3 / 4$＂
set screw Type

G－L Reducing Bushings To）reduce from ？＂to ${ }^{3} 5_{5}^{\prime \prime \prime}$ size

All Knobs for $1 / 6^{\prime \prime}$ Shafts．Distributor＇s Standard Pockage 12 Knobs of a Type to a Box．

## Cres－far TELEVISION KNOBS




G－L REAR DUAL CONTROL KNOB COMTROL DUAL CONTROL KNOB

## ，1， 1 －

No． 1202 List $\$ 0.45$
No． $1203^{3}$ List $\$ 0.50$ No． $1204{ }^{1} \quad$ List $\$ 0.50$


G－L FRONT CHANNEL KNOB
 fou Vuburnlat．Wallier aftives，

 diammor flat staft． No． 1210

## L

 Frumb loar kinub fur use un dual Witl Funt Fit： $1, "$ limmethr flat Slaft．
No． 1207 lar No． 1207 liar Kub List $\$ 0.90$


G－L REAR DUAL TUNER KNOB Fur dual tuners and controls．

 flat staft．
$\qquad$ List $\$ 0.28$


G－L COMBINATION DUAL DUMMY KNOB ，ownhanatinn of kindts Sins ahine helus trul． 11, ＂．diamporer at hase． No． 1213 List $\$ 0.45$ tumhination k゙ul」
NEW TV KNOBS TO FIT RCA SETS AND OTHERS
Sturdy and Substantial Knobs Combined with Beauty for Lasting Performance

KNOB


#### Abstract

Vate to Nis， 10,10 kno．Withult．


 ＂oll（elty 1, ＂川苂mblir． No． 1211 li all Ku川 List $\$ 0.22$
## II．

G－L TELEVISION KNOB SPRINGS Necossary reblacement sprinks for nise tur twhision kinolis． Sperial sizess uf springs nut remalarly used on wher type tadios．
No．
Type A－Fits small $.202^{\prime \prime}$ List ${ }^{\text {dia．}}$ flat slaft．
$\begin{array}{llr}1214-G & \text { linuss } & \$ 5.05 \\ 1214-\mathrm{M} & 1010 \\ \text { Type } & \begin{array}{l}\text { Fits } \\ \text { Flat shaft．}\end{array} & 30.25 \\ \text { flameter }\end{array}$

## 1215－G firnss <br> $\$ 4.10$ 24.75



G－L $\# 3604$ TV KNOB SET inexel．Cult knoles at left． 3604 ，brown inly， ampletu List \＄1．65

POINTERKNOBSTO FITTSTANDARD $1 / 4{ }^{\prime \prime}$ SHAFTS
Distributors＇Standard Package－ 12 Knobs of a Ty e to a Box－Set Screw Type Except Where Noted

## 15

No．Tenite List 860 kuml Trw \＄0．13 860SS

ist
\＄0．17 3705S


No．Tenite List 880 Kumer Ture $\$ 0.13$ 870 Kımulty $\$ 0.13$
 8805 surig Tin $\$ 0.15$
 $\$ 0.20$




Bo．Bakelite List 900SS $\$ 0.17$

alnot or black


 $\begin{array}{lll}\text { 20SS } & \text { \＄0．20 } & \text { 990SS }\end{array}$ Bakelite

> ldain "o ISnla Fhack. Walmul.

$\qquad$
Bakelite
hlark．Walmut

## No．Bakelite List No．List No


 $\qquad$
Bakelite
IPrisis：Insert

hraks listrt
hank．Walmut，
［eml or lume

# Gee－Lar <br> RADIOKNOB KITS 


 1254 A．smu．＂F．＂（＇untum： 30 ．Issth．as fulluws： 10 1255 Aismt．＂F＂Cimtents：h0 Asstu．I＇ush lintums 4.35 1256 Assmt．＂UI＂Contents： 24 Asstd．Pointer and $\begin{aligned} & \text { Diar Su＇L Screw Khulis ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．} 4.35\end{aligned}$ Car Sut Sorew kinuls is ．．．．



## Cles－Lar Radio and television products

gee－lar plastic boxes－made of clear，transparent，rigid plastic


GEE－LAR PLASTIC BOX Hamly luy fon all win：
 hamly oni lac shlts，sumplad
 $\begin{array}{ll}\text { No．} & \text { List } \\ 3650 \text { lli－111 lin } & \$ 0.60\end{array}$



GEE－LAR STOCK BOX


GEE－LAR HINGED BOX Handy hingal daw libler firs larm＂r items．surla ine alizumm




GEE－LAR MIDGET BOX Ideal plastid low fill smal？ seress，nuts，spoinos．grom mets and nther small
 HANOY BOX
fontenient lax fur small ןan Ginves rant tur stuheol fll


GEE－LAR BENCH BOX Hands rombl embiliner for hald ins－anall pats on the furnd
 Hixal＂ill comer．Siza：E1，＂ $\begin{array}{lll}\text { No．} \\ 3653 & \text { List }\end{array}$


GEE－LAR PARTITION BOX
Hanly hos with 1：seetions antilatherd cower．Keres all small part－vuch as vorr bs，muts，
 find them．Ilamily to carry with No．List



GEE－LAR JR

GEE－LAR HANDY BOX



| ASSORTED RADIO KNOBS <br>  <br>  <br>  <br> No． <br> List <br> 1200 <br> にit <br> §1．65 <br> MARKED RADIO KNOBS | GEE－LAR PLASTIC TELEVISION PLIERS <br> \．ulu uf himhem－ inat lakelite will （litu！high wolt－ ，＂N＇．An insulatom <br>  <br>  | GEE－LAR TELE－ <br> VISION AND RADIO KNOB SPRING KIT Springs for New TV and Radio Knobs |
| :---: | :---: | :---: |
|  <br>  | No． <br> List | The right assumbent of springs for the semiembin． Oyer 12 differput knoh springs for all types of knobs． |
| $\begin{array}{ccc}\text { No．} & & \text { List } \\ 1201 & \$ 1.65\end{array}$ |  | No． $3658 \quad 104$ surings，I＇ast ${ }^{2}$ Fha List $\$ 3.50$ |



ASSORTMENT IN ASSORTMENT IN
PLASTIC JAR


NATION


JOBBERS＇DISPLAY BOARD $\mp 905$ fismlay lmaril is mallu up in mouleat hmok innd plate Pumlinat
No． 905

List $\$ 16.00$ JOBBERS＇KNOB AND PLATE－STOCK DEAL WITH DISPLAY BOARD－DEAL $\Rightarrow 906$


 Hal Indindos


 Ibtal Sil．t114i ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．126．00


GEE－LAR PLATES ARE AVAILABLE IN THE FOLLOWING MARKINGS：
Pernanently Heat－Stamped in Either $180^{\circ}$ or $270^{\circ}$－Volume，Treble，Phono，Gain．Mike．Tone，Bass． Snecial wording available on payment of special stamping die charges．
NOT MARKED
PLATE ONLY

Haklite．Viat． $1 \because$＂．Ht．

 $\begin{array}{ccc}\text { No．Nalnut．} & \text { List } \\ 1060 & \text { Hitin 1＇tiln } & \$ 0.33\end{array}$ No．
1070

## Walnut．

 $\begin{array}{ccc}\text { No．} & & \text { List } \\ 1080 & \because 70^{\circ} & \text { Plate } \\ & \$ 0.55\end{array}$


MATCHING POINTER KNOB FOR PLATES
 Had．Wlifle Mank，Wilmut．
List No．
97055 List

别路


MATCHING TRI－GRIP POINTER FOR PLATES
roikilite．to fit all miltes．Culns：

rsurcify Color and
Matking Wantell）


MATCHING TWO－GRIP POINTER FOR PLATES liakelitn＂to ？it all platus．（oulors No．Giach and Wilhat．
 （Sureify（＂ulur）

All Knobs for lie＂Shotts－Distributors＇Standard Package 12 Knobs of a Type to a Box

## ELECTRONIC COMPONENTS and CRONAME PRODUCTS

Semi-Fluted Design Knobs




Plain Knob
$\qquad$ List Price ea. 5.44 List Price ea. $\$ .4$
WA-4103


## CRONAME No

 ist Price ea. $\$ .44$ 6538 13-1 List Price ea. $\$ .47$ WA-4102 6539List Price ea. $\$ .58$ List Price ea. $\$ .58$
List Price ea. $\$ .83$



Injection-mobled of Dutyrate phastie. All knobs are mathed with $1_{4}^{\prime \prime}$ Jrass inserts hat have slatted set shers mount ink theles for vointers dials amb skirts.

 III Hack. Inmy or kedd tion sperial reguest.




List Price ${ }_{5}{ }^{5}{ }^{5}$ $\begin{array}{r}.75 \\ .80 \\ \hline 1.20\end{array}$

List Price
Each
$\$ .70$
$\begin{array}{r}.63 \\ .90 \\ \hline\end{array}$
Full Fluted Knobs
Fon a variety of apmitations ingolsing test instrumonts. ©hhind with bass inserts and a single sloptol cup print set sorew. Arailable also with etup type. single


| Knob and | Skirt |
| :---: | :---: |
| WALDOM No. | CRONAME No. |
| List Price ea. 5.70 | List price ea. 5.70 |
| Wa 1 H-31 1:1". |  |
| WA.4107 <br> List Price ea. $\$ .70$ | List Price ea. 5.70 |
| WA-4108 | 6549 S |
| Price ea. $\mathbf{5} 90$ | List.Price ea. $\mathbf{\$ . 9 0}$ |
| $\begin{aligned} & \text { WA-4109 } \\ & \text { List Price ea. } \$ 1,10 \\ & \hline 1010 \end{aligned}$ | List Price ea |

## Pointer Knob


 stakeal min.


List Price ea. $\mathbf{\$ . 7 0}$ List Price ea. $\$ .66$ List Price ea. $\$ .70$ List Price ea, $\$ .85$ List Price ea. $\mathbf{\$ . 7 6}$ List Price ea. $\$ 1.20$


ELECTRONIC COMPONENTS and CRONAME PRODUCTS

## ADP． 1

High Fidelity and All－Purpose Dial Plates diumtnum dial phates fintshed monze tone．for today＇s High fidelity ant other modern eduipusent．Harmunize nicely with tha

cter to clear standard＂s＂ADitrol ame suiten slecre
ADP－2—lbas
ADP－3－Treble
ADP－4——lierobinne
ADP－4－11icrobhnme ADP－12－siclertur $\left.1110-0(18)^{\circ}\right)$
ADP－5—Mirrophone 1
ADP－6－Mirrophone

ADP－9－1＇hono ${ }^{2}$ $\qquad$
ADP－14－line
ADP－16－1luster Main
ADP－17－1 oudness
ADP．18－1．ded－se
ADP．19－No Tille
LIST PRICE ea． $\mathbf{5 0 . 3 0}$
Anodized Aluminum Dial Plates

436


Hich quality anotized aluminum plates particularly designed for amplitiors and puhbe athbess edtithe extremely hard aluminum oxble sulfate assure long－ lasthig service．Single Vertical
（See No． 436 Illustration） $2 x$ Ho mix in Whic No． 436 －（ais 0.10 No． 442 －hass $0-10$



No．$\$ 0.50$
Indicator Plate－Horizontal Style This plate is＂in＂hiskl ly ot＂\％＂wite and inclute ance－indicatims tubes．
No， 440 －llori\％ontal Ntyle Indicator llati
List Price Ea．$\$ 1.65$


No． 421 Quadruple Horiozntal LIST PRICE Ea．\＄1．55


Dial and Switch Plates
Two dial and switch phates that rexactls mateln title plates ot leage 1 ＂ 112 ．T＇se soparately or with tithe＂ gate armss the top as illustrated．Eidel wate is

［151
 moing aucuin
 ค CTIM2 fupinid ubunu



> Jack or Trimmer Covers

Those handy ensers are mate of steet，homberized for rost motechan abll then piven a black wrinkle rinpar for long wear，（Special finishes arailable on remeret．）All hate hinfi－toritue coll sprines for masi－ tive self－closing artion．I＇selt for protecting facks
age thet entrance of dust or moisture，and for cover－ infor small inspection and adjustment openings．
No．A－23559 Cover－will aeeent plugs with booly diametr＇s up to＂A＂．Tack mounting nut fasterns cowir in panel．Corgrene rad inslide the can mothles ＂atarpoof seal for jack onening．Covel onens full
$90^{*}$ List Price Ea． $\mathbf{\$ 2 , 6 0}$
No．A－22227 Cover－Felt pall，fover opens $60^{\circ}$ for tavdart plugs to $\overline{i n}$＂borly dianeter．F＇art A－22207 hat formed attarching plate as slown． List Price Ea．$\$ 2.25$

Standard Type Terminal Strips ILLUSTRATION
Standarll type lug mounting terminal strips of $X$ Grade bakelite ${ }^{2}$＂hitok，＂／s＂witle．End terminals are spaced it，from end of strij）．Lug foles spanced $3_{3}$＂center to center．

|  | List Price Ea， |  | List Price Ea． |
| :---: | :---: | :---: | :---: |
| TS． 1. | ． 5.03 | TS． 115 | ．\＄． 03 |
| TS－2 | ． 03 | TS－116 | ． 03 |
| TS－3 | ． 04 | TS． 117 | ． 06 |
| TS－4 | ． 05 | TS－118 | ． 07 |
| TS－5 | ． 055 | TS． 119 | ． 04 |
| TS．6 | ． 06 | TS－120． | ． 05 |
| TS－7 | ． 07 | TS－121． | ． 065 |
| TS－9 | ． 06 | TS－122． | ． 06 |
| TS－10 | ． 08 | TS－123 | ． 06 |
| TS－12 | ． 09 | TS． 125 | .11 |
| TS－14 | .10 | TS－126 | ． 08 |
| TS． 113 | .03 | TS． 127 | .10 |
| TS－114 | ． 03 | TS－128． | ． 11 |

Screw Type Terminal Strips ILLUSTRATION 2
Standard and heary duty．bakelite serew tsne ter－ minal strips．IIot－tin dipjed for easy soldering． ＂s＂Wide，with ，13s dia，mounting holes．Stamlasd luty an＂$^{1}$ thiek，heary duty ${ }^{3}$＂thick

| Cat．No． 1／16＂ | No．of Ter． | Length | Mounting Centers | List Ea． |
| :---: | :---: | :---: | :---: | :---: |
| BTS－18 | 1 | $114 \%$ | 7／＂ | S .05 |
| BTS． 19 | $\pm$ | 1140 | 1 豆＂ | ． 09 |
| BTS． 20 | 3 | ＂1／＂ | $13 / 4$ | ． 11 |
| BTS－21 | 4 | ＂品＂ | $2{ }^{\text {a }}$ | ． 18 |
| BTS－22 | ！ | $3{ }^{\prime \prime}$ | 25／＂ | ． 21 |
| BTS－23 | 1 | $3{ }^{7}$ | 3 品＂ | ． 24 |
| BTS． 24 | 7 | ： 3 些＂ | ： $1 / 1 /{ }^{\text {a }}$ | ． 29 |
| BTS． 25 | 8 | 4 4， | 8 \％ | ． 32 |
| BTS－26 | 9 | ＋3／4＂ | 4＂s＂ | ． 37 |
| BTS－27 | 10 | $5{ }^{4}$ | 1趗＂ | ． 41 |
| ${ }^{3}{ }^{32}{ }^{2 \prime \prime}$ |  |  |  |  |
| BTS． 30 | 1 | $11 / \%$ | 覑＂， | ． 06 |
| BTS．31 | 4 | 112，＂， | 1 䛔＂， | ．11 |
| BTS．32 | 3 | ${ }^{2} \times 1$ | $13_{1}^{\prime \prime \prime}$ | －11 |
| BTS．33 | 5 | 易㤩＂ |  | .20 |
| BTS－34 | 5 | $3^{\prime \prime}$ | 2\％＂ | .23 |
| BTS－35 | 4 | 3\％＂ | 3 lem | ， 28 |
| BTS－36 | 7 | ：37＂， | ：1／2＂ | ． 32 |
| BTS－37 | 8 | 4 垵＂， | ＂ fin ＂ | ． 36 |
| BTS－38 | 9 |  | $43 \times 1$ | －40 |
| BTS－39 | 10 | $5{ }^{5} 8$ | $418{ }^{\prime \prime}$ | ． 45 |

Terminal and Spade Lugs ILLUSTRATION 3
For all applications，llot－tin dipphe in brass，con－ per or stcel．Standard package quantities are 100 （C）and 1000 （M）． $1^{\text {Pfease specify }} \mathbb{C}$ or $\$ 1$ after catalng number for quantity desired when ortering．

| Cat． No． | Fig， | Mtl． | Hole Size | Length | List Price C |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T－151 | A | ． 020 IT | \＃1 | 1／2＂ | \＄ .84 |
| T－152 | A | ．02018 | $\pm 8$ | $13 / 110^{\prime \prime}$ | ． 78 |
| T． 153 | A | ． 02013 | \＃ 10 | $13 / 16^{\prime \prime}$ | 78 |
| T． 154 | 13 | ．02018 | ¥i | 9／16＂ | ． 95 |
| T－155 | （＇ | ．0320 | $3 / 16^{\prime \prime}$ | 1！1／3＊＊＂ | 1.39 |
| T－156 | （ | ． 0330 | $\pm{ }^{+1}$ | 1／2＂＇ | ． 89 |
| T－157 | $1)$ | ． 02018 | \＃8 | 41／64＂ | ． 78 |
| T－158 | E | ． 112013 | \＃6 | 21／32＂ | ． 84 |
| I－159 | 5 | ． 02018 | \＃8 | 21／39＂ | ． 84 |
| T－160 | E | ． 021118 | \＃8 | 13／110＂ | ． 95 |
| T－162 | 1 | ． 01518 | \＃8 | 47／61＂ | ． 89 |
| T－163 | 1 | ．02．73 | $=10$ | 1 ＂＇ | ． 95 |
| T－164 | G | ．02．313 | $=8$ | $1^{\prime \prime}$ | ． 95 |
| T． 166 | H |  | $\pm{ }^{\text {i }}$ | 15／16＂ | 1.39 |
| T－167 | 11 | ．0206 | －8 | 15／16＂ | 1.39 |
| T－168 | H | ．020m | $=10$ | 1．5／116＂ | 1.39 |
| T－170 | I | ． 020 ！ 13 | $3 / 16$＂ | 25／32＂ | ． 89 |
| T－171 | J | ．02：313 | 3／1ヶ＂ | $31 / 320$ | 1.39 |
| T． 172 | K | ． 02.50 | 438 | 1－1／16＂ | 1.86 |
| T． 173 | 1. | ． 020113 | $=10$ | 1－5，32＂ | 1.50 |
| T－174 | M | ．030s | 7／8：3＂ | 1－5 16＂ | 1.45 |
| T－177 | 1 | ．03213 | ＝ $\mathrm{i}^{5}$ | 23／30＂ | 2.20 |
| T． 178 | 1 | ． $13: 313$ | $=8$ | －3，＂13＂ | 2.25 |
| T－187 | T | ． 03213 | \＃8 | 15／14＂ | 3.45 |
| T－188 | T | ．03218 | \＃10 | $1 \overline{5} / 11^{\prime \prime \prime}$ | 3.45 |
| T－189 | U | ． 03618 | \＃6 | 1－3／32＂ | 4.95 |
| T－190 | 1 | ． 03218 | $\pm 8$ | 1－3／32＂ | 4.95 |
| T．191 | 1 | ．03213 | \＃10 | 1－3／3d＂ | 4.95 |
| T－192 | U | ．0：1213 | 1／4＂ | 1－3／32＂ | 4.95 |
| T－193 | v | －0．32 6 | \＃8 | 1＂ | 4，75 |

## Locking－Type Lugs

 ILLUSTRATION 4locking type construction eliminates theed for attli－ tional washer．Fabricated from phosphor bronze and tinned，in standart packages of one hundred $\left(1^{\circ}\right)$ and one thousame（N）．When ordering blease sperify ＂C＂＇or
desired．

| Cat． No． | Fig． | $\begin{aligned} & \text { Screw } \\ & \text { Size } \end{aligned}$ | MtI． Thick． | Length | List Price per C |
| :---: | :---: | :---: | :---: | :---: | :---: |
| T－194 | A | \＃${ }^{\text {\％}}$ | ． 018 | 为＂。 | \＄1．50 |
| T－195 | A | $=8$ | ． 018 | \％＂ | 1.50 |
| T－196 | 18 | \＃ 4 | ． 018 | 7／4 | 1.50 |
| T． 197 | 13 | \＃i | ． 018 | \％＂ | 1.50 |
| T－198 | 13 | ＝ 8 | ． 018 | 7／8＂ | 1.50 |

WALDOM ELECTRONICSINC

ELECTRONIC COMPONENTS and CRONAME PRODUCTS


Rectangular Control Plates


565 —Requtd



$$
\begin{aligned}
& \begin{array}{l}
\text { No. } \\
577 \text { - Mimonnme }
\end{array}
\end{aligned}
$$

> 585 —lians
> 587 —"
> 588 -Volunc

LIST PRICE Ea，$\$ 0.32$
Plates for Sliding Switches
 Two holes for attachims switeh $t$ ，Mate are renteris．fun holes for attarling ，wate to panel ar No． $41837-$－Phono－Radio＂No． 41838 －＂Off－On＇ LIST PRICE Ea．$\$ 0.35$

High Fidelity and All－Purpose Title Plates

 plate is ：＂＂$x$＂a＂＂of andexizad aluminum Nutice K－10 blank wate fur enplaving aeral



$1.7-18 . F$
$1.8-1$ Recri

| 1－9—1tcmer <br> 1－10－1tertiler <br> 1－12—Errech 1 urrent <br> 1．13－Esend <br> 1－14——ermi－Rocrisi <br> 1．15－minectior <br> J－2—praker <br> J－3－sureaker 1 <br> 」－4—neaker ： <br> J－j——naker <br> J－6－Sueaker 1 <br>  <br> J． 12 —Trine <br>  <br> K－4—1：lıne <br> K－6— Cith （＇ulrent <br> K－7－Dinlio Inpu！ <br>  <br> K－10－M1ank（fort <br>  <br> riele： <br>  <br>  <br> K－13—Hass <br> K－14－Trelle． <br> L－I－S゙ャrial No．（ssith <br> lilmk samect for <br> L． 2 －Morled No．（with <br> llatuk slate for <br> fi mure－1 <br>  <br>  <br> M－3－llikh Vintaye <br> M－6—＂Noncs <br>  <br> witiling） <br> M－14～Finualizer <br> N．9—「rosmp <br> N． 1 G－Ire－Amp Iat <br>  <br> 0．8－Таюе－I <br> 0．9－Tage－$\because$ <br> 0.10 －Tve <br> 0． 11 ——1put－1 <br> 0.12 Input $-\underset{\text {－}}{0}$ <br> $0.13-$ dondrensiatio |
| :---: |

WALDOMELECTRONICSINC
CHICAGO32，ILLINOIS

# KNOBSFROM STOCK MOLDS <br> Wide Range of Styles, Sizes and Colors <br> No Tool Charge . . . No Tooling Wait . . . Low Cost . . Immediate Delivery 



Shown octual size, here ore just a few of the mony Rcgon plastic knobs . . . availoble promptly from stock molds. Phenolic or urea plastics . . . also high heat-resisting materials. Black, brown or walnut colors in phenolic and light pastel colors in the urea materiol. Mostly $1 / 4^{\prime \prime}$ shoft holes with set screws. "Specials" supplied af nominol cost. All types of morkings, branded from stock dies.

Wide variety of combination knobs (plate and knob sets) in matching or controsting colors .. with all types of morkings. Write for complete catclog.

## ROGAN BROTHERS

# Harry Davies Molding Co. Molders of Plastics <br> <br> ELECTRONIC INSTRUMENT KNOBS 

 <br> <br> ELECTRONIC INSTRUMENT KNOBS}


No. 4102
White rirylite juinted atailable sur all kyshs of the 410in) serins. Sperify length wl en ondering. I'winter leugths,


No. 4103
Part No. Knob Dia. Knob Hyt.

4100
4101
4102
4103



Entire senies availahle with $1 / 4$ " molded hole or metel insert, set serey mumbing.

ACTUAL SIZE


No. 2500
 malled hole, sat serew, spring or knurled hole
nunuting.

Nı. 2600
Dia. $7 / 8 "$ hngt. $7 / 9^{\prime \prime}, 1 / 4 "$ malded lome, set screw, spring or knurled hole mount ing.


No. 2710
Ibia. $3 / 4 \%$ hgt. $1 / 2$ " 8-32, $16-32,10-29$ metal insert with or without metal face fin bottom.


No. 5460
Inta, $7_{8}^{\prime \prime}$ ", hat. 5".
1is" muldell holes. sut screw munting.


No. 1700
min, \%", hut, 19/3:3" ${ }^{14}{ }^{\prime \prime}$ moliled lowle. set serew. spring or kimurled lule monnting.


No. 1400
Din. $11 / 16^{\prime \prime}$, het. 13/32". $1 / 2^{\prime \prime}$ molded Lale or lorass insert, set serew. spring or tnurled biale motentins.


No. 2450
Hia. $11 / \mathrm{if}^{\prime \prime \prime}$ " higt. 13/32", $1 / 4$ molded hole or lorass insert. set sirew, spring or knutled hole mounting.

Knobs shown are only part of our stock on hand. Our stock molds are intershangeable and meet most requirements with only minor zooling variations. Let us quote on your specifications.

## Harry Davies Molding Co.

## Molders of Plastics



No. 99
 or $1 / 2$ moldad moke or m:etal insert,
Set screw muanting with or withont spinuer.


No. 2150
Lunsth $11 \frac{1}{2}$, higt. $9 / 16^{\prime \prime}$ $1 / 3$
bule, sot sirew mounting, bule. set si
lurk?


No. 2300
 "15" shape, ${ }^{\circ}$ mon $1 / 4$ metal insert, set seruy or knurled



Na. 2350
 mezal inselt, sett serew or trurled boltr bermitms, lorchut requess

## No. 2100




No. 2110 . P
Langith 1 "i" lint. 19/820", Einlth $"_{1}$, melal insurt amd $5 / 1 \mathrm{~A}^{\prime \prime}$ proilter. s't 'erew monatimg.


 ing.
 3/4 - /4 moline her ir metal inser set screw or kinaroo fule mountims locknut recess.


No. 1500
113.3. 1 1/8", hgt. $9 / 1 \mathrm{~s}^{\prime \prime \prime}, 1 / 4 "$ molided hole, set srew ir knerlesi lowle muntine, luek-
nut reves.
inlicator line filled ur minfilm.


No. 1600
bia. $11 / 2^{\prime \prime}$, hgt. $11 / 10^{\prime \prime}, 1 / 4{ }^{\prime \prime}$ molded bule or motal insert. set ar if mumbing. lowkut remess, indicator line filled or unflled.


No. 1610 Inia, $1: 5 / 1 \pi^{\prime \prime}$, hat. $5 / 8$ ", $1 / 4^{\prime \prime}$ molded hule. set screw mannting. locknut recess. indic:tor line fillad or untilled.


for Television, Radio, Electronic Use

- prevents corona in high voltage sections
- keeps lead-in connections tight
- prevents rusting and pitting of antennas

Just spray it on - that's all: No special equipment needed. Krylon dries in a few minntes to form a hard. Waterproof coating that seals and lasts. Resists climatic conditions, salt spray, ete. . . . doesn't dry out or crack. Krylon, due to its high dielectric strength. prevents many of the causes of picture fading and high-voltage section losses.
"KRYLON-izing" is standard procedure in TV゙ installations: And for one good reason: it pays oft in dollars and cents:
Cut Down Contract ServicecallsIt's Very Simple with KRYLON!



. . . and so many important uses in industry, too!


 sintortar, assures stable calihration as it





## (Technical Inquiries Invifed) <br> KRYLON, Inc.



Norristown, Pa.

# هHYID SPRAY ENAMELS 

,


NO MUSS—NO FUSS—NO LOST TIME

. . no paint to mix . . . no mess to clean up . . . just shake the can vigorously, push the button and, presto, the job is done pronto! And so prefessional, too! Moreover, when you're finished, just store the call away and it's ready for your next touch-up job. Use wherever paint is reguired -indoors or outdoors.


For Radiators


Appliance Touch-up


Indoor, Outdoor Furniture


Tools-Sports Equipment


Toys. Hobbycraft


| Size | Cat. <br> No. | Min. <br> Order | Min. <br> Re-order | Distr. Net <br> Resale Price |
| :---: | :---: | :---: | :---: | :---: |
| 2 oz. | $10-2$ | 24 | 24 | $\$ 1.69$ |
| 402 | $10-3$ | 16 | 8 | 2.54 |
| 8 oz. | $10-4$ | 8 | 6 | 5.07 |

Save on Gross Lot Purchase - Small Size

| Size | Cat. <br> No. | Distr. Resale <br> Net Price |
| :---: | :---: | :---: |
| 2 oz. | $10-2$ | $\$ 1.69$ |

The orisinal most reliable
LUBRICANT CLEANER "QUIETROLE" the preferred, standard product of the inclustry!
Your guarantee for quieting noisy television and radio controls, switches and other moving parts is QUIETROLE. Here is the original, noninflammable, most reliable lubricant-cleaner on the market today . . . developed through years of factual and authentic research.

## TEKNI-LABELS Electromic Equipment Decals



These simple, easy to apply decals provide the electronics technician with unlimited possibilities for titling equipment in the laboratory, shop or plant. Ideal for design and experimental phases of equipment development, to provide for quick title changes. Useful for placement of parts and testing and labeling auxiliary equipment Perfect labeling is easy.

| $\begin{aligned} & \text { STOCK } \\ & \text { NUMBER } \end{aligned}$ | COLOR | TITLE | DESCRIPTION | $\begin{aligned} & \text { NET PRICE } \\ & \text { EACH } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: |
| 100 | WHITE | TRANSMITTER | For transmitting equipment. Set contains over 1200 titles, including large, $1 / 4$ " high labels for titling stages or separate major components of transmitter equipment. | \$1.35 |
| 108 | BLACK |  |  |  |
| 101 | WHITE | INSTRUMENT | For the experimenter and builder. Set includes all labels necessary for an Oscilloscope, Variable Frequency Oscillator, Grid Dip Meter, Standing Wave Meter, Null Detector, AC-DC Voltmeter, Audio Signal Generator, Modulation Monitor, Distortion Meter and Tube Tester and others. | \$1.35 |
| 109 | BLACK |  |  |  |
| 102 | WHITE | RECEIVER | For the engineer, designer or builder of receivers or receiving type equipment Ovei 1300 titles, dials, miscellaneous letters, alphabets and marks. | \$1.35 |
| 112 | BLACK |  |  |  |
| 103 | WHITE | TELEVISION | For the Television experimenter, engineer or designer of Television equipment and custom installer Includes special color experimental Television titles of great usefulness in Television work. | \$1.35 |
| 113 | BLACK |  |  |  |
| 104 | WHITE | DIAL. | For general use to match titles in other decal sets of our manufacture. Dials impart a wholly professional look to front panels and add greatly to the usefulness and ease of operation of any equipment. | \$1.35 |
| 110 | BLACK |  |  |  |
| 105 | WHITE | AUDIO | For use in the Audio and Sound field by engineers, designers Custom Builders and installers of sound systems. Set contains all necessary titles as well as recent new HI.FI tities | \$1.35 |
| 107 | BLACK |  |  |  |
| 106 | WHITE | RECEIVING TUBES | For identification of all tube sockets. More than 320 different tubes listed including most commonly used types Tubes not listed can be made up by combining portions of titles. | \$1.35 |
| 111 | GOLD | PANEL TITLE | For Custom builders and service men in titling front panels of finished wood cabinets, especially broadcast receivers, Television sets, HI-FI amplifiers, tape recorders and similar equipment. | \$1.35 |
| 115 | WHITE | ALPHABET | Seven complete alphabets in each package ranging from $3 / 4$ " high letters down to $1 / 10^{\prime \prime}$ high. Set includes large block letters as well as Greek and Old English. This assortment is ideal to make individualized titles and de. signs on all equipment. Arresting results are easily obtainable by combining these letters with markings in the "Trademarks" set, especially if two or more colors are combined. | \$1.35 |
| 125 | BLACK |  |  |  |
| 135 | GOLD |  |  |  |
| 145 | RED |  |  |  |
| 116 | WHITE | TRADEMARK | Hundreds of electrical and efectronic markings are included in this assortment, among them are circles, ovals, triangles, squares, arrows, dots, music notes, lighting flash, multi-orbit "Atomic" designs, name plates, corner designs, borders and many others which are extremely useful in decorating all electronic equipment. | \$1.35 |
| 126 | BLACK |  |  |  |
| 136 | GOLD |  |  |  |
| 146 | RED |  |  |  |
|  | GOLD | CALL LETTERS | Replacement letters for Call Letter Kits, $1 \frac{1}{2}{ }^{\prime \prime}$ high, modern style letters for amateur calls, windshields, equipment, titles, etc | \$ 05 |

# DELIMETER <br> PRODUCTS COMPANY <br> <br> DECALS FOR ELECTRONICS 

 <br> <br> DECALS FOR ELECTRONICS}


- tITLE PLATES
- dial plates
- Call letters
- HIGH VOLTAGE SIGNS


## For convenience - safety - appearance

The workt, largen asourtment of Decals for Electronics contain wer zon different title plates, dial plater, alphabet, and numbrah, lighmoltage vigns in red, call ketters in hlack and gold, and televivion term. The Dealsare printed in neat, opaque letrer, on a dear, tough backing. Top surface hats at tough protective wating which provides high resistance to wear. Superior atherive yualities of Decimeter Decals, and the toughne of the butking materiat hend the Decal in phace or tightly that danger of pecting or chipping is chiminated.
W.ater-type "slip-off" deals

Adhere to any (lann surfice
Vary cconomisal to use
Improse apparamee and satety of equipment
Attrative alf service counter display for radio johbers Special ansortment, packed to order

For further information, write for Bulletin RM-1

## SILVER Q FLUX

- Lepecially comprounded for
 radio soldering
- Icoucs no gummy revidue
- Dues not vtain the work

Siber $Q$ in a freceflowing flux designed for fine metal soblering. Silver () is applied with a mall brubl to the vurfate to be soldered. When the work in rapidte heated and worcles solder is applicel, the wher flows almont inntants ower all thuxed surf.ae-bern intu the the'tent joints. Exces flux mas be winad off with a damp doth. Silse" (2 Icaves no wain or gumms deporit, on the work.
For further information write for Bulletin RM-IA.

1 oz . bottle 25 c
24.2a=k \$6.00 net

## DECASOL ADHERENT

- Buonds deals permanently

- limprover aldherence to rough surfate:
Decalsol deal adherent iv a per. manent bonding medium for at taching decals to paint plastic, or enamel surfaces, cither rough or smooth. Decisol is a solvent which dissolees the back of the decal into the surface to which it is applicd. Decatol should be used when decolv are subieat to extremely hard usage, or prolonged dampness. It is impossible to remowe a decal athered with Decasol without damaging the surface.
For further information write for Bullctin RMelA.

1 oz. bottle 25 c 24 pack $\$ 6.00$ net

DENVER 4, COLORADO

## SINCE 1921 <br> Insuntine Corporation of America <br> OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## U. S. ARMY-NAVY SPECIFICATION PLUGS

## Clil PJ-03si -3 <br> 

 compression-molded insulation for high alielectric ard tensile strengths. Features durability with low moisture athsorption characteristies.
No. PJ-055B
Dealer Cost \$ .80
No. PJ. 054
No. PJ-068-: Conductor Microphone Plug
Dealer Cost 80
Dealer Cost 2.25

ICA 2 - CONDUCTOR PHONE PLUGS Featurey whallue bartel for pantl mounting singere econ omy. Has a seratu tyr terminals. Tonite fandle*s.
 jacks.
No. 7577-Black .............DIr. Cost \$0.42 No. 7579-lied

Dir. Cost 42

## ica bakelite douzle phone plug

Features eureogrip,
moldod hathelite ribhed

ift liandinner. Metal
firts are hrass, nickrepinted. Tuked 1 wo conot
 मlack lurrul.

| No. | D1r. Cost |
| :---: | :---: |
| 248-Bhack | \$ . 34 |
| 24R-lied | 34 |
| 34B-13ack barrel only | 13.36C |
| 34R-Red barrel only | 13.36C |
| 34P-lug only | . 27 |

## ICA MIDGET PHONE PLUG

hleal for limitad wime ereser areas. Ribhed molded bake-
lite harrel. Metal parts are brass, niekel-plated. (0ytrall bength 2 Mín $^{\prime \prime}$. Avalahhe in red or black barrel.

No
Dir. Cost
29B-H1ack
.34
29R-K•d
.34

## ICA STUBEY SHIELDED PHONE PLUG <br>  eter $x 1^{\text {N }}$ longr.

No. 27 ....................................DIr. Cost \$ . 49
No. 37-Rarrel only ................Dir. Cost .32
ica midget shielded phone plug
Diameter of Barrel $8 \%$.
Overall aize oì Plug 24
Dealer Cost $\$ .48$

## ica 3-wIre microphone plug - $\mathrm{DID}_{3}$

IIas solder connections for cable or microthone vare. Ribbed barrel molded of batielitu: phone has. Ribbed barrel
No. 1901.
Dealer Cost \$ .83

## ICA SHIELDED DOUBLE PHONE PLUG

Nlekel Barrol-Grass Shell Nlckel Plated
Supplied with fibre ingulating tube. No. 25 Dealer Cost $\$ .60$

## STRAIN EELIEF CLAMP

## 

For firm attachment of cahles to doto arm irl.

No. 5695
Dealer Cost \$2.00c

ICA SHIELDED 3-WIRE MICROPHONE PLUG

## M

Shielded Nickel Barrel
No. 1900.
Dealer Cost \$1.10
PHONE TIP WITH INSULATING JACKET
Nickoll lated brase
with sulall O.J. it.

sulating sheeve.
No. 3418-Mlack
Dealer Cost $\$ 10.00 \mathrm{C}$
No. 341 R — Reol
Deater Cost 10.00C

## SPEING TYPE

banana plug
(พากากาก

Tas nickel-plated theass lmody with whombor bronye mpring contarte. Extria niturdy. Ovierull No. 7573 -Stank it I. ...... Dir. Cost 9.00 C No. 7574 —hank i/s. L.......DIr. Cost 9.00 C

ICA BANANA plug


Nicker-plated hrasy with anum-thlting onte-pinote.
 and aoldering hag; has fi-3s femalde thrembed receptacle. Hex centar jermits firm ightofing. (irutur what exturnds fill lengith of plus.
No. 7584
Dir. Cost $\$ 9.00 \mathrm{C}$
ica split manana plugs


For mositive and durable epring action. Allows morise to fit into jach, cannot bead out of shape - Complete with two muts.
No. 403............................Dealer Cost \$11.66C

## WIRE CONNECTOR WITH BANANA PLUG RECEPTACLE

Ideal for quick aplicing for teating point.
No. 1933....DIr Cost $\$ 25$


## BERYLLIUM BANANA PLUGS




 atal durability:


No. 419 - (13.0;all siz shath lebneth Dealer Cost No. 421 -- (IVr.
 "threathon shanh
 nuts.
Dealer Cost .............. \$21.00C

## SILVER-PLATED BANANA PLUGS




Deater Cost
$\$ 20.00 \mathrm{C}$
 whltar for nillur pranel lil.
Dealer Cost
$\$ 20.00 \mathrm{C}$


Dealer Cost
. $\$ 20.00 \mathrm{C}$

## INSULATED MIDGET PHONE TIP PLUG

lits all standard jacks.
lip is threaded. Overall

No. Dealer Cost


INSULATED SILVER-PLATED
BERYLLIUM COPPER BANANA PLUG


 silver-plated for parmanetot ebectrical contact. Fits etandard $1 \mathrm{y}^{2} \mathrm{~m}^{2}$ lanamat juchs.
 thection. (Wirall lotagth: 1 : $1 / 4$ "
No. 413R-lied
Dir. Cost $\$ 0.30$
No. 413B-Mack
Dtr. Cost $\quad .30$
ICA INSULATED SOLDERLESS BANANA PLUG


Ravolutionary new mollerlas silver mlated






No. 4338 - Jhack,
DIr. Cost $\$ 0.36$
No. 4338 -liagl
Dir. Cost .36
ICA INSULATED SOLDERLESS
SPLIT EANANA PLUGS

S.f serew provided at bida of ribherl harabl to fast -il norew withant solduring.
No. 8838-Hlack 11/2" Long
 Dir. Cost \$15.00C No. 7565 -Yellow
No. 7566 -I...........Dir. Cost 15.00 C
No. Cost
15.00 C No. 7567-Blue ................Dir. Cost 15.00 C

21/2" Lond
With sleeve coveriner set screws
No. 882B-Bluck .....................Dir. Cost $\$ 0.27$
No. 882B-BLurh
No. 882R-Red
The MASTIRR - 20th Edition
Page U-121

## SINCE <br> 1921

# insuline Corporation of America <br> OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS 

ICA INSULATED SOLDERLESS SPLIT BANANA PLUGS With Solderless Wire Nut
No. 434B-Mlack ……...... Dlr. Cost $\$ 18.00 \mathrm{C}$
No.434R—— Cost 18.00 C
ica insulated solderless plug


2" long - fits all standard
Mome tip jacks. Hibbed barril


No. 7555 -Yellow
No. 7555 -Yellow
No. 7557-13114*
kibloed barrel.
No. 886B-Mlaek
DIr. Cost $\quad \$ 14.16 \mathrm{C}$
No. 886R-Kend
Oir. Cost......\$14.16C
ICA GRIP-RITE MOLDED PHONE TIP PLUG
Molded phar dewirned so that wire tite into curvature alt in ander, eliminating dianer of pullong out or braking off. Made in two sections for case of assembly. Phome tip fits all stimdard tip jacks.
No. DIr. Cost 868—Kell ….... \$27.00C 869—Black ……..... 27.00C
ICA SR. SOLDERLESS PLUGS

$11 / 2$ over-all lenrth.
Dealer Cost 358
ICA JR. SOLDERLESS PLUGS-No. 359
$11 / 2 "$ overrall lengeth.
Dealer Cost ........... \$9.58C


Compranion piece to ICA No. 432 locking type tip jack. (May also be used with non-loekiner type jack). Insulated barrel. Ovelall length: $17 /{ }^{\prime \prime}$; tip $3_{8}^{\prime \prime}$.
No. 7530-B-Mlack
Dir. Cost $\$ 18.00 \mathrm{C}$ No. 7530.R-Hed

DIr. Cost 18.00 C


No. 7526-Same as above without insulatine barrel. Overall length: $13 / 8 "$; tip: $3 / 8$ "
Dealer Cost
$\$ 14.00 \mathrm{C}$

## MIDGET SHARP POINT PHONE TIP THREADED-NOT INSULATED

 Threaded to fit all test prods. No. 365 ........DIr. Cost $\$ 10.00 \mathrm{C}$

## ICA PHONO NEEDLE CHUCKS

Push on type can be forced into hundles - Threaded type can be crewed into handles. Machined of brass, nickel plated with needle point.

No.
Dir. Cost .. $\$ 11.00 \mathrm{C}$ 509-Threaded Type, Overall size $1^{\prime \prime}$. 12.00 C

STANDARD PHONE TIPS Overall Lencth $1^{\prime \prime}$

No. 360
0 Dealer Cost $\ldots \ldots \ldots 6.67 \mathrm{M}$

## HEAVY DUTY PHONE TIPS

Overall Length $112 "$.
No. $361 \quad \begin{gathered}\text { Dir. Cost } \\ \$ 60.00 \mathrm{M}\end{gathered}$

## (®) (0)

BATTERY CONNECTOR STRIP
Fitterl with basy suapoon clips for the follow. int popmlar type battorias: 13urpess XX30; XXf

No. 3397
Dealer Cost $\$ 18.00 \mathrm{C}$


ICA PHONE JACKS
Smaller type precision made jacks for limited space. Complete with nut and metal wasler.

No.
1870-single open (irmuit................. $\$ .27$
1871-Sinelo (llosed (ircuit
1872-3-Way Microphone Jack
.27
.31
.35

## ica panel mounting jacks

Small and compaet. Insulated shoulder washers. Phosphorbronze, nickel-plated springs.

Dealer Cost
325-Sinerle Opell Cireuit.
1905-3-Way Mierophone Jach

| .$\$ \quad .34$ |
| :--- |
| . .75 |

ICA SHIELDED 3-WAY PORTABLE MICROPHONE JACK


For all types of microphones. Sturdily constructed of brass parts with phosphor bronze surinse. Nickel plated and thorouriny insulated. No. 1904

Dealer Cost $\$ 1.00$

## ICA SHIELDED PORTABLE JACK

Single Open Circuit

Dealer Cost
No. 1913—21/8" Long, $1^{\prime \prime \prime}$ Diameter.... $\$ 84$
ICA BAKELITE PORTABLE JACKS


Single Open Circuit Ribbed barrel

No.
Dealer Cost
1911—Overall Size $18 / 8$; Diam. 3/4"....\$ . 50
No. 1903-Portable Jack, black Bakelite
barrel.............................Dealer Cost \$ .75

ICA COMBINATION BANANA PLUG OR PHONE TIP JACK

Made to take banana plug or standard phone tips interehangeably. Insulated cap in black and red - With washers and nuts.

No.
Dealer Cost
528R-IRed $\$ 15.00 \mathrm{C}$ 528B—Black

## HIGH VOLTAGE NYLON

TIP JACK
Nylon insulation can withstand $10,000 \mathrm{v}$. breakdown, Low leakare resistance; very low moisture absorption, One piece spring contact loop of phosphor bronze. Offers stability in semsitive test duibment. Takes all stambar phome tips atul tost mools. Molded washer atfords added protection arrainst "shorts."


1899-R-Ked


## MINIATURE NYLON TIP JACKS

Molded from low-loss nylon, resulf. ing in an all-insulated jack. Beryllium eopper silver plated eontact. Recesed contact for gilrorting safety;
 thread with nut. Overall dimensions: 3/8" dia. x $7 /$ " $^{\prime \prime} \mathrm{L}$.
No. 7537-White ...............Dir. Cost $\$ 30.00$ C No. 7538-Ked .................D|r. Cost 30.00 C No. 7539-Black ...............Dir. Cost 30.00 C No. 7540-Green ...............DIr. Cost 30.00 C No. 7541 - Orange ............DIr. Cost 30.00 C No. 7542-Yellow .............DIr. Cost 30.00 C No. 7543-_Brown ............DIr. Cost 30.00 C No. 7544--13lue ................Dir. Cost 30.00 C No. 7545 -l vory ...............Dir. Cost 30.00 C

## MOLDED TIP JACK

All-molded tip jack with phoswhor bronze suring eontact inclurles brass nut for mounting directly on punels up to $3 / 8$ " thick. Jounting hole: $3 /{ }^{\prime \prime}$ ". Overall dimensions: $1^{\prime \prime}$ L. $x 1 / 2^{\prime \prime}$ Dia.

| No. | Dealer Cost |  |
| :---: | :---: | :---: |
| 7521-I3]ack | \$21.00 C |  |
| 7522 -IRed | 21.00 C |  |
| 7523 - ireen | 21.00 C |  |
| 7524-Yellow | 21.00 C |  |
| 7525-1314* | 21.00 C |  |

LOCKING TYPE TIP JACNS Hakelite insulated tip jack with accommodate solderless pione tip. Twist of phone tip lochs it in place. May be used with stamelard phone tips as well as lock. ard phone tips as well as lockpiece spring eontact loon. Mountpiece bole. "i" Overall lemeth:

No.
Dealer Cost
$\$ 19.00 \mathrm{C}$
432-R-Red 19.00 C


## BERYLLIUM COPPER

INSULATED TIP JACKS
Bakelite. Spring contaet of heat treated beryllium copper.
No.
1897 -Black
1898 -Red
Dealer Cost
.36
ICA BAKELITE INSULATED TIP JACKS
Molded of low loss bakelite. Features one piece spring contact loop of phosphor bronze for easier wiring. Takes all standard phone tips and test prods.
No.
1889 -Black
Dealer Cost 1890-Red
.$\$ 15.00 \mathrm{C}$
$\$ 15.00 \mathrm{C}$


# insuiline Corsoration of America OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS 



PHONE PLUG ADAPTER

## SILVER PLATED BRASS <br> BANANA JACK

ILas knurled shoulder for firm panel fit. Extended shank suitable for heary pancls. Minimum pane thickness: ${ }^{16 \prime \prime}$; maximum $8 / 8^{\prime \prime}$. (Worall length: $7 / 8^{\prime \prime}$, shank lenerth: $18^{3 \prime \prime}$ hex levil dia.: ${ }^{7}$ "". Takes Insuline l,anana plugs No. $410,421,424,428$, and 429,7573 and 75 st .
No. 431A
Dealer Cost $\$ 12.00 \mathrm{C}$


NFW Universal shielded cable sincle contact microphone connector. Newly designed nonfixed coupling ring permits easy cable connec. tion. Male-female connector in one. Eliminates necessity for mating connectors.
No. 1931.
Dealer Cost $\$ .30$


Shielded cable type. microphone connector. No. 1932.

MICROPHONE CONNECTORS


MICROPHONE CONNECTORS

No. 1929 -For use on chassis unit or in microphone. Single Contact.

Dealer Cost \$18.00C
No. 1930-Closed circuit connector. With syring actuated contact. Dealer Cost


Soldering or wiring not necessary
No. 33
Dealer Cost \$. 27

## CONNECTOR COUPLING RING

Microphone commector coupling Sing converts male to female Ghers male-female eomnector in No. 1925

DIr. Cost $\$ 8.00 \mathrm{C}$
ICA CAP AND CHAIN
Provides reffective protertion to unnsed male micro. thene combectors asrainst prit and dirt. Alfixet: chatin prevents loss when makint comnerction. For use with ICA 1!29 and Ko. 1930 or similar commerters.
No. 1918 ...Dir. Cost $\$ .33$


TRANSMITTING PLUGS AND JACKS


A new line of heavy duty transmittini pluys and jacks. Plug-in type with positive yrip contarts. Equipped with heavy insulated thereaded heads and handles for safe handling (h) high R.F. currmats. Supplied with large lifex muts for panel shounting.

## Handle 1.000 Volts at 10 Amps

| No. ${ }^{\text {N50-Medium Plug--RED }}$ | Dealer Cost |
| :---: | :---: |
| 451-Medium Plup-BLACK | . 42 |
| 452-Nedium Jack-REI) | 80 |
| 453-Medium Jack-M1,ACK | . 80 |
| 454-(iant Plur-Rrin | . 63 |
| 455-Giant Plur-BLACK | . 63 |
| 456-Ciant Jack-R1:D | . 88 |
| 457-Giant Jack-1b14CK | 88 |

ICA PLUGS AND JACKS


Used on RCA recorbinio units, receivers and auto sets.
No.
Dealer Cost
2383-Pin Plug
2385-Socket and ..... $\$ 5.00 \mathrm{C}$
2385-Socket and Slicid. 7.00 C

ICA INSULATED BINDING POSTS WITH JACK FOR BANANA

## TYPE PLUG



Lengrth $1 \frac{1}{4 \prime \prime}$ overall when top is up. Extends 5/8" above panel when top is screwel down. Fitted with 8/32 screw ? ${ }_{2}$ " lons, and two hex nuts.
No.
Dealer Cost
622-Rell
\$24.00C
623-13lack 24.00C

## 8 나

## PORTABLE

 PHONO JACK2 -section shielded phono jack cadmium plated motal sleeve; bakelite insert for use with ICA 2388 or similar pin plug.
No. 2384 ..................... Dealer Cost $\$ 15.00$ C


## ICA ALL METAL BINDING POST

Designed for high amperare use and where low resistance connections are necresary on test equipment, etc. Nickel plated brass. Dimensions same as No. 617 below. No.

Dealer Cost 620 \$21.00C


## ICA BAKELITE BINDING POSTS

is" Diameter Llead with Brass Threaded insert. Nickel Platiol Nicrew; Knurled nut.

No.
617-Red …................. $\$ 15.00 \mathrm{C}$
618-Black
15.00 C


ICA VISE-GRIP BINDING POST


Fingineered on principle of a vise. Can cause no damare to even finest wire strands. Wire hole and designating symbol always in alignment. Two styles.

No. 630 Series-IIas $8 / 32$ Male Threaded
Shank
Dealer Cost $\$ .40$
No. 690 Series-IIas 8/32 Female


BAKELITE BINDING POST HEADS
Bakelite Heads only with
l3rass Threaded Insert for
8/32 Screw.


No. 628-Red.
Dealer Cost $\$ 10.00 \mathrm{C}$
No. 629-Black
Dealer Cost 10.00C

# SINCE <br> 1921 <br> insuline Corporation of America <br> OVER 3 DECADES OF QUALITY RADIO－TELEVISION PRODUCTS 

## ALLIGATOR CLIPS．．．SPADELUGS



## ICA ALLIGATOR CLIPS

Good firm grip．Ideal for work in tight
liaces，Overall length $\because "$ 。
No． 364
Dealer Cost $\$ 5.50 \mathrm{C}$


Goul tirm bite．Conveniant scmen commetim －liminates the necessity for solleribr．Wwar． atl lenerth 2＂．
No． 376
Dealer Cost $\$ 6.75 \mathrm{C}$

## INSULATED ALLIGATOR CLIP

WITH SCREW CONNECTION

No．526B－Hlack
Dealer Cost $\$ 11.30 \mathrm{C}$
No．526R－Red
Dealer Cost 11.30 C

## INSULATED SPADE LUG

Insulated spade Lug with
nanana plur receptacle on lead end．
No． 887 B －Hatrck ．．．Dealer Cost $\$ 10.00 \mathrm{C}$ No． 887 R－Red Dealer Cost 10.000


## ICA SPADE LUG

Can be used on any size serew or terminal up to sizn 10 ，Reews． tacle fits all 1．1＂．．1．and other make Валала Pluge．

No． 879

## ICA SOLDERING IRONS




 use．Includes $t i p$ ．Here are some outstandine wallome
 arlditional minute．


 ＂peration．



 （extra heary nickel leads weldod in rosictathere wil

 wire assuringe long life．


## SOLDERING IRON REPLACEMENT PARTS

REPLACEMENT ELEMENTS FOR ICA SOLDERING IRONS


Because of the practical dexizu of IC＇A solder－ ine Irons，burnt out eldments may be anily replaced．

| 105－120 Volts |  | 220 Volts |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: |
| No． | Watts | Dir．Cost | No．Watts DIr．Cost |  |  |
| 1985 | 1011 | $\$ 2.00$ | 1990 | $\$ 20$ | $\$ 2.00$ |
| 1986 | 85 | 2.33 | 1991 | $\$ 5$ | 2.33 |
| 1987 | 115 | 2.33 | 1992 | 115 | 2.33 |

## REPLACEMENT

 TIPSFor ICA Soldering Irons


Available in All Sizes
lable of at reweial coppler allay，bilect molytioally bure．For roplacomont in ICA soldaring lrons （＇an also be used in Amoriean Beataty and ixいに of simitar construction．

| No． | Watts | Tips | Dia． | Length | Dealer Cost |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1970 | （i） | （ hisal | ＂ | 8＂ | \＄． 42 |
| 1972 | N： | Pryamiol | ＂3＂ | $3{ }^{1}$ | ． 58 |
| 1971 | 115 | livammil | 17＂ | $33^{14}$ | ． 67 |

## SINCE <br> 1921 <br> insuline Corporation of America OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS

## The Insuline "Mini-Kit" A PRECISION SCREW DRIVER KIT



A handy, vest-pocket screwdriver kit designed especially for precision radio, television and electrical require nents. Contains four hardened steel blades measuring . $100^{\prime \prime}$; .080"; .070" and .055". which fit into finger grip ribbed plastic handle with firm gripping chuck. To change blades, merely loosen chuck, insert interchangeable blade and tighten chuck. The sure-lock handle has swivel top for finger-tip control. Packed in an attractive vinylite compact case with snapper do:ure. Measures (closed) $2^{\prime \prime} \times 33 / 8^{\prime \prime}$. Sold singly or in colorful display stand of 12 .

No. D-70989-Display of 12
Dealer Cost \$12.00


REPLACEMENT DRILLS AND CUTTERS
Imed ax replacement on JCA Ao. 775 and No. 7801 circle cutters as well as on other nake cutters.


No. 776-Replacement drill for No. 775 Circle Cutter Dealer Cost $\$ .50$ No. 777-Replacement cutter for No. 775 Circle Cutter Dealer Cost $\$ .67$ No. 781-Replacement drill for No. 780 Circle Cutter Dealer Cost \$. 50 No. 782-Replacement rutter for No. 780 Circle Cutter Dealer Cost $\$ .67$

## ICA IMPROVED ALL-PURPOSE

 CIRCLE CUTTERWill Cut Holes from $11 / 2$ to 8 inches Cutting bar holder is 7/8" in diameter and also accommodates a centering drill or any size pilot pin. Cutting bar is 2/8" square and is arrangred to hold a $\frac{3}{16}$ " high speed cuttine bit.
No. 775


Dealer Cost $\$ 2.25$

## ICA FLEXIBLE SOCKET WRENCH



Espocially destromel for hariftormachs spots. Can actually be used around cormets or under ohstricting objects


ICA FLEXIBLE SCREW DRIVER
For the Harir to Reach Spots
Allows access in screws in hard to reach and out of the way platers. Can go tumler objects or around curners.
No. 935
Dealer Cost $\$ 1.35$


ICA UNIVERSAL MULTIPURPOSE CUTTING TOOL

This hitady tool can be used for counter-sinking, beadiner, drillingr or rutting holes. Equipped with
 meter up to $3^{\prime \prime}$ diameter. Can be used either in drill press or hand brace. Also acts as a boring tool when used in a lathe.

No. 780
Dealer Cost $\$ 3.08$


For emoving all mikes and sizes of tubes. Mold d rubher cushinn over claws offers full tulve protection. St:Ircly zinc-plated steel: "It iditerl."
No. 1001.
Dealer Coct $\$ .99$

HEX WRENCH KIT


Crutains an aszortment of FIVF frequently Amol hexarom he wrenclus. Sidital:]e for many thers of batio and television selvicing on dials, Holos. moters and mans other aplications. Hacle of durabir thaydened aliot steel. Includers wermetes as folhats:
No. 4-Firs Nos. 3 and + set seecew; Nos. 0 -
No. 6-Fits Luse 5 and is sut serew; No. 2
cap screw
No. 8-Fits No. 8 set surew: Xios. 3 and 4
(10) 10 scres.

So. 10-Fits © 0.10 sut serew; Nos. 5 and "oray scren
Y"一「'its $1_{1}$ " set screw : So. \& cap screw. Pacherl in coumeneat leathernito-arotate case fore ensy selection and safe ketping
No. 963 Dealer Cost $\$ .51$
SPLINE WRENCH KIT


1 halloiv assortment of pobrtar suline tupe wenchos for a variets bi sorvioting nevods
 lncluiles sid wrene ous as flathore
 ("at) scrunw.

screw.

Sor. 10 sermits S.r. 10 E.t arrew: Nos. 5

 ulantitiorationt
No. 964
Jealer Cost \$.51
 VET AND EYELET PUNCH SET for "ither rivaling or exeletting. Ilondur Es maln of rast irom with levangenal sibes. $t$ [us permittints ther rand to be plarnd in a vise Withont slippine.
No. 785 -Complate with ampla assorrmont of exmenta ithl rivets.

Dealer Cost $\$ 3.33$
RIVET AND ETEELET ASSORTMENT Additional evelett and rivete can he purchascd kulbatraly
No. 5265- (Issi-nt of 1001 ) Dir Cost $\$ .57$
RIVET \& EYELET SETTING TOOL

No. 786

ICA BONE FIBRE SCREW DRIVER

Double Fidend-Nia Metal-Fulty lu-ulated Mate of $1 / 4$ " Bome Jibre Rod
No. 1039
Dealer Cost \$ . 27
INSULATED NEUTRALIZING WRENCHES


Hexed-Full Length
For Phileo, Majestic, and Othor Receivers Diameter

Dealer Cost


980-5" lons: Hex $1 / 4$ "................... 20.00C


BAKELITE NEUTRALIZING TOOL


Noutralizime tool used hy V. S. Army Simat Corps (U. S. Army No. TL-138B)
No. 1010
Dealer Cost \$ 37
ICA NEUTRALIZING AND ALIGNING TOOL

U. S. Army No. TLI38A - ICA No. 1011 Uerd for general radio tuming and aligning. Approved hy l. S. Army and Navy.
No. 1011
Dealer Cost $\$ .66$


## CA 5-IN-1 NEUTRALIZING AND COMPENSATING TOOL



Dealer Cost $\$ 1.00$

ICA MAGIC TUNING ALIGNMENT TOOL Consists of a llakelite rod with a Brass cylinder at one end, and a special finely divided iron core at the other end. No. 977

Dealer Cost $\$ .66$


## ICA NEUTRALIZING AND ALIGNING TOOL KIT

The Kit comsists of twelve sepal rate and distinct parts, some on which can be amployed for ses eral operations. These units telescope into sach other, forming four separate tools when assembled.

No. 998 .......Dealer Cost $\$ 3.68$ Complete with Carrying Case

'E-Z REACH" TV ALIGNING and SERVICING "PAK-CARD'


 tonls mataly momonted on a colorfal card bor F - \% reach. Excmbent for survice department, labs, repair hemehts.

 pull mastio griphers. (ontains the following lwomar Tran" Transformers: No. !81-Aliqnoment wrench,

 driver for daan tuning: No. fi5s-lbomble Bladerl.


 wand: No, fifit-Exitathin remessemd hlade thainer
 "Klemr Aligher", for trimmers, IF transfirmars, efe. Vo. filla-Extra thin-lirass pore. . irom rore

 hanles; Sn, 18249-Tuning Wand, brass corv: iron core.

No. 6693
Dealer Cost \$7.76

## SUPER RADIO-TV SERVICING and ALIGNING TOOL KIT



A complete deluxe kit of 19 tomls debigned esperially for the widest possihle use in the radio and television survicing field. Contains the following lnsuline tools: Co, $\$ 193$ - Fxtra thin-

 "K-Tran" Transformers: No. fieti-"Klew-Aligner", double extended blades; No. !\&1-








No. 6696
Dealer Cost $\$ 10.95$


## TELEVISION JUNIOR "HANDI-KIT" <br> 4 Essential Tools for TV Servicing

A neat, compact kit containing four of the most popular lnsulin. tools used for a variaty of television servicing remuirments. Than handy, plastic case in poket-size for comentent arryins. Inclulns No. disti-all insulatod aligner for tuming IF and RF shielded coils and trimmers: So. bists-all insulaterd recesserd blade tuner
 No. di4t!!-extra slim alimer for cramped probing. All tools hase amber plastic handles.
No. 6697
Dealer Cost \$2.15

## TELEVISION "HANDI-KIT"

Firn Tolevision strsiciner. (instains nibe (9) latest tools esfercially desiened for terlevision mods. Sucludes abigur for if anl Ef and "K-Tran" Trankumurs (Xo. 97s) ; slim alimo
 (9") aligner (No. filto ) : thin diameter tomine wanl (No. (6143): thantr wromeh (No, (ilit): dual aligner, narrow


 rase for casy rarrying. A real combination valuc.
No. 6165
Dealer Cost $\$ 4.50$


## TELEVISION SERVICING ... ALIGNING TOOLS

DEEP-NI8 '"KLEER ALIGNER''

## $\because 3=0$

All-insulated alisner with clear flexible lowloss rod ( $1 / 4^{\prime \prime}$ dia.); amber plastic handle. Metal nib for No. 6 studs entirely insulated and set within barrel end. For tuning IF and $R F$ shichded coils and trimmers. Overall lenertli: 4"
No. 6846
Dealer Cost $\$ 0.42$

## THIN ALIGNER



Has extra thin recessed blade; durable slim metal shaft for cramped probing, Amber plastie handle. Especially suitable for Admiral and similar type TV receivers. Measures 6" overall lengrth.

No. 6849
Dealer Cost $\$ 0.66$

## 'LONG STRETCH"' FIBRE TV ALIGNER

[deal for probing in cramped, inaceesaible areas. A clouble bladed aligning tool, measurareas, A double bladed aligning tool, measur-
ing 12 " in length. Made of durable fibre for ing 12 in length. Made of durable fibre for complete insulation a
shaft is $1 / 8$ in diam.

No. 6159
Dealer Cost $\$ .35$
No. 6158-7" I.ong........ Dealer Cost \$24.00C

DOUBLE END "KLEER ALIGNER"


Low-loss CLEAR ISASTIC all-insulated shaft. Has two recessed blades eet within rod ends. completely insulated. One blade suitable for No. 6 serew and smaller; other blade for No. 4 serew and smaller. Shaft is $7 "$ long $\pi \quad 3^{7 \prime \prime}$ diameter.
No. 6193
Dealer Cost \$ . 60


A low-loss CLEAR PLASTIC all-insulated aliruine tool. Narrow shaft. Has recessed insulated hlade on one end; extended blade on other end. Inesjgned for many aligning uses. For trimmers, IF transformers, etc. Measures $7^{\prime \prime}$ in length $\mathrm{X}_{3^{7} " \text { " }}$ diameter.
No. 6192
Dealer Cost $\$ .60$

## $\square 5$ $-2$ <br> -ALIGNERTRAN"

Aliminge tool of tough fibre with insulating ambor llastie handle for standard JF, RE and "K-Tran" mirlget transformers. Measures of $1 / 2$ " overaill lengrth.

No. 6850
Dealer Cost $\$ 0.51$
' KLEER-TUNER

T.ow-loss clear ulastic rod measures $3_{2}^{73}$ in dia. [nsi-lating amber plastic handlo. Has recersem] Hado for No. fi statis. All-insulated. Measures

No. 6848
Dealer Cost $\$ 0.66$

## 'BIG STRETCH" ALIGNER

Fxtra thin, extra long ( $9^{\prime \prime}$ ), bone filbre aligning tool, $61 / 2 "$ blade. Specially desimned for adjustment of nestec iron cores of "Admiral," "Zenith" and similat make TV sets. Permits use on RCA front ends and normally inaccessibl. areas.

No. 6162
Dealer Cost $\$ .73$

## TUNING WRENCH

- 

Insulated filire funieg wrenell with extra thin recessed blade. Extra thin screw driver blade on cother end ( $4 \pi / /^{\prime \prime} \mathrm{I}_{2}$ ). Tenite landle. Especially designed for "Zenith" TV' sets, etc.

No. 6164
Dealer Cost $\$ 0.48$

## DUAL ALIGNER



Dual purpose narrow shaft, filre alignment tool for trimmers, IF transformers, coils, condenmers, push-ifutton tuners, ate. Recessed serew nith on one end; metal serew driver on otlar end. Has an estensive application in TV servicing. V'sed on RC'A, lamelix. and other type receivers.

No. 6166
Dealer Cost \$0.52

## "SUPER STRETCH KLEER ALIGNER"

 $\theta$

All insulated extra long TV alimer for inac conseble areas. The low-luss (LEAR PIASTIU liont is $12^{\prime \prime}$ long $x y^{7}$ " diam. ('arries an extended blade at one end: brass sintted insert at other end. A lawly tool for those hard-to reach sputs.
No. 6194
Dealer Cost \$ 83

## LONG-ROD '"KLEER ALIGNER" <br> $\Longrightarrow 9$


 Ole:ar plastie ronl is $\mathrm{F}_{3}$ " in dianmor. Blat aunber plastic handle. Extended hlade; 泉" is
No. 6847
Dealer Cost $\$ 0.90$


Alignment tool with extra thin recessed blade and slim metal shaft for cramped probing in television receivers. Fiber handle. Especially suitable for "Admiral" and similar make television sets.
No. 6161 ......................Dealer Cost $\$ 0.66$

## TUNING WAND



Extra thin diameter to fit small coil openings in television sets. Flexible vinylite. Brass insert in one end; molded powdered iron core in other end. Lowers or increases inductance. suitable for "Zennith." efte. TV bets.
No. 6163
Dealer Cost $\$ 0.35$


Tough fibre. Metal nib entirely insulated and set within barrel end, For tuning IF and RF shielded coils and trimmers. Small enough to fit under television tubes without removing.


No. 6156
Dealer Cost \$. 36

## CORE ALIGNER

## - (M)

For Stewart-Wargar, heinment and other television receirers rmploving stackphe aljnstable cores. The fi" insulated tibre shaft hat brass insert at one end for milled end cores; recessed serew driver llade at other enil for etandard shotted eorrs. Inserts are "pinned-in" and flush with staft end for durability and case of use

No. 6170
Dealer Cost \$ . 55

## PRECISION TUNING WAND

## \#

Hish-itate moneric hamile (43"L. x $1 / 4$ "
 in one end (permealility folorathee $\pm 2 \%$; "( 2 " thlerance $\pm 10 \%$ ); silver-plated brass ans, in other chad - both seeurely threaded and cemmonion into shaft. Lucheases or decratan inductaner. Desighed speceitically for Ancroz, the high-grade popreties of this " (mil matie it an excellent tonel for meneral ivericille.

No. 6249
Dealer Cost $\$$
.90

## TV SERVICING TOOLS

television＂channel tuner．

A narrow all－insulated screw driver of machined fiber．Ideal for deep，inacressibli． tunime．Overall： $\mathbf{7}^{\prime \prime}$ bengeth． $1 / 8{ }^{\prime \prime}$ blade ont 4 屈＂shaft．
No． 6157 ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．Dealer Cost \＄． 55

## TRAN－ALIGNER

Newly designed all－insulated aligning 1 ml for standard IF and RF and＇K－Tran＂midget transformers．Trim fiber：millow at mon end Ecrew driver at other end． $21 / 20$ lengtls hatle： $6^{\prime \prime}$ overall．

No． 978

## HEXY－SQUARE ALIGNER



All bone fibre iron core aligning tool especially desimned for Raytheon－Ikelmont If trankforti－ ers and similar type transformers， $6^{\prime \prime}$ shatit has is $^{\prime \prime}$ diam．； $3 / 32^{\prime \prime}$ hex one end； $1 / 8 "$ stutarn other end．
No． 6171
Dealer Cost $\$ .75$

## HEX－ALIGNER

（O）
All lane fibse irut core aligning tool．Hath $3 / 32^{\prime \prime}$ hex one end； $1 / 8^{\prime \prime}$ hex other entl．Fs－ pecially desirned for Dumont，Raytheor－ ikelmont receivers and other sets，using simi－ lar type iron cores．Slaft $6^{\prime \prime}$ long；${ }^{3}{ }^{\prime \prime \prime}$ diam． No． 6199

Dealer Cost \＄．83

## ALL－PURPOSE ALIGNER



Bome filme serew driver ands ant in red turit handle．Overall lemyth $6^{\prime \prime}$ ；blade width ：＂ （ip）thickness $1 / 64^{\prime \prime}$ ．Desirned for gramal alimning purposes for Motorola and other popular receivers．
No． 6248
Dealer Cost $\$ 0.50$

DUAL BLADED＂KLEER＂ALIGNER

 Two corrosion－pronf extended bladres（Gove ＂splec＂plated nilis）—one thickness ． 018 ＂，the other ． 025 ＂．Deximed specifically for ARC－27 int excellont for television and gemeral align－ ing purposes．
No． 6247
Dealer Cost $\$ .73$

INSULINE TEST LEADS FOR ALL PURPOSES

ALL．PURPOSE TEST LEAD KIt
Complete For Every Testing Need
 ＂ira：Oree eth han insil lated rentorathe banatat tyru plugs．
till－tuthal in this tuat lift： 1 fur．all－jumgusis tesit
1 ｜ra．insulatud abliegator
 No．Est．
1 H5，insulated sipanle
hus－rod amd blatel No，\＆s7．
pr．insulated sumethe points－rid and bath No． 58 si ．
No．1005－Kil．（＇）！川！lele Dir．Cost $\$ 1.50$
ALLIGATOR CLIP TEST LEADS

 andent binhlese wirn is evtromely ile－vibu


| No， | Length Wire | Dealer Cost |
| :---: | :---: | :---: |
| 486 | $1 u^{\prime \prime}$ | $\$ .51$ |
| 487 | $\because 4^{\prime \prime}$ | .57 |
| 488 | $3 i^{\prime \prime}$ | .66 |
| 489 | $18^{\prime \prime}$ | .72 |

DE LUXE PHONO NEEDLE TEST LEADS


Finger－Griu Mulded Tios


 ＂Home No． 373.
．Dealer Cost \＄1．35

## NEW SLIM－LINE TEST LEADS

 मermite uruhing in elosely thet ritruits shout fear of shombing．Bhack and real Cr＂मitr h．untles．fx＂wire leat．With tombleal shone


No．
Dir．Cost
434
Dir．Cost
$\$ 1.05 \mathrm{pr}$.

EXTRA LONG HANDLED TEST LEADS


Features spuri：al low－loss hiohly palishod hame rubs． ther．hish di－uldutice prop． － 1 ties． $\mathbf{s}^{\prime \prime}$ prow hamiles－ with sharp pminted punt ratims tipes－for tasion testine of less acressible posints．Thu black and real hinhlesw wipe leals meatime
 hathere pheme tip fhes．

Nu． 329
Dealer Cost \＄2．25

## －CLIP－ON＇• TEST LEADS

A mameniont＂（Plip．on＂ test leate that itwelultes phome tip pluse on onterent sturdy alligator elips on other ental．The red and hack kinklebs wire leats measure $4 s^{\prime \prime}$ ．The black and rat molded phane pluys are of the gumbandle tym．

No． 328
Dealer Cost $\$ 1.20$

## HEAVY DUTY <br> ＇CLIP－ON＇．TEST LEADS

Haseby duty test learls of the＂eljp－ill＂tsper for uss woth bithaner font fype ist situtuents．Includes a hesayy
 maldatoti spate terminal Whath will jit rereyn or hitulime posta＂p to re in diamutor－＇Tho aturdy hat－



 lo：al with tento imsulationt．

No． 327
Dealer Cost $\$ 1.20$


HEAVY DUTY LABORA． TORY TEST LEADS Long Stim Handles and Memovable Phono Needlo Chuck
Fxtra luag slim reil and
hiank handes knurled at

 thathter $b^{\prime \prime}$ lonk．$\$ x^{\prime \prime}$
wo hataty dous lifakless． finsible rubler wite．
 fou－With kburlod tily Hamile．Insulated $\$ 1.20$ 388 －With alligatur aliu ．．．．．．．．．．．．．．．．． 1.13

## nON－KINK fLEXIBLE TEST LEAD WIRE

Fhasithe ratidere cowned whe that will mut kink or wear dewn in service．C＇onsists of wery fint limmed atranded cob－ on＇r wire with a heary walt of libe zubber issulatlon．

No．3J7－100（t．Sywol，Mlarlk ．．．．Dir．Cost $\$ 3.35$ No．309－100 『t．spuol．Red．．．．．．Dir．Cost 3.35
 burs. Hamders bave threaded over blano nerentur flmeks.
No. 304
Dealer Cost $\$ 1.65$

## PHONO-NEEDLE POINT TEST LEADS

With Slim Handles and Ftexible Wire
 4" lons.

No.
DIr. Cost
382-With Phone Tips....\$.73

## HEAVY DUTY TEST LEADS

 Insulated to withstind 10,000 volis $12.4^{\circ}$. Thirk Wathed bakilite landes with finger guarals, $4 \mathbf{N}^{\circ}$ heary duty cable.


No. 4317...................Dealer Cost $\$ 3$ per pair

## UNBREAKABLE TEST LEADS

Long Metal Prod with Shock-proof Rubber Handles
One entid hans noint tips. Other end has Insulated solcunfilit winti t $8^{\prime \prime}$ Kinkiess IGubher Wire.
No. 332-With Thone Tins Non inseliuted.


Notialed Koliterless IJui Eides. Dir. Cost $\$ .84$

## RF AND SIGNAL

Germanium Crystal Circlit. Asaures accurate cuif Asaures accurate anaysis of circuit defects. amy he used with audio amplitier for audible trac* inf or with for for RF and AF measure-
 ments, Low input capacitance. The ideal prohe for the audio section of television circuita. The aturdy hakelite barrel has sealed tenite cuds with solderless phone tip and includes $48^{\prime \prime}$ R(t5:)/D coaxial cable with phons plug and $1 \AA^{*}$ ruhber covered ground lead with glligator clip.

## No. 4310

Dealer Cost $\$ 3.75$

## ALL-PURPOSE TEST LEADS



With Interchangeable Tips
Nin, aturdy phastic mandles are $6^{\prime \prime \prime} \operatorname{long}(5 \mathrm{~K}$ worall lemgtil) equipurd with khary point whometifew wheh ft all stambard jacks. Other and of $4 \star^{\prime \prime}$ kinkless rubher covered lead has eplit banana phas-allowing for interchames of erpade hage, phoge tijs or alligator elips whirh ar* supplied.
No. 312-C'omplete $k$ it
DIr. Cost \$1.60


Similar to No, 312 mbove rxerpt handley are equipled with remutatple phomo merdle chackis. No. 311-Complete Hit.............Dif. Cost \$1.80

## MAGNE-LEAD

 A unighe terit lead bet thatfriatures ad ladid with math. 1riftures ad latil with mak
net on cha emd that may her on come whd that may

 Hazt for thtick. Aimple tekt itas. Inchudess sill of inter day covered wire: overall l,ayurth of hamdle :overal

Deater Cost $\$ 1.60$
No. 478

## ICA "'100 X'" MULTIPLIER PROBE

A mow 30 KV to 50 KV Mulifilier Probe (lnternat resimance 1090 mergohmst. For ALL 10 to 11 megolim input instraments.

This vitill probe will mulfiyly existing meter rancra by a factur of 100 ; lhus, if lue top ranme of the instrumernt is 300 volts meter will read 30,000 volts with prole. If top ranue is 500 voltis meter with probe will read 50,000 volts.


No. 6222-With mirrophone type connecotor and gronnd tead...DIf. Cost $\$ 6.50$ Insuline Cerporation of America has been the leading maker of tast laads and probes (standard and npecial typexs for 32 years. Standard leadn are listed hermin. Special type made on order.

INSULINE TEST PRODS
ICA LUCITE PROD SET
with BRASS THREADED INSERT
besignel tur frecision meashmements where bots is a tactor. Hed and black Jandle (measuring $?^{7 \prime \prime} \times 5^{\prime \prime} I_{\text {. }}$ ) are made of low loss hirlh-dielectric strengeth I.t"CITE. ILas meedle chancks on trous. sat includis one biack and one red prod. Overall length: $57 /{ }^{\circ}=$
No. 302
Dealer Cost \$0.90 Set

## ICA SOLDERLESS PLUG TEST PRODS With Solderless Plug Chuck

Slim tapped Tenite handles in black or red, threaded to take the solilerless plug chuck. All brass parts are nickel plated. Available in two sizes. Overall length $51 / 4^{\prime \prime}$.
No. 390R-Med
Dir. Cost $\$ 0.27$
No. 390B-Hlack
Dir. Cost 27

## ICA FENOLINE PHONO. NEEDLE <br> POINT TEST PRODS

With Removable Chuck

Supplied in black or red Tenite tapped handles. Needle point chuck is tapped to screw into handle. Overall length $5 \frac{1}{4}$ "
No. 389R—Hidl
DIf. Cost $\$ 0.27$
No. 389 B -Black
Dir. Cost $\$ 27$

ICA HEAVY-DUTY TEST PRODS


Slim tapped Tenite handle fitted with threaded heary-duty phone tip. Lengtn $5^{\prime \prime}$.
No. $387 \mathrm{R}-\mathrm{R}+\mathrm{d}$
Dealer Cost \$ . 30

No. 387B-Black
Dealer Cost
.30

## HIGH VOLTAGE ICA HEAVY-DUTY BAKELITE TEST PROD HANDLES



High Voltage, 10,000 Volts IIas midret threaded phone tip. Ideal for all high voltage work. Made of black bakelite with finger guard ring. Minimum amount of metal exposed. Prods are $6^{\circ}$ long overall. Csed for high voltage test purposes.
No. 480
Dealer Cost $\$ .72$

HIGH VOLTAGE HEAVY-DUTY EAKELITE TEST PRODS


High Voltage, 10,000 Volts Made of black bakelite. Fully insulated with threaded midget sharp pointed phone tips. Minimum amount of metal exposed. Measures $2^{\prime \prime}$ overall. Exposed metal tip is only $1 / 2^{\prime \prime}$ long. No. 485 . $\qquad$ ..Dealer Cost $\$ .42$

## REPLACEMENT AND INSTRUMENT KNOBS

Insuline provides a varied line of bakelite knobs for radio．tolevision． and instrumentation needs．All knobs fit stamdard $1 / 4^{\prime \prime}$ shaft．Equipped witll set serews．


J

| No． | Tyoo | Color | Size | Dir．Cost |
| :---: | :---: | :---: | :---: | :---: |
| 248 | ． | 131ack | $1^{1 / *}$ | \＄23．00C |
| 249 | J | 13lack | $1{ }^{\prime} \times$ | 24．30C |
| 1174 | M | 3lack | 1，$\frac{1}{1}$＂＊ | 16.67 C |



TYPE A－WITH POINTER
No． $1166-1 / 1 / 8$ $\qquad$ Dealer Cost 5.40
No． 1168 － $1 \%$＂ $\qquad$ Dealer Cost .55

No．1170－2 $\%$＂ $\qquad$ Dealer Cost 70

## TYPE A－LESS POINTER

No． $1165-1 /{ }^{\prime \prime}$ $\qquad$ Dealer Cost $\$ .32$
No． $1167-18$ 每＂ $\qquad$ Dealer Cost .38 No．1169－2\％＂ Dealer Cnst ． 55

TYPE B－WITH FLANGE
No．1171－2 ${ }^{18 \prime}$
Dealer Cnst $\$ .55$
No．1172－3＂
．Dealer Cost ． 65
NOTE：Abore Knobs also furnished with 2 set screws．Order by adding＂s＂to each number．

ECONOMY KNOB ASSORTMENT


An assortment containing 50 knobs packed in attractive convenient plastic bag．Includes a variety of all－purpose modern bakelite knobs equipped with set screw．Suitable for many applications．

No． 1064
Dir，Cost $\$ 3.50$


A

| No． | Tyoc | Color | Size | Dir．Cost |
| :---: | :---: | :---: | :---: | :---: |
| 1125 | 1 | Black | $11 /{ }^{\prime \prime}$ | \＄13．33r |
| 1126 | 13 | 187ark | －＂ | 16.67 C |
| 1153 | E | 137ark | 1 每＂ | 24．90C |

2600 －
Prolits
2601－
＇romp
2602－i Prons
2604－i Prous，small
26
ti：hes 26
2636－Contart for above Sockets．．．．．．．．\＄2．75C
ICA＂INSULEX＇＂WAFER SOCKETS


Hosighed for ulta high frepueney remption Made of lusulex－a low lesg reramic comb pound．Features include：large eclf－wipint contacte of radmium plated phosphor bronze； Eumeital circular grooses for easy tube insert．
 ing．＂．For bithor hase loard or sub－pancel mount iner．

No．

ICA CHROME SILVER DIAL PLATES
Attractive grain satin finish．Blark
Eitrhe Engraving on Clirome Silver


ICA ETCHED DIAL PLATES
RECTANGULAR TYPES
Made of brass－finished in black with ctched sllver markings，Calibrated ror 300 degree rotation．Marked o to 10．Will fit on $\%$＂hushing． Size $21 / "^{\prime \prime}=1-11 / 16^{\prime \prime}$ ．
No．Marking DIr．Cost 2244－liecord ．．．．$\$ 21.66 \mathrm{C}$ 2245 －Wlicrophonc．$\quad 21.66 \mathrm{C}$
2246 － 2248 －Plain（Calibrated but not worted）．． 521.66 C ICA BASE－MOUNTING BAKELITE SOCKETS


Cost
.24

## DIAL PLATES

ICA CHROME SILVER DIAL PLATES



| No． | Degrees | $\begin{aligned} & \text { Dia. } \\ & \text { Dial } \end{aligned}$ | Calih． |
| :---: | :---: | :---: | :---: |
| 2196 | 3：\％ | 23，${ }^{\text {a }}$ | （1）－110 |
| 2197 | 181 | －14＂ | （1）－111） |
| 2194 | 3 | 4＂ | 11－1110 |
| 2195 | 1＊0 | $4 "$ | 1）． 1110 |

ICA BRASS BLACK SATIN FINISH
DIAL PLATES
With Etched Silver Numerals


|  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| No． | Degrees | Dia． <br> Dial | Calib． | Cir |
| 2230 | ：3ざ | ：31／＂ | 11．［1111 | \＄．47 |
| 2232 | ｜x｜1 | 31／2＂ | $11-1111$ | ． 47 |
| 2233 | 12：1 | «＂ | 16110 | 37 |
| 2234 | 33 | －＂ | （1） 1111 | 37 |
| 2236 | 151 | ＂＇ | 11．1111 | ． 37 |

ICA CHROME SILVER DIALS
－With Finger Grip Flange Knobs
krautiful dial plates aworatry Eiteho－c－1mprat foll with black mmer－ als and ralitrations．



## TOGGLE SWITCHES ．．．KNIFE SWITCHES ．．．SLIDER SWITCHES



| No． | Description | Dir．Cost | No． | Description | Dir．Cost |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1216 | 心．1．s．T． | \＄． 55 | 1220 |  | \＄1．33 |
| 1217 | 心．1．1）＇T． | ． 60 | 1221 | $4 \mathrm{l}^{2} \mathrm{sit}$ | 1.67 |
| 1218 | D．J．s．T． | ． 75 | 1222 | 1 1．D．${ }^{\text {dr }}$ | 2.00 |
| 1219 | 1）．1．1）． T ． | ． 90 | 1364 |  | 2.35 |
| 1360 | ：P＇s．T． | 1.23 |  |  |  |

ICA PORCELAIN KNIFE SWITCHES
Masture－prooi hase，Remornmentud for outroner use llariluare of lu：ass，lewavily nicked platad

## ICA BAKELITE KNIFE SWITCHES

Hardware of brass，heavily nickelflated．Mounted
 contact assured．


## MINIATURE BAKELITE SWITCHES

（an lue mommed on panel or busp．Islarle bakelite base－highly nickeloplated brase parts with insu－ laterl handlow

| No． | Description | Base Size |
| :---: | :---: | :---: |
| 2223 | s．Ps．t． | $11 / 4{ }^{1 / 3}$ |
| 2224 | s．r．b．＇ | $11^{\prime \prime} \mathrm{x}^{1}$ |
| 2225 | 1）P．U．T | $1{ }^{1+4} \times 1$＂ |
| 2226 | D．I＇S．T | 114＂x1＂ |
| GT AND GT／G TYPE TUBE SHIELDS |  |  |
|  | latest thpe seambers，drawn sheld The．Ferneth $91 / 4$＂． |  |
|  | No． Dir．Cost <br> 1744 －npen iop： $\$ 10.00 \mathrm{C}$ |  |
|  | 1745 Por tube diaim． $1.21 \mathrm{Cl}^{\prime \prime} 10.00 \mathrm{C}$ |  |
|  | For tube diam．1．21＂ 10.00 C |  |
|  | 1746 For On To！${ }^{* *} 10.00 \mathrm{C}$ |  |
|  | $1747 \rightarrow$ Closed toy ${ }^{-1}+10.00 \mathrm{C}$ |  |

＊For git and GT G whey with large metal hase．
＊For Git tuhes with small metal base
＋Hor looktal tubes．

## ICA COIL SHIELDS

With Detachable Base
A sturdy coil shith made of alumi num with a detachable buse． No．

Dealer Cost




BAT．HANDLE TOGGLE SWITCH
Wal his H A H．Itcmiak to to st witu ins listed at leth racept th hembere is somp
hiowtall last
loce－ent athl git illab

$\qquad$

BAT HANDLE DOUBLE THROW SWITCH

statdy double theow hest fish athe to ale switha matuitu bell
 Han Hatly tlees．T＇c athetrellations：Iur tallrast，ot


Dealer Cost
 1357 －－D unble I＇ole Double＇Thaw

Rated A Ampe ica rotary switches
d．s If \＆If for ir 1 ．I＇nderwriters approved．

|  | No． | Threaded Shank | Description | Dealer Cost |
| :---: | :---: | :---: | :---: | :---: |
|  | 1223 |  | $\therefore \mathrm{F} \times 1$ | \＄ 86 |
|  | 1229 | $1 "$ | s．1＇s．＇ | ． 59 |
| $\cdots$ | 1286 | ，${ }^{3}$ | s．1＇．1）I | ． 99 |
|  | $12{ }^{\circ} 7$ |  | ＊1119 | ． 99 |
|  | 1288 | \％＂ | 11．8．1．＇10 | 1.32 1.65 |
|  |  |  | 1．1．0． | 1.65 |

ICA HI．POWER SWITCH


Button Type
mary circuil wheak pri． mary circuil whert rack
door is operi，D．P．S．T Made by II \＆It for ICA．Caparity $1:$ Amp． 1 12．Caparity 12 Amp． $123^{\prime}$＂olt．Onerall size v＂high， $7 / 10^{\prime \prime}$ shank No．1250 Dealer Cost \＄2．11

## ICA EXTRA HEAVY DUTY SWITCH

An extra laree hears durs Double Pole Donthe
 ase in heab current circuits auch is trumbitter， ower amplifies motor ate Gontact bive fast oner amplifiers，motors，ete．Contamt have fast ICA PUSH－BUTTON SWITCH Sirgle pole 2 circuit momentury switch．Oue rircuit is＂usi＂：other normully＂ofF．＂Ome Amp．．125 Folt，utath by II א 11 for 16 A
Shanh＂s＂lohy
No． 1282 Dealer Cost $\$ 1.16$
 2．）Volts．Size of switeh at 10 Amps．，12．j Volts．Size of switch case，2！＂long， 1 ＂high， 1 \％＂ wide．Mounting sleeve diameter 9 ． No． 1283

Dealer Cost $\$ 4.52$

|  | ＂ON－OFF＇＇PLATE <br> For Toggle Switch <br>  | ICA POWER SWITCH （Toggle Type） <br> Characterivtics and di－ mensions same ：a No． $12 R 0$ described ahove． No． 1281 <br> Dealer Cost $\$ 1.23$ |
| :---: | :---: | :---: |

ICA ROTARY CANOPY SWITCH
singl．Liole switch shank with brown bakelite koth and $i^{\prime \prime}$ leads－1 ampere－ 050 volt 4 ． No． 1257

Deater Cost \＄ 51


ICA B07 TUBE SHIELD


FORN FIT TUBE SHIELDS
A tule shieht that asaures a snug． gusitive fit．Vertical grooves pro． vide thexhilty．Italtudes ground clip as illuatrated．Protecta tubos

No． 17278 —For Gr GT G and I foktal tubez I．thith g1／4＂Dealer Cost \＄10．00C

No． $2729 B$－－For OT and OT＇0 tubes．
L．engill 23
Deater Cost 10.00 C
ICA CRID CAP SHIELDS
（For Metal Tubes）


For miniature tubes with Tfl／
bulbs．Incluiles base clip．
 clip）＂／8＂wor standard miniature tubers
No． 1735 ．．．．．．．．．．Dealer Cost $\$ 10.00 \mathrm{C}$


## ALUMINUM TUBE SHIELD

## with Detachable Base

Will fit on all standaril Serem Grid Tuhes，supplied with hast Measures 2 危＂diametur $\times 310$ high．
No． 1541
Dealer Cost \＄． 24

## INSULINE COILS ... COIL FORMS

## SHORT-WAVE AND BROADCAST PLUG-IN COILS



4 Prongs. . . 2 Windings
Wount on Low Loss Bakelite Forms, Diam, $11 /{ }^{\prime \prime}$ : heitht $21 / 4{ }^{\prime \prime}$. Itim handle for vasy chancing. Iniformly spaced winding. istd with either 140 or 150 mmfd . tuning romidenser

Dealer Cost
1471 —irt of 4 sloort wave coilg-from :1/2 to 217 Motors $\$ 2.25$



## ICA SMALL BAKELITE COIL FORMS

Equipued with special rim on top making it easy (o insert arm pall ont of socket. Black Bakebite. to insert amd phll ont of socke
liadge is arroowed for color coding.

No.
Dealer Cost
1108B-4.prong
$1113 \mathrm{~B}-5 \cdot \mathrm{Jrong}$
$1114 \mathrm{~B}-6 \cdot \mathrm{l}$ 'rong
$\$ .35$
.37

## INSULINE CHOKES

## INSULEX R.F. CHOKE COIL

 surefons wach universally wommel spacial on an lusulex form. [hesigued manerially for high frequence reconivors
L.ow distributorl rapacity. suphlied with wire lod for mosuthing. Mas be momoted in grid leak elipe.


## ICA MIDGET PRECISION CONDENSERS



Better merhanical desimn insures constancer of calitration and unifomity hetwe+n units.
 hrass surimars make direct contact with rotor hrat sumar wipiner rontact at all ham. insurum a cose wimmer contact at all times.

SINGLE GANG CONDENSER
No.
Dealer Cost
533-135 mmfi

## TWO GANG CONDENSER <br> THREE GANG CONDENSER

538-135 mmil.
$\$ 2.58$
538-13: mmil...... \$2.58 532-13i innifl. \$3.25

## SUPERHETERODYNE TYPE

Desirned for $45 \% \mathrm{KC}$ IF. RF section is 27 plates; 435 mmfd . facil. lator Section is 19 plates; 173 mmfol .

Overall Wirlth: 113"
Overall Heright: $\mathbf{Q}^{\prime \prime}$
(Nerall Lengeth: 3 fés
Dealer Cost $\$ 2.58$

## ICA CERAMIC PADDING CONDENSERS



Compact, yet rugred Padding Condensers. Desiened for aligning tandem condensers, short wave band switch coile, antenua trimmers, etc. Vets hiph impul. Mira and Phosphor Bronze Spring rontacts.

| No. | Min. Cap. | Max. Cap. | Dealer Cost |
| ---: | ---: | ---: | :---: |
| 611 | 4.0 mmfd. | 40 mmfd. | $\$ .37$ |
| 612 | 12.0 mmid. | 100 mmfd. | .37 |
| 613 | 70.0 mmid. | 350 mmfd. | .40 |
| 614 | 160.0 mmfd. | 500 mmfd. | .40 |

## ICA BAKELITE BASE FUSE MOUNTINGS FOR 3 AG TYPE FUSES Flush Type Mounting



No. 2340 —ingle Pole Dealer Cost $\$ 13.33 \mathrm{C}$ No. 7201 -imoute Pole


Panel Type Mounting Equipled with 0.32 mounting screws.

No. 2341 --indr Pole
No. 7203 -lrouhle Pold
No. 7203 - lronthle P'
Dealer Cost $\$ 27$


FOR 8 AG TYPE FUSES

| FLUSH MOUNT |  | PANEL MOUNT |  |
| :---: | :---: | :---: | :---: |
| No. | Dealer Cost | No. | Dealer Cost |
| 7202 -single fole | \$11.66C | 7205 -sinme Joole | \$15.00C |
| 7204-buuble Pole | 21.66C | 7206-bundle Jole | 15.00C |



## MIDGET FUSE CLIPS

(For $1 / 4$ " Glass Fuses)
Packerd 100 to Package
$\left.\begin{array}{ccc}\begin{array}{c}\text { Bulk } \\ \text { Cat. No. } \\ 5681\end{array} & \begin{array}{c}\text { Height } \\ 10^{\prime \prime}\end{array} & \begin{array}{c}\text { Length } \\ 1 / 4^{\prime \prime}\end{array}\end{array} \begin{array}{c}\text { Bulk } \\ \text { Deaier Cost } \\ \$ 15.00 \mathrm{M}\end{array}\right)$



PRE-WIRED JUMBO FUSE HOLDER
snitalde for 3 A.A. 20
 ths. Viliminat, wors.
 No. 2368

Dealer Cost \$. 27


1 furpular. warlaly Haerl abotomb


No.
Dealer Cost
2347

MOTOROLA PLUG \& JACK


[^67]2378-Mntortis Shimpleal
375 .lat ….......... $\$ 13.33 \mathrm{C}$
2375- Masorola Pin



## ICA TERMINAL SIRIPS

Specially suited for amplifiprs, mixers. receriers, etc. Made of $1 / \mathbf{B}^{\prime \prime}$ heary blach bakelite, engraved in white 'leminais are brass radmium plated.


| Mig. Ctrs. |  | Size | Dealer Cost |
| :---: | :---: | :---: | :---: |
| 1112 | 7/8 | x : | \$13.35C |
| $11 / 2$ |  |  | 13.35 C |
| $11 / 2$ |  |  | 13.35C |
| $11 / 2$ |  |  | 13.35 C |
| 2 | 7/8 | $\times 21 / 4$ | 18.33C |
| 2 |  |  | 20.00C |
| $21 / 2$ | 7/8 | x 3 | 23.32 C |
| $21 / 2$ |  |  | . 25 |
| 3 | 7/8 | $\times 31 / 2$ | . 28 |
| 3 |  |  | . 32 |
| $31 / 2$ | \%/8 | x 4 | . 34 |
| $31 / 2$ |  |  | . 40 |
| 4 | 7/8 | x $41 / 2$ | . 42 |
| 4 |  |  | . 45 |
| $41 / 2$ | 7/8 | $\times 5$ | . 47 |
| $41 / 2$ |  |  | . 52 |
| 5 | 7/8 | x $51 / 2$ | . 52 |
| 5 |  |  | . 57 |
| $51 / 2$ | 7/8 | $\times 6$ | . 57 |
| $51 / 2$ |  |  | . 63 |


| BAKELITE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mounting tie strips for fastening Resistors. Condensers, etc. Mountint Lum hole dian meter . $140^{\prime \prime}$. Type A slows non-ground mounting lug. Type B shaws combination grounding-mounting lug: |  |  | $\begin{aligned} & \pi \pi \\ & \text { Type } 8 \end{aligned}$ |
| No. | Type | Terminals | MLg. Cen:ers | Mounting Lugs | Dealer Cost |
| 2434 | A | 1 |  | 1 | \$1.65C |
| 2455 | B | 1 | Ore | 1 | 1.74 C |
| 2435 | A | 2 | \} Hule | 1 | 2.10 C |
| 2456 | B | 2 | J | 1 | 2.10 C |
| 2436 | A | 3 | 118 | 2 | 3.45 C |
| 2457 | B | 3 | 11 \% | 2 | 3.45 C |
| 2437 | A | 4 | $17 / 3$ | 2 | 4.50 C |
| 2458 | B | 4 | 17 | 2 | 4.50 C |
| 2438 | A | 5 | $21 / 4$ | 2 | 4.95 C |
| 2459 | B | 5 | $2{ }_{1}^{1 / 4}$ | 2 | 4.95C |
| 2439 | A | 6 | 173 | 2 | 6.80 C |
| 2460 | B | 6 | 11.2 | 2 | 6.80C |
| 2440 | A | 7 | 1 \% | 2 | 7.400 |
| 2461 | B | 7 | 13 | 2 | 7.40 C |
| 2441 | A | 8 | 17 | 2 | 8.10 C |
| 2462 | B | 8 | 173 | 2 | 8.100 |



## SPECIFICATION TERMINAL STRIPS

Special type terminal strips with terminals in any required posi tion, includine offset liracket type. Made to specifications. send us sour firint.

## baKElite terminal strips




TWIN JACK STRIP
With two terminals. Takes standard phone tips; Base width tb" $^{\prime \prime}$ 1 1 " ${ }^{\prime \prime}$ between Mounting holes.
No. 2443
Dealer Cost \$15.00C


Terminal Strip Offset Mounting Bracket and Lug Combination

For stordy mountimis of refmiluil stribs. Attords sulder romection lur
ground Alowntiag hole for No, i: gromid slownting hole for No. i;

DIr Cost 1.500 ?



## ICA BAKELITE FLEXIBLE SHAFT COUPLING

Flexilbe blospher bonze spring con tact mombed on a round lakelite dise． $11 /$＂$^{\prime \prime}$ diam．Has 1／4＂hushing．

No． 2142 $\qquad$ Dealer Cost \＄．

## ICA INSULEX FLEXIBLE SHAFT COUPLING

Flexilile phosphos bramze sirines con－ tact．Mounted on Insulex dise for etlicient low－hoss conpling． 1 1／8＂diam． 1／4＂bushinn．
No． 2143.
Dealer Cost \＄． 58



| No． | Hole Size | Dealer Cost |
| :--- | :---: | ---: |
| 606 | $17 \prime$ | $\$ 10.00 \mathrm{C}$ |
| 607 | $47^{\prime \prime}$ | 10.00 C |
| 608 | $16^{\prime \prime}$ | 11.66 C |

## BAKELITE BUSHINGS

Mollied hakelite hushinge for complete insulation．Strones stamless throabs． Heat resisting to $300^{\circ} \mathrm{F}$ ．Completo with stamped lock mots．

## ICA INSULATED BUSHINGS

Equipped with kmurled nut that can be tightened easils．Leed as insulated frommet on condenser thafts，pancl beariner，eto．

> No. Hole Size 609 $\begin{gathered}1_{6}^{\prime \prime}\end{gathered}$ $\begin{gathered}\text { Dealer Cost } \\ 610 \text { (liwo } \\ \text { holes) }\end{gathered}$ $\$ 11.68 \mathrm{C}$ $3^{7}{ }^{\prime \prime}$

No．
670－BJack， $1 / 8^{\prime \prime}$ Hole，$x^{\prime \prime}$ Hiann．se＂Longr
Dealer Cost $\$ 13.33 \mathrm{C}$
 13.33 C
 16.68 C


## ICA PANEL BEARING ASSEMBLY

Can be used with either rigid or flexible． complimes for momatiur volume controls． combensers，atce，at a distance away from the panel．Will tit on panels up to fo＂ thirkness．
No．1248－Overall Jength $3^{\prime \prime}$ $\qquad$ Dealer Cost \＄． 30
No．1249－Overall lequth fo＇$^{\prime \prime}$ ． Dealer Cost ． 35

## UNIVERSAL PANEL BEARING

Desipued to accommodate $1 /{ }^{\prime \prime}$ shaft wherever a panel bushing is desired．Furnishod with mut and insulating waslers．

No． 1250
Dealer Cost $\$ 15.00 \mathrm{C}$


## ALUMINUM IDLER PULLEYS



## VULCANIZED FIBRE TUBING



Has low rlectrieal alssontion； hithls rosistant la monstmer Righidalstamly．Readily tormed．
 lions．Blach tinish．Frull lollollos


| No． | Size 0．D． | DIr．Cost Perft． | No． | Size 0．D． | Dir．Cost Perft． |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 161 | 1／4＂ | \＄． 67 | 136 | $11 / 2$ | \＄1．09 |
| 162 | 3s＂ | ． 72 | 137 | 13 ＂ | 1.23 |
| 163 | 7\％ | ． 81 | 138 | $3^{\prime \prime}$ | 1.35 |
| 164 | 1／2＂ | ． 84 | 139 | \％1／＂ | 1.46 |
| 165 | 啝＂ | ． 89 | 140 | ＂1／1＂ | 1.61 |
| 166 | 3＂ | ． 90 | 141 | 23／4＂ | 1.92 |
| 167 | 7＂ | 1.00 | 142 | $3^{\prime \prime}$ | 2.10 |
| 134 | 1＂ | ． 90 | 143 | $31 / 4$ | 2.27 |
| 135 | I $1 / 4{ }^{\prime \prime}$ | 1.07 | 144 | $31 / 2$ | 2.67 |

## SPECIAL LENGTH BAKELITE TUBING

Cut to Order－Wall Thickness to $1 / 16^{\prime \prime}$



## ICA SPAGHETTI TUBING

For No． 10 to No．Is ganure wire．Guaranteed not to crack．Fimmished in $30^{\prime \prime}$ prontle．
No．Color

$182-$ Red | Dealer Cost |
| :---: |
| per length |


| 200－$k \cdot 1$ | \＄10．00C |
| :---: | :---: |
| 201－Vi•llow | 10.00 C |
| 202－13lark | 10．00C |

## LARGE SIZE SPAGHETTI TUEING



Dealer Cost ．\＄． 34

## ICA GIANT SLEEVING

 diamotor $3 / \mathbf{y}^{\prime \prime}$ ．For Insulating Reristors，sinall conlomsers，Wire

No． 198
Dealer Cost \＄． 34


## FLEXIBLE SPAGHETTI TUBING

I hiarh arado vingl phastia fulatar in varjons molos．Will aceommodate from Xir， 10 to Xo．
 fout loner an hamdy spools．

| No．Color | Dealer Cost per Spool |
| :---: | :---: |
| $210-\mathrm{RmI}$ | \＄． 84 |
| 211 －V4．low | ． 84 |
| 212 －保口以＂ | ． 84 |
| 213－6mण！ | ． 84 |
| 214－H1ack | ． 84 |
| Aln |  |
| No． 197 | pool \＄19．16 |

PHENOLIC INSULATED GRID CAPS
Improwed tybe for standard and transmitting tubes．Sturdy cald．
 with 10 ＂wire．
For 866 Transmitting Tubes No．683－13luek Dealer Cost $\$ .42$


For Standard Glass Receiving Tubes with small caps
No．680－lied ．．．．．．．Dealer Cost $\$ 20.00 \mathrm{C}$ No．681－－M1ack Dealer Cost 20．00C

## Arallo

INSULATED AND BRASS SPACERS AND BUSHINGS
Used for raising sub panels，chassis，con－
 amel lahoritumy use

| No． | Mode of High Quality Brass |  |  |
| :---: | :---: | :---: | :---: |
|  | Diameter | Length | Dealer Cosi per C |
| 5760 | 1／4＂ | $1 / 4^{\prime \prime}$ | \＄4．00 |
| 5761 | $1 /{ }^{\prime \prime}$ | \％＂ | 4.83 |
| 5762 | 1／4＂ | 1／2 | 5.66 |
| 5763 |  | $3{ }^{3} 1$ | 6.58 |
| 5767 | $1 / 4$ | 1＂ | 7.50 |
| 5764 | 38＂ | 1／4＂ | 5.83 |
| 5765 | $3{ }^{1 / 1}$ | $1 / 2^{\prime \prime}$ | 6.66 |
| 5766 | 3／8 | 3／1＂ | 7.92 |
| 5768 | 3／8＂ | 1 ＂ | 10.83 |
|  | Made of Quality Insulation |  |  |
| 5775 | $1 / 4$＂ | 1／4＂ | 3.50 |
| 5776 | 1／1＂ | 3\％＂ | 4.00 |
| 5777 | 1／4＇ | $1 /{ }^{\prime \prime}$ | 4.50 |
| 5778 | 1／4＂ | 3／4＂ | 5.50 |
| 5782 | 1／4＇ | $1 "$ | 6.50 |
| 5779 | \％ | $1 / 4$ | 4.00 |
| 5780 | \％＂ | 1／2＂ | 5.00 |
| 5781 | 3／1＂ | \％／${ }^{\prime \prime}$ | 6.00 |
| 5783 | \％＂ | $1 "$ | 7.50 |
| Threaded Brass Bushings－1／4＂Diameter |  |  |  |
| 5785 | for 6／32 screw | 1／4＂ | 4.83 |
| 5786 | －＊ | 3／8＇ | 5.66 |
| 5787 | ＂ | $1 /{ }^{\prime \prime}$ | 6.66 |
| 5788 | ＇ | 941 | 7.50 |
| 5794 | ＂ | 1＂ | 8.35 |
| 5790 | for 8／32 screw | $1 / 4^{\prime \prime}$ | 5.50 |
| 5791 |  | \％＂ | 6.50 |
| 5792 | ، | 1／2＂ | 7.50 |
| 5795 | ＂ | $1 "$ | 9.16 |

SPACER \＆BUSHING ASSORTMENTS
Brass and Insulated


Asartmant of $2 \boldsymbol{5}$ spacers and hashinura in then \＆$\%$ ．biamelors from $1 / 2$ to $3 \%$ ．loleal for No．Diblids．Chassis．cte．Deger Cost No．Dealer Cost 260－Insulated Assurtment ．．．．．．．．．．．．．．．$\$ 1.50$ 261－Brass Asmorlmunt 1.50 5262 Threaded Brass Bushing Assortments 5262－10 Assorted Brass bushings． Threaded for $6 / 32$ from $1 / /^{\prime \prime}$ to 1.50 5263－16 Assorted IBrass bushings． Threaded for $8 / 32$ from $1 / 4$＂to at＂lenghls



For Transmitting Tubes
New improved type．Insulation made of special soft rubher over spring bronze．

For 866 Type Tubes
No．
870 －With I．efuls Dealer Cost


SHAFT COUPLINGS AND EXTENSION RODS
To ineroaso lengtis of shafts of different diamelers．In twa thpes－bras ．．．Idamolic． Brass Couplings and Reducers Ni．Length Hole O．D．Dir．Cost 2105 3／4 $1 / 4{ }^{\circ}$ coupler i＂$\$ 15.00 \mathrm{C}$






Insulating Phenolic Couplings and Reducers
No．Length Hole O．D．Dir．Cost




Long Extension Couplings
ifade of lirass with extrat longe extomsion．
Na．Length I．D．O．D．Dir．Cost $2123133^{\prime \prime} \quad$ U＂


VULCANIZED FIBRE RODS

$\qquad$

 Wlands finish．

| No． | Diameter | Dealer Cost per Ft． |
| :---: | :---: | :---: |
| 168 | ${ }^{1}$ | \＄ 65 |
| 205 | 呺＂ | ． 77 |
| 169 | ＂ | ． 89 |
| 17） | 13 | 1.09 |
|  |  |  |
| N3． | Size | Dealer Cost |
| 2175 | $1 \underline{12 \prime}^{\times 1}$ | \＄． 35 |
| 2176 |  | ． 61 |
| 2179 |  | ． 48 |
| 2130 | ご＂x＂～＂ | ． 98 |
| 2133 |  | ． 65 |
| 2134 | $2 \mathbf{t}^{\prime \prime} \times 16$ | 1.30 |

SPRING ACTION GRID CAPS


1551



No． Dir．Cost


7.50 M

8．35M


## FLAT FIBRE WASHERS

A＇acland Eno to Packare

| Bulk |  | Description |  | Bulk |
| :---: | :---: | :---: | :---: | :---: |
| Cat．No． | Diam． | ．Thick． | Hole | Dir．Cost |
| 5601 | ）！ | $\underline{1}$ | \％ | \＄4．17M |
| 5612 | 如 | －1． | 1／\％ | 4.83 M |
| 5609 | $1 / 2$ | \％ | 0 | 5.00 M |
| 5626 | \％ | \％ | \％ | 5.00 M |
| 5605 | 3＇4 | ！ | － | 5.00 M |
| 5610 | 1： | $0 \times 11$ |  | 5.00 M |
| 5611 | 5. | ： | $?$ | 6.42 M |
|  |  |  | IBRE |  |
| $6{ }^{4}$ |  | SHOULDE | $R$ WA | HERS |
|  |  | 1＂tuckid ： | 00 to P | rhare |
|  |  | Description |  |  |
| Bulk | Overall | Shoulder | Overall | Bulk |
| Cat．No． | Diam． | Diam． | Hgt． | Dir．Cost |
| 5618 | \％ | 3 | A． | \＄5．83M |
| 5620 | $\mathrm{T}^{\mathbf{T}}$ | \％ | $\because$ | 6.66 M |
| 5615 | \％ | 1／1 | $\therefore$ | 5.83 M |
| 5619 | 1 | \＆ | 1. | 6.66 M |
| 5616 | 1 | ii． | － | 5.83 M |
| 5624 | 1 | $\because$ | 1 | 6．66M |
| 5628 | 5 | 1／2 | \％ | 8.35 M |

FIBRE WASHER ASSORTMENT


 wi／e screws and lomls．suitahle bur wide rature of has．I＇achationd for rataly las．
No． 5805
Dealer Cost $\$ .60$

| BRASS EXTENSION RODS |  |
| :---: | :---: |
|  <br>  | ：H1いいいいい！ |
| No． | Dealer Cost |
|  | $\begin{gathered} \$ 18.00 \mathrm{C} \\ .36 \end{gathered}$ |
| INSULATED EXTENSION | RODS |
|  <br>  | $\therefore \quad \cdot 20 \cdot+11 \cdot+1 t$ |
| No． | Dealer Cost |
|  | \＄15．00C |

## SINCE 1921 <br> OVER 3 DECADES OF QUALITY RADIO-TELEVISION PRODUCTS



EVERLOCK TERMINAL LUGS


Bulk
Bulk
Cat. No. Length Hole Size
5480
5480 $\begin{array}{llll}5482 & & & 1.12 \mathrm{C} .8 .08 \mathrm{M} \\ 5483 & \%_{4} & \mathrm{~N}_{1} & 1.12 \mathrm{C} .8 .08 \mathrm{M} \\ 5484 & \%_{k} & \mathrm{~N}_{n} & 1.12 \mathrm{C}-8.08 \mathrm{M} \\ & & 1.12 \mathrm{C} .8 .08 \mathrm{M}\end{array}$


Bulk
Dir. Cos
-

oval head MACHINE SCREWS NICKEL PLATED
facked 100 to Pacliage
Description Bulk Description Dir. Cost


## CUP WASHERS

J'arked 1110 to Prackared
$\begin{array}{ccc}\text { Bulk } & \text { Description } & \text { Bulk } \\ \text { Cat. No. } & \text { HoleSize } & \text { Dir. Cost }\end{array}$ $5713 \quad$ No. $11 \quad$ Dir. Cost

HANDY RACK SCREW AND WASHER ASSORTMENT


## 



STEEL
CABLE CLAMPS
PLATED

| Bulk | Description | Buik. |
| :---: | :---: | :---: |
| Cat. No. | Length Diam. | Bend DIr. Cost |
| 5697 | $3 / 4$ | \$1.33C.\$12.00M |
| 5698 | if *in | $1.67 \mathrm{C}-15.00 \mathrm{M}$ |



ANGLE
BRACKET
ASSORTMENT
A complote assortment of 30 popmlar abmbes and bracknts, nickel plated finish. This combination of amefles and brackets has leetn carefully selectur to fill a wide variety of reduirements. I'acked for ready asailability.
No. 5800 Dealer Cost $\$ .60$
OVAL HEAD
MACHINE SCREWS
NICKEL PLATED

UTILITY GLASS JARS
For use on serviee bench to stome hardware, etc. $21 / 2{ }^{*}$ high $x \quad 11 / 2$ " deep

No. 5400
Dealer Cost $\$ 9.00 \mathrm{C}$

EVERLOCK
LOCKWASHERS
Bulk
Cat. No.
5592
5593
5594
Bulk
Cat. No.
5589
5590
5591
5602

## KANTLINK SPLIT TYPE LOCKWASHERS

l'acked 500 to Packare | $\begin{array}{c}\text { Bulk } \\ \text { Cat. No. }\end{array}$ | Bulk |  |
| :---: | :---: | ---: |
| 5589 | For | Description |
| 559 str. Cost |  |  | 5591 for 10.32 screw - 3.

$\qquad$

|  |  |  | FLEXIBLE RUBBER |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| GROMMETS |  |  |  |

RUBBER GROMMET ASSORTMENT


Assortment contains popular sizes used in the Radio, Electrical amd Tolevision field. Carefully selectod wroun to moet many rountrements. l'acked for realy use.
No. 5811.................................er Cost $\$ 1.20$ Contains 60 Ruhsur Grommets
UNIVERSAL RADIO HARDWARE
ASSORTMENT

FILTERVOLT NOISE FILTER
An efficient filter for disturbances caused by
 lectrical applances. For use with any all wave or broadeast receiver.
kated conservatively at 250 watts for 32,110 ant 220 volt AC ar DC circuits. Can he in* stalled either at the radio or at the source of disturbance.
Contains heavy duty R.F. chokes, laryo filter capacitor, and has a "1F" F"ilter eireuit arrangement.
No. 338.
Dealer Cost $\$ 5.00$

## FILTERVOLT

Improves extremely noisy radio recepnoisy rado recep tion due to inter uptions in powe line caused by elec rical appliances lights, etc.

$$
\text { No. } 394
$$



Dealer Cost $\$ 3.00$

## SIMPLEX FILTERYOLT

Eliminates Radio Noises Caused By-


- Electric Shavers
- Refrigerators
- Fans - Elevators
- Motors, etc.

No. 90
Dealer Cost \$1.17

## UNIVERSAL VOLTAGE REGULATOR

Voltage fluctuation often occurs not rradually but suddenly, thus bringing a tremendous strain on the tubes. This regulator protects tubes through seientific regulation of current fluctuations. Housing body and end rinise are neatly constructed and of perforated japanned metal. For all Radio Sets, AC, DC.


No. 92.
Dealer Cost $\$ 1.17$

ICA 3-IN-1 RADIO TUNER

functions as oither an Antennat Tuner, Wave Trap, or Acrial Eliminator. Operates on any make or model radio set.

As an Antenna Tuner, it will improve the reception of a weak station. As a Wave Trap, it will separate interferiner stations and improve selectivity. As an Aerial Eliminator, it makes unnecessary the outdoor aerial. Easily installed within a feve minutes.
No. 93.
Dealer Cost $\$ .60$
Complete with Instructions.

HI-FICONNECTINGCORDS
insulated hi-fi connecting Cords

Especially designel for use with ampliters roampliters. tumen, reeond champors, It ortars, spakats, "te Ends have sturdy phons pin plugs. (ombectine cord is minte of a quatst. slachaled low caplacits type wire for mimimum lose Insialatiner shiedd over flars results in anis. free commetioms.

| No. | Lingth | Dealer Cost |
| :---: | :---: | :---: |
| 2386 | $14^{\prime \prime}$ | $\$ .63$ |
| 2388 | $30^{\prime \prime}$ | .72 |
| 2398 | $72^{\prime \prime}$ | .90 |

## IMPROVED ICA DELUXE SIGNA-TONE

AUDIO OSCILLATOR - CODE PRACTICE SET - KEYING MONITOR


The ICA simnature is a perfected Audio Oscillator, havinur 3 different outout fre quencies and a continuously variable vol ume control. The Audio notes are similar to those of hish quality commercial CW stations.

1. COIDE IPRAC'ICE: SFT-A number of phones and keys may lee connected for phones amd keys man be connected or
 adio club instruction in corle.
2. KEYING MON[TOR-. In invaluable aid in improving any ham'⿱ "fist." Will foblow the "bur" at all sueds. 工o wellequiperd station shoula le without this kesing monitor (A double pole keying relay is required for this function-one set of contacts for keying transmiter; other set for monitor.)
3. MODILATION SIGNAL-The stemaly note of the Sirmature is ideal for adjusting both the Sodulator and modulated stares of your transmitter for $100 \%$ modulation.
4. SIGNAL TRACER-L!y feeding the sutput of the Signatone into each stage of your


No 4300-1)ealer siot cost
.$\$ 15.75$
No. 4301-Classro*m Model (No Speaker)-Dealer Net Cost
13.50


## ICA UNBREAKABLE MORSE CODE RECORDS

arari the international Morse Code Quickly, basily - Ises EVF: FiAR Methonl. THe (omplete Linguaphone Code Finuipment consists of is |houble-facen, electrically transeribed recorts in durathle allum contents: 3 Tahles, 10 Lessons.

No. 1800 - (inmplele ..................................Dealer Cost $\$ 7.95$
No. 1800R- Rn"ud onls …................Dealer Cost 2.03
No, 1800B--Rowklet onlt.
Dealer Cost . 98
Guedify latsom Number.

## ICA "TRIPLEX"



ICA RECORD-PLAYER SWITCH Replacement for RCA Switch 9824A
lkemmmended for quickly ennnectirg Record Players, F.M. attachments, Television attachments, Microphones and similar mevicus into the auclio amplifier of existing radio receivers.

Na. 1740.
Dealer Cost \$1.55

## ICA

EAR PHONES
Complete With Head Bands

Made of molded Bikelita atid lisht-weight nick. alplated metal. 2f-00 ohms.


No. 23 - bumble Ilad Pheme...Dir. Cost $\$ 2.98$

## EAE CUSHIONS

Made of soft rubber. Ideal for the anateur wioldess operator, etc.

No. 195



Practice Set
Blinker Light
Radio Signal-Telegraph
No. Dlr. Cost
70--Single Unit (less
batterics) ....... $\$ 1.95$
11-Doulle Unit (50 4.12

UNIVERSAL RESISTOR CORD
From 22 to 330 Ohms on One Cord


Jraplacement leesistor Cord for all makers of Rreceivers. simplifies stock prohlems. With the Hniversal Resistor Cord, almost all revoiburs now in use may be serviced. A complete table of instructions is supplied with earh corll.

No. 205
Dealer Cost $\$ 1.25$

## Suparex YOMKERS, $\mathrm{N} . \mathrm{Y}$. <br> SUCCESSOR TO GRAYBURNE

The world's most sensitive, compact and efficient SMALL RADIO ANTENNAS.

- Highest sensitivity O is 250
- Omni-directional
- Greatar recciving range
- Puils in hard-to-get stations
- Extremely compoct $7 / 16^{\prime \prime} \times 21 / 4^{\prime \prime}$
- Stable performance

Grayburne FERRI-LOOPSTICK
Model FL List 75s


Far fixed, permanent, economical installations, new or replacement, where user desires no further changes once loopstick has been set. Grayburne VARI-LOOPSTICK Model VL


Equal in efficiency to Ferri-Loopstick with added odvantages of Micrometer Adjustment, 1.hole Snap.in Mount. Permits adjustment for maximum efficiency on several spations consecutively

Grayburne KLEER-IT Line Filter
Eliminotes or minimizes noisy interferences cre. ated within the A.C. or D.C. line by

- smoll oppliances -sporking switche - small motors - fluorescent lights

Superex

## FILTA-COUPLER

Combination 2-set coupler Hi-pass filter

- 1 coupler does 2 jobs
- Perfect reception insured
for BOTH TV sels
- Stops interset interfer.
- Once ONE antenno
needed
- Efficient rejection filter

Model FC List 2.49


Tests or rejuvenates any TV picture fube, electrastatic or magnetic, $10^{\prime \prime}$ to 30', inside cabinet for cathade emis. sions, shorts, open grids, etc.

- Plugs into present tube tester (any moke or modell and onto piciure tube
- No wiring
- Orerall length 491/2"

Model CRT 3.95 net

## Superex VARI-TENNA

Modern replacement for old fashioned hank of wire and antenna coil.

- Baosts sensitivity and gain up to 25 times - Pulls in hard-ta-get stations
- All the power and reception of madern sets

Model VT List 1.25
(Display card of 50... 62.50)


Superex ENERGIZED FERRI-LOOPSTICK

- Outperforms any coil with a core 3 times Model EFL List 1.50 its length
(carton of 50 . . 75.00
old fawer to even new radios with
- O
- up to 350
- 1-hale Snap-in Mount
- Self-lacking vinyl adjustment collar



## 

- mintrinari rumato

Tamor ran nate

## 4 CLEAR-PIX TVI FILTERS

Rejects 4 mast common sources of TV interference
Model CPI: Hi-Pass-rejects ignition interference Model CPH: rejects amateur interference Model CPD; rejects diathermy interference Model CPF: rejects FM interference

List (each) 1.98

New Homogenized "Q-T"
for
quiet
CONTACTS
QUIET
CONTRDLS

big 3-oz. bfle.)

- Cleans and preserves
- Eliminates noise
- Retards corrosion
- Harmless to insulation. soldered joints



## TV-IF SIGNAL BOOSTER

The ONLY if stage-in adapter form recom. mended for boosing both UHF and VHF signals!

- $20 \%$ average boost in overati kignal
Especiolly effec-ive in "weak" arkas; sets using incoor antennas: RF boosted sets needing more gain

Model TSB
(4.5MC: 38.5 CMC List $9.95 \quad \begin{gathered}\text { (4.5MCis } \\ 21.29 \mathrm{MC})\end{gathered}$


## SENSIPHONE

 EARPHONESfeatherweight, rugged construction, Alnico V. Top qual. ity, low cost . . . excellent

Single phone (1,000.ohm
Single Phane (1,000.0hm
impedance)
List 1.98 impedance $\quad$ List 1.98
Double Phone $(2,000.0 h m$ mpedance) List 3.49
"Loopstick" Crystal and Radio Sets and Kits Finest, most sensitive yet designed - Slide rule diol - Simple instructions included

one tube RADIO KIT

- Sensitive vacuum lube
- Low cost batteries Model TRK 3.95 net


For those who design their own..
"Loopstick" Matched Diode Kit Model LD 1.98 net

## SUPEREX . . . Performance Proved - Profft Proved • Market Proved

## CHAS. O. Larsone CO. - STERLING, ILL. C CREAN-CUT WIRE HARDWARE

## CASH IN ON THE BIG TV BU:'ING!

All Larson Wire Goods are Zinc Coated, W'eather Proofed Finish. Many other items in the Larson line Lsed for TV Antenna Installations. Write for literature and orices.

Sold Exclusively
Through Jobbers

TV Guy Wire Eye Bolts were especially designed for leakproof application on all roofs.
Simply fill the cup with roofing compound before using.


TV GUY WIRE LAG SCREW EYE BOLT-No. SEL-1111-Zinc Coated


Packed 1 Dozen in Box. Order by Gross and Size.

## BOLTS WITH CLAMPS FOR TELEVISION ANTENNA WORK-Zinc Cooted



Packed 10 in Box Assembled with Clamp. Order by Hundred and Stock Number.
eye bolts lag screw thread No. 11-Zinc Cooted


[^68]

Can be installed in only five minutes - much faster and easier than ordinary "deadman" anchors. Just a turn or two will take the sag out of guywires, eliminating the need for turnbuckles. Sufficient spring and flexib:lity to keep wire from snapping.
Made of $1 / 2^{\prime \prime}$ cold formed spring steel, $37^{\prime \prime}$ long with electric arc welded eye.

[^69][^70]
# "GIBSON GIRL" TAPE CUTTER-SPLICERS <br> (Irade Mark) 



With the knob in "trim cut" position the splicer cuts two rounded (GIBSON GIRL) indentations in the tape splice. This leaves the edges of the tope which contact critical ports of the recorder entirely free of adhesive.
These compact splicers, designed far fast prezise professional tape editing, may be removed for their bases for mounting an recorders.
"GIBSON GIRL" DELUXE SPLICER-SUPpIEed complete with roll of splicing tape and tape feed.
Model TS-4
List \$8.50
Model TS-40LX
List \$14.50

## MITER CUTS - TRIM CUTS AND BONDS SPLICING TAPE

NO SCISSORS OR RAZOR BLADES NEEDED! *

These splicers have cutter cartridges which hause three long life blades. The cartridge has two operating positions, one for miter zutting and one for the indented trim cut. Quick acting toggle type fingers hold the tape in position for splicing.


## ROBINS SPLKCING TAFE

Robins splicing tase is specificoly made for splising recording tape. Tockiness, thickness, strength ond cold flaw are carefully controlled. Individually packed in crystal cleor plastic container.
Cat. No. ST-500-1/2" $\times 100^{\prime \prime}$
List
.39


Cat. No. NB-I
List \$1.59

## RCA SERVICE PARTS

KEY PARTS FOR RCA VICTOR TV RECEIVERS, RADIOS, AND RECORD-CHANGERS

| $\begin{aligned} & \text { RCA } \\ & \text { Stock } \\ & \text { No. } \end{aligned}$ | Part Description | Sgstd. Distr. Resale Price Each | $\begin{aligned} & \text { Sostd. } \\ & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ | RCA Stock No. | Part Description | Sgstd. <br> Distr. <br> Resale Price Each | Sgstd List Price Each | RCA Stock No. | Part Description | Sgstd. <br> Distr. <br> Resale <br> Price <br> Each | $\begin{aligned} & \text { Sgstd. } \\ & \text { List } \\ & \text { Price } \\ & \text { Each } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| CONTROLS |  |  |  | 76981 | If Transformer | \$2.00 | \$3.35 |  |  |  |  |
| 71440 | Herixht (imtrol | \$ .72 | \$1.20 | 76984 | Power Tramston mat | 17.40 | 29.00 |  |  |  |  |
| 714.41 | Limarrity Consmb | . 72 | 1.20 | 77112 | Prower Transtumen | 2.30 13.65 | 3.85 22.75 |  |  |  |  |
| 71442 | Fuchsine Commal | 1.08 | 1.80 | 77635 | Power Trallstumay | 13.65 | 22.75 |  |  |  |  |
| 74048 | Vilume Control atiol |  |  |  | Cultare Tamitum | 10.00 | 16.65 | MECHANICAL PARTS |  |  |  |
| 74945 | Width (control | 1.89 | 3.15 | 79144 | Widht Coil | 1.10 | 1.85 |  |  |  |  |  |  |  |
| 25215 | Ifrizomal and Vertical. Hold (emtrol | 1.77 | 3.152.95 | 79145 |  <br> Poltage Tratistormer | 10.75 | 17.90 |  |  <br>  <br>  <br>  <br>  Suparalon-hivenal s.\|"allallor | $\$ 5.40$.48 | $\begin{array}{r} \$ 9.00 \\ .80 \end{array}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 75216 | Picture amel Control Criwhames | 1.80 | . 00 |  |  | . 93 | 1.55 | $\begin{aligned} & 74620 \\ & 74864 \end{aligned}$ |  | . 42 | 70 |
| 75513 | Control ${ }^{\text {Volume and }}$ |  |  | 79733 |  |  |  |  |  | . 21 | 35 |
| 75514 | (ontral | 2.25 | 3.75 | 7986979966 |  | 5.05 18.70 | 8.40 31.20 | $\begin{aligned} & 74865 \\ & 75719 \end{aligned}$ |  |  | . 10 |
|  | Picture and brishtaess |  |  |  | Power Tratsonmon <br> Horizontal (1se-illatu Trathemmer | 18. | 31.20 |  |  <br>  | . 06 |  |
| 516 |  | 2.40 | 4.00 |  |  | 1.30 | 2.15 |  |  |  |  |
| 76441 | Willth (ontrol | 1.15 | 1.95 | YOKES |  |  |  | 75733 |  |  | 0 |
| 76442 | 1,incarits (bohtrod | . 81 | 1.35 |  |  |  |  |  |  |  | 65 |
| 76444 | LGC (introl | 1.25 | 2.10 |  |  |  |  | 75753 | Turntalde atul shat |  |  |
| 76445 | Pieture Contral | 1.05 | 1.75 | 74952 | Watleratur Yokn | 5.88 | 9.80 |  | ass.mby |  |  |
| 76483 | Linearity ( ${ }^{\text {control }}$ | . 66 | 1.10 | 76653 | letaberini | 10.25 | 17.10 | 75755 |  |  |  |
| 76484 | Width control | 1.45 | 2.40 | 77697 | inve Yok | 7.20 | 12.00 |  | (al\| (ren) | 0 | . 50 |
| 76803 | Volume (ontron and |  |  | 78278 | Wathertine fob | 9.00 | 15.00 |  | Prinu-s.quatamentueld |  |  |
|  | On/0ff switch | . 93 | 1.55 | PICKUP CARTRIDGES |  |  |  | 75757 | Shatiospringe |  | . 5 |
| 77641 | Briphtness (ontrol | 2.15 | 3.55 |  |  |  |  |  |  | . 50 |  |
| $78208$ | Brightrass (intro) | 2.65 | 4.40 | 70338 |  | 4.20 | 7.00 |  | $\begin{aligned} & 76286 \\ & 76299 \end{aligned}$ |  | and 1 irs <br> Whatel-l\|leq wha. | . 30 |
|  | Pieture :and Volmme (introl | $2.30$ | 3.85 |  |  |  |  | . 48 |  | . 80 |  |
| DETENT |  |  |  | 74067 |  | 4.20 |  | Juss comsersinn spritu <br> switrh——hroll swithh, |  |  |  |
|  |  |  |  |  |  | $3+11 \mathrm{tin}$ <br> 33 \%-t., RJM. I"mom <br> stylns 70.014 .1 <br>  <br> 7 in $10+1$ | 3.8 |  | 6.40 | 76301 | 7.15 | 11.90 |
| 75162 | Deterit and shaft |  |  |  | 1.50 |  | 2.50 | 75044 | 5.70 | 9.50 | $\begin{aligned} & 76746 \\ & 76747 \end{aligned}$ | h:s houssing <br> Pи! | . 60 | $1.00$ |
|  |  | Pulay-78 | 72 | 1.20 |  |  |  |  |  |  |  |
| MAGNETS |  |  |  | 75575 | 76748 |  | pullic-8:3 10 |  |  |  | 1.00 |
| 76141 | Iom-Trap Magrey | . 72 | 1.20 |  | t5 RPM. I"ses situs | 3.84 | 6.40 | 76750 76904 | What-hater whorl | 51 | . 85 |
| 76168 | Focusing Magnat | 7.15 | 11.90 | 76257 |  |  | 6.40 |  |  |  |  |
| 76317 | Lon-Traj, Magmel | . 84 | 1.40 |  |  | 4.00 | 6.75 | 76928 |  | . 25 |  |
| 76375 | (chtreing Marmal | 1.05 | 1.75 | 76297 | 45 BPM ['sus sismen |  |  |  | (ail ( ram ) | . 53 | . 79 |
| 76652 | Focusine Masurt | 6.70 | 11.20 | 7779 | $7+58.5$ | 4.95 | 8.25 | 1 |  |  |  |
| RECTIFIERS |  |  |  |  |  | 5.52 | 9.20 | 76932 |  | . 19 | . 28 |
|  |  |  |  | . 10 |  |  |  |  |  |  |  |
| 75221 | Nelenium Rertition | 1.86 | 3.10 |  | 69 | -5ity | 0 |  | 76933 |  |  |  |
| 76452 | Selenium Rectitior | 2.28 | 3.80 | 15.50 |  |  |  | 769344 | Mider | . 17 |  |
| 16675 | Crustal Diode Rectifir | . 57 | . 88 | $79791$ |  | 5.10 | 8.50 | $\begin{aligned} & 76950 \\ & 76955 \end{aligned}$ |  | . 113 | . 16 |
| SPEAKERS |  |  |  |  |  |  |  |  |  <br> ram-chaline wn |  |  |
| $\begin{aligned} & 74974(t) \\ & 77000(t) \end{aligned}$ | 12" Speak.r | $\begin{aligned} & 5.94 \\ & 2.62 \end{aligned}$ | $\begin{aligned} & 9.90 \\ & 4.55 \end{aligned}$ | 100653 |  <br> strlus $\overline{6}$ g-id. | 3.60 | 6.00 | 77118 | shatt, law <br> lumalahlo : and hal | . 55 |  |
|  |  |  |  |  |  |  |  |  |  | 1.44 |  |
| TRANSFORMERS AND COILS |  |  |  | S1ハ118 7: $8 \times 7$ <br> * ('urluidge stamped :1ansato. 1 <br>  |  | 5.70 | 9.50 | 77132 |  | 3.50 | 5.80 |
|  |  |  |  | 78371 |  |  |  |  |  |  |  |
| 449 | $\begin{array}{lrr}\text { Horiz. Lincarity (nil } & .75 & 1.25 \\ \text { Antena-Matching ('oil } & 1.20 & 2.00\end{array}$ |  |  |  |  |  |  | 78372 | : 1 sis.mbl <br>  | 1.75 | 2.95 |
| $\begin{aligned} & 73591 \\ & 74144 \end{aligned}$ |  |  |  |  |  |  |  |  |  | - 7.3012 .15 |  |
|  | Vortical-Bluckiner. <br> Ospiblatur Transturmer |  |  |  |  |  |  | 7850878525 |  | . 60 | 1.00 |
|  |  | 1.80 | 3.00 | STYLII |  |  |  |  |  | . 57 | . 95 |
| 4586 | Power Transformer | 14.10 | 23.50 | 723454 |  |  |  | 78526 | pullay-t5 rpm | . 57 | . 95 |
| 4588 | Horiz. (humbut itul High- <br> Foltage Transturmer <br> 9.90 <br> 16.50 |  |  |  |  | 1.20 | 2.00 | 78527 | 14lhix-78 rım | .571.90 | .95 |
|  |  |  |  | 740684 76818 \% |  |  |  | 79096A | Spimin-4 4 rpm |  | 2.95 |
| 74950 | $\begin{array}{llrl}\begin{array}{l}\text { Vertical. Daflection- } \\ \text { Output Transformer }\end{array} & 3.30 & 5.50\end{array}$ |  |  |  |  | . 90 | 1.50 |  |  |  |  |
|  |  |  |  | 749854 |  |  |  |  |  |  |  |  |  |  |
| 74951 | Horiz.-Ontput and Hishl | 3.75 | 6.25 | 750 | 74984 $331 / 4.4$ | 1.08 | 1.80 | CONTROLS |  |  |  |
| 5212A | IF Tramsformer | 1.50 | 2.50 |  | $750+4$ | . 90 | 1.50 | 342 | blume (antra |  |  |
| 5213 | Inmizomial Mscillator |  |  | 750464 |  | . 90 | 1.50 |  | On/0ft swith) | 1.05 | 1.75 |
|  | (tioil | 1.50 | 2.50 | 754974 |  |  |  | 75773 | Wolume - - بntrol an! |  |  |
| 5508 | 1ower Transionmer 1 | 13.20 | 22.00 |  | 7575 | . 90 | 1.50 |  |  | . 99 | 1.65 |
| 5519 | Horiz.-0utput and High. |  |  | 757704 |  | 1.35 | 2.25 |  |  |  |  |
|  | Voltage Transtormer | 3.60 | 6.00 | 763234 | 45 RIM. For 740.88 | . 90 | 1.50 |  | RECTIFIER |  |  |
| 5520 | Transion (output | 1.44 | 2.40 | 763744 | 45 RPM . For 76.57 | . 87 | 1.45 | 77958 | Suhrinum Rewitior | 1.11 | 1.85 |
| 5645 | Power Transiormar 1 | 4.70 | 24.50 | 778994 |  | 1.15 | 1.95 |  |  |  |  |
| 6433 | IF Transtorm ar | . 66 | 1.10 | 78770 |  |  | 1.95 |  | SPEAKER |  |  |
| 76440 | Hrizontal-(9millator |  |  |  | 7 $\times 7860.7 \times 6: 3$ | 3.57 | 5.95 | 76373(t) |  | 2.85 | 4.75 |
|  | Transtumer | 1.80 | 3.00 | 78827 |  |  |  |  |  |  |  |
| 6501 | Horiz.-Output athe Hizh- |  |  |  | 78748.79x07-10085:3 | 2.10 | 3.50 |  | TRANSFORMERS |  |  |
|  | Voltage Transformer | 7.15 | 11.90 | 79849 |  | 1.60 | 2.65 |  |  |  |  |
| 6795 |  |  |  | 79898* | $331 / 4648$ R 121M Fow |  |  | 70385 | Gutput Tramsturmer | 1.92 | 3.20 |
|  | Voltage Transformer | 6.00 | 10.00 |  | $79 \times 1$ ¢: | . 33 | . 55 | 730361 | 1F Transformer | 1.38 | 2.30 |
| 6980 | IF Transiormer | . 87 | 1.45 | $\triangle$ Standar | d Papkage of it |  |  | 73037 1 | 15' Transionmer | 1.41 | 2.35 |

[^71]
## For Starting

HOLOS and DRIVES IN CNE CPERATION Matidellin HOLDS NUT OF HEX SCREN NOT DROP!

No more fussing or fumbling with small nuts or hex screws. The IRC Tension-Grip Nut Driver is ideal for close work in televisicn or radio servicing. The Tension-Grip nut holding device is a tempered steel band that grips the rut or hexagon head screw as it enters the socket; it will not drop it! The Tension-Grip has a sprine action and is non-magnetic; handles brass and stainless steel nuts as well as all regular types. Nut Driver shaft is drilled to a depth of $11 / 4^{\prime \prime}$, and securely set in a shock-proof plastic handle.

## Thank You!

When writing for additional information or when ordering from sources of supply listed in this book, please mention

## The



NOTES

NOTES

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## NOTES

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## NOTES


[^0]:    The Master - 20th Edition
    Index Page ?2

[^1]:    The MASTER - 20th Edition

[^2]:    The M.ISTER - OUth Eidition

[^3]:    Prices in effect May Federal Excise Tax where applicible. All prices subject to change without notice.
    Prices in effect May 1, 1955.
    $\ddagger \ddagger Q u o t a t i o n ~ o n ~ r e q u e s t . ~$

[^4]:    Suphested list pricos and suggested bistributor restle prices inclute Federitl Ficise Tav where aplicable. All grices subject to change

[^5]:    *ectangular face
    tCyllndrical face ta reduce reflections

[^6]:    *Types subiect to $10 \%$ Federal Excise Tax, which has been included.
    CONTINUED ON NEXT PAGE

[^7]:    ＊Taxahle at $2.3 \%$ of list．All other taxable at $2.3 \%$ or list．

[^8]:    * Low Voltage.

    Abbreviations: Rec.-Rectangular Fll.Fr.-Filter Frosted. E—Electrostatic. (M)-Metal. (A)-Aluminized.

[^9]:    The 11.1.ら"\%:Nー20th Edition

[^10]:    Copyright by U. C. P., Inc.

[^11]:    * Description abbreviations: Rec. = Rectangular, Rnd. = Round, GI. = Glass

[^12]:    MCGOHAN PRODUCTS ARE SOLD ONIY THROUGH RECOGNIZED DISTRIBUTORS
    SEE YOUR DISTRIBUTOR OR WRITE DIRECTIY FOR A COMPLETE CATALOG
    JON MCGOHAN, INC., 3700 WEST ROOSEVELT ROAD, CHICAGO 24 , ILL

[^13]:    ＊Millons of Ergs．
    $\dagger$ Size Fecommended．

[^14]:    
     rembirements. miniature to 25 KVA eapacity: Drainare and
    
    

[^15]:    
    Page C-56

[^16]:    *Operating data anly. 815 daes nat replace.

[^17]:    Page D-6

[^18]:    -With 453 Maunt far Oal Changer
    "Cutter-Cartridge for Wilcax-Goy "Recardatte." Equipped with bifurcated needle " "Humi-Seal" Metal Wrapped Rachelle Salt Crysiol ideal for Trapical Areas.

[^19]:    The M.J.SI/K - 20th Edition

[^20]:    Model SKH—Hi-impedance
    Model KKH— With Haud volume Control.
    List $\$ 12.00$
    List 18.00
    Model KF -Foot Pedal Only
    List 18.00
    Low impedance available in model SKH at same urice

[^21]:    Tape Used: Stamdard dual fark
    Tape Speed: 3 , inches lur sormul
    
    Reeying Time: + bonrs ach trark; homes tural
    
    Flutter (Speed Variation): 1.ass than $0.3 .5 \%$

[^22]:    

[^23]:    The M.ASTER - 29th Edition

[^24]:    The .H.TSTER - 20th Edition

[^25]:    *All Walco Sopphire and Ruby needles are tipped with synthetic sapphire. This some moterial is widely used by the wotch industry for jewel bearings and movements where moximum resistonce to wear is desired

[^26]:    The M．4．5\％EK－Kuh Litition

[^27]:    tReadings taken at Seo Level, Short Time Tess.

[^28]:    The .1/fSTER -- 20th Edition

[^29]:    
     "1)" band. Fretueney Kesponse...................................................... in to 100 kc reterence frequency of 1100 cps Frequency Stability... $\pm 3 \%$ or beiter, under normal operating conditions Output Voltage (continuously variable)
    "1.0"
    .15 volts rms (max.
    2.5 volts rms (max.)

[^30]:    For Source imperdances si approxinately 1000 ohms or lower
    Ohminter
    0 to 1000 Megohms in 7 Ranges.....Rx1, Rx10, Rx100, Rx1000. Rx10K, Rx100K, Kx1 Meg
    Direct-Current Meter: 0 to $0.5,1.5,5,15,50,150,500$ milliamperes;
    Ranges, Nine...... 0 to $0.5,1.5,5,15,50,150$ to $1.5,15$ amperes
    Overall aceuracy $\pm 3 \%$ of full scale Tube and Battery Complement.........2-6AI.5. 1-12.AU7, 1-VS036
     IVimensions. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ${ }^{\prime \prime}$ pounds
     $\$ 112.50$ (Suggested User Price) Complete with probes and cables, including: Direct Probe and Cable, DC/ Direct Switch Probe, Ohms Probe and Cable, Positive Current Jead, Negative Current Lead, Ground Lead, and instruction booklet.

[^31]:    internal storage battery can be recharged by self-contained charger or from your automobile battery while traveling between jobs.

[^32]:    (Note: Accessory surface temperature probe is not included with the purchase price of Models 388 and 388.3 L .)
    MODEL 388, Complete with internal battery, single General Purpose Lead, Adjust-AVue handle, Operator's Manual
    MODEL 388-3L_Like 388, except with provision for using 3 thermocouple leads $\quad \$ 64.50$
    Ever-Redy Vinyl Carrying Case for Models 388 and 388-3L

[^33]:    For थero adjusters abll s．ie to price and $Z$ to stoek number．
    No zero adjuster on Monlel tho stock models．

[^34]:    Write for catalog describing complete line of Aero stock instruments.

[^35]:    ALL-PURPOSE TUBE and SET TESTER IN A HANDIER, PORTABLE SIZE
    

    Model 605A
    Contains all features of the Model gith A listed above. including the IIICKOK standard built-in roll chart and new HICKOK improved "Shert Test.
    New, large 5 " meter scale is easier to read more accurately. Attractive lucite window has static-proof coating.
    Accurate. built-in multimeter panel measures: Volts: (1-1000 A.C. - I).C. in four ranges each. Olmes: 20.0010 per volt D.C.
    1.000 per volt A.C.

    Model 605A: New, lighter weight portable. Radio and television technicians' popularly priced, all-purpose tube and set tester with built-in 20,000 ohm per volt D.C. Multimeter pancl. Designed for speedy, highly accurate radio and TV servicing.
    Built to the high HICKOK quality standard througlout. Provides Denamic Mutual Conductance circuits with tube readings in micrombos. A popular technicians model for on-location servicing. Smaller. lighter, but built entirely with highest quality components for accuracy and dependability.
    Excellent for leakage tests of electrolytics, and checks for hum in any stage of receivers. Puilt with a minimum number of jacks. Ranges are zelecterl with a rotary master switch. Test leads supplied.
    Model 605A, illustrated at the left. Same case as Model 600.A, above 17 thas. net. ?2 1bs. shipping weight 110-120 V..i.C. fo watts.

    SPECIFICATIONS:

    Resistance: 0.1 to 100 megohmes. (Center scale 25,2500 . 500.0000 ohlus. $)$

    Inductance: to 70 hemries. (By use of conversion chart furnished).
    Capacitance: 50 microfarads. 5 microfarads, as low as .101 microfarads.
    Current: 1).C.; 10, 100, 500 MA.
    Decibels: -10 to +50 .
    Xew bias fuse provents atcidental damage to bias potentiometer.

[^36]:    $0^{\circ}-2000^{\circ} \mathrm{F}$ for C -A thermosouples
    PRICE, including 24" thermocouple
    and $26^{r}$ lead Note: Centigrade equivalent scales available on order.

[^37]:    The V.ASTER 3)th Edition

[^38]:    The .h. $1.5 \%$ KR - 30th Edition

[^39]:    The MASTER - 20th Edition

[^40]:    $1 / 2^{\prime \prime}$ EOLARIZED VAR!ABLE INTENEITY
    incorperetiec is rt polcrized discs to
     rewiate ir,ht ittensity. A partial turn $\because$ the three fibre washers to romponsate \% dificrent pane! thickne ses Mounts an 11 16" hole. Finish bright nickel Strinard Colors. Regularly supplied © the emocth class frosted on back only. Other glass types optional.
    STYLE SOCKET
    LIS: PRICE
    TYPI; NUM
    
     80S.

    ## JEWEL . . . Underwriters App.

    heavy-duty Candelabra screw base c.ssembly designed to be used on rugged rquipment. UL for 125 volt 75 watt serv62. The socket assembly and mounting 52.20 cz. The socket assembly and mounting hoie on panels up to ${ }^{2}{ }^{2}$ " thick. Panel Hardware, N. . !' hole on panels up to " 2 " thick. Panel Hardware hirlv nolisied chrome. All other parts cadmium plated. Stand o!ors in EAC, SP or SFB glass. Depth back of panel $21 / 4^{\prime \prime}$

[^41]:    " JEWEL . . . HORIZ. MOUNTING Easy to install. Has "slip-fit" bezel. Mounts in 1 " diameter hole on panels up to ${ }^{1 / 2}{ }^{\prime \prime}$ thick. Will withstand a voltage breakdown of 1000 volts. No. 75 will take any candelabra screw base lamp
     up to $1^{\prime} 8^{\prime \prime}$ long and ' ${ }^{\prime \prime}$ diameter. No. 75 Type Nos. 175 and 275 take any miniature lamp up to $1-3 / 16^{\prime \prime}$ lonc and " 8 " diameter. All parts are burnished cadmium plated excep' the bezel, which has a highly polished chrome finish. Stanca colors. No. 75 Types are regularly supplied with colorless sman glass frosted on back, behind which is placed a colored disc that glass appears white until the iamplain glass for use wi FAC. SP or SFB. W
    Neon Glow Lamps.

    TYPE NUMBER
    STYLE SOCKET
    LIST PRICE ${ }^{\text {r }}$
    
    

    TOTALLY ENCLOSED MINIATURE BAYONET ASSEMBLIES

    ALSO Types $100 \mathrm{~N}, 101 \mathrm{~N}$ for Use with NE5I NEON GLOW LAMP; ${ }^{\text {I }}$ ) The 100 and 100 N have glass Jewels. The 101 and 101 N have ransparent plastic domes. The fluted-on-inside type plastic dome has three times the visibility of the plain cap. All types mount in ll/16" diameter hole on panels up to $3 / 8^{\prime \prime}$ thick. Breakdown 2000 volts. 101 and 101 N come in amber, colorless. red and milky white in the transparent; and blue, green. red, milky white and yellow in the translucent.
    With proper current limiting resistors 100 N and 101 N can be operated on any voltage over 65 volts AC and 90 volts DC. Resistor is built into the housing. Units carried in stock have 100,000 ohm resistors for 115 volt operation.

    LIST PRICES
    

    ## NEON INDICATOR LIGHTS

    

    No. 105 POSTLITE

    ## for maximum visibility

    

    No. 110 FLUSHLITE
    No. 110 FLUSHLITE is Underwriters Listed, Comes equipped with NE. 2 neon lamp with built-in equipped with Nistor Can be mounted by two 100.000 ohm resistor. Can be mounted by two panel. Body is milky white polystyrene. Rated at 125 volts, $1 / 10$ watt.
    No. 105 POSTLITE comes equipped with NE-2 neon lamp with built-in 100,000 ohm resistor. Body and head molded in one piece from clecr, colorless polystyrene. Mounts in $1 / 2^{\prime \prime}$ diameter hole. Rated at 125 volts, $1 / 10$ watt.

    LIST PRICES
    No. 105 POSTLITE $\qquad$ $\$ 1.35$
    No. 110 FLUSHLITE $\qquad$ $\$ 1.195$

    DIAMOND.CUT JEMELS IN STANDARD COLORS THREADED TYPE - WITH NUTS
    
    mounts in $1^{\prime \prime}$ hole on panels up to !
    hick. Complete assembly supplied
    with fibre washer, hex nut and lock-
    washer. LIST PRICE
    washer. LIST PRICE
    No. 60A3-27 and 75A3-C POLISHED CHROME FINISH. OTHER NOS.. NICKEL FINISH.

    ## SLOTTED TYPES

    | TYPE No. | SHANK | O.D. | LIST PRICES |
    | :---: | :---: | :---: | :---: |
    | 22..... | 8** 10 | '8' | S0.28 |
    |  | 3/16' long | . $3^{\prime} 8^{\prime \prime}$ | . 28 |
    | 24............1/4" long 9/32* ${ }^{\prime \prime}$ |  |  |  |

     No. 24
    $11 / 32^{\prime \prime}$
    JEWEL JEWEL.

    OTHER JEWEL FINISHES
    SP .......Smooth Plain
    SFB......Smooth Frosted Back SFA.....Smooth Frosted All
    

    ## LOOK FOR THIS DRAKE DISPLAY BOARD

    ## AT YOUR DEALER'S

    It shows a representative assortment of DRAKE units. will help you in selecing exact the right jewel or Pour requirements.
    

    BASIC
    TYPES

    MINIATURE SCREW
    

    217H
    MINIATURE
    BAYONET
    

    DIAL LIGHT ASSEMBLIES

    Code nurabers for Types:
    MIN. SCREW - 100 SERIES MIN. BAYONET - 200 SERIES CAND. SCFEW - 400 SERIES

    ## CLIP BRACKET TYPES

    

    103 KH - 203AH 403AH WITH FLANGE BRACRETS
    

    404AH
    WITH
    fLAT BRACKETS

    ## LISY PRICES

    

    MISCELLANEOUS

    ## TYPES

    

    ## BUSS Fuses

    ## 

    for Protection of Radios, Instruments and Electronic Equipment

    ## BUSS FUSE CLIPS for $1 / 4$ inch Fuses

    (SFE 4, 6, 9, 14, 20, AGX, AGC, ABC,
    MDL, MDX, MJB, MJW, MTH fuses)
    

    Spring bronze clips are made of Herculoy a lironze of distinctly superior quality for spring clips. This metal gives clips great gripping strength and ability to retain spring under adverse conditions.
    Beryllium copper clips combine low electrical resistance with great gripping strength. This means maximum electrical conductivity and results in cooler operation of clips and fuse.

    Size of mounting hole; . 130 to 135 inch.
    Center of hole to back-stop; .125 to .135 inch.
    Min. length of contact surface; $8 / 32$ inch
    Maximum height; $14 / 32$ inch
    Maximum width; $11 / 32$ inch
    List Price 4548 Spring bronze clip, Nickel plated.
    4592 Beryllium copper clip, Silver plated.

    ## BUSS CLIP ASSEMBLIES

    for $1 / 4$ inch Fuses MDL, MDX, MJB, MJW, MTH fuses)Clips as described above. Brass terminal. $3 / 16$ inch 6.32 washer head terminal screw. $1 / 4$ inch $4-40$ flat head iron mounting screw.
    4431 includes No. 4548 spring bronze clip, terminal screw, terminal and mounting screw.

    List Price $\$ 0.10$ 4432 includes No. 4592 beryllium copper clip, terminal screw, terminal and mounting screw. List Price $\$ 0.12$

    ## BUSS FUSE BLOCKS

    |  |  |  | Bakelite base blocks $3 / 16$ inch thick. Countersunk mounting holes for No. 6 flat head screws. Brass No. 6 terminal screws. No. 4548 spring bronze clips. <br> Full base, Screw forminal Block: |  |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | For Fune: | One Pole | List Price | Two Pole | List Price | Three Pole | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$ |
    | SFE4 | 4511 | \$0.40 | 4521 | \$0.80 | 4531 | \$1.20 |
    | SFE6 | 4516 | . 40 | 4526 | . 80 | 4536 | 1.20 |
    | SFE9 | 4517 | . 40 | 4527 | . 80 | 4537 | 1.20 |
    | $\left.\begin{array}{l} \text { SFE14, AGX, } \\ \text { MJB, MJW } \end{array}\right\}$ | 4514 | . 40 | 4524 | . 80 | 4534 | 1.20 |
    | $\begin{aligned} & \text { SFE20, ABC, AGC, } \\ & \text { MDL, MDX, MTH } \end{aligned}$ | 4512 | . 40 | 4522 | . 80 | 4532 | 1.20 |
    |  |  |  | oll bose minal | , Sold <br> Block |  |  |
    | For Fuses |  | List Price | Two Pole | $\underset{\text { Price }}{\text { List }}$ | Three Pole | List Price |
    | $\begin{aligned} & \text { SFE14, AGX, } \\ & \text { MJB, MJW } \end{aligned}$ | 4520 | \$0.17 | 4485 | \$0.37 | 4403 | \$0.58 |
    | SFE20, ABC, AGC, MDL, MDX, MTH | 4405 | . 18 | 4408 | . 36 | 4411 | . 54 |

    ## Other standard and special fuses, fuse blocks and fuse holders

    If the fuses, blocks and holders shown do not fit your requirements ask for information on other types.
    Fuses and fuse mountings to meet JAN and Military specifications also are available.
    If you have a special problem in protection send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.

    ## BUSS FUSE HOLDERS

    Make it convenient to mount fuse on any equipment.
    Changing or inspection of fuse is easy and quick.
    Holder has removable knob. Fuse projects beyond hody of holder and is not held tight on orher end when knoh is removed.

    Fuse and contacts are protected from dirt and fumes.
    Good contact on fuse is made certain by strong coil spring pressure. Poor contact heating that often causes fuse to blow needlessly is eliminated.

    Holder bodies are made of black bakelite. All current carrying parts are of brass or copper. Terminals and all contact parts are bright alloy plated.

    ## PANEL MOUNTED HOLDERS <br> for $1 / 4$ inch Fuses

    Holders are inserted through hole
     in panel and are locked in place by nut on holder. They can be used on panels up to $5 / 16$ inch thick.
    Bayonet type knob requires only quarter turn
     to remove fuse. No screw driver is needed.

    Side terminal is held mechanically as well as by solder. Heat of soldering wire to it will not cause it to loosen or come off.

    Vibration will not cause failure of terminals as they are designed to stand severe service.

    Neoprene washer and steel locking nut (zinc plated, chromate dipped) furnished with each holder.

    Wire hole in terminals; . 115 inch.
    Normal current carrying capacity; 15 amperes.
    Listed as approved by Underwriters' Laboratories.
    HJM for $1 / 1 / \times$ linch fuses (AGX, MJB, MJW, SFE 14 ) HKP for $1 / 4 \times 11 / 4$ inch fuses (ABC, AGC, SFE20, MDL, MDX, MTH)
    .46

    ## IN-THE-LINE HOLDERS <br> for $1 / 4$ inch fuses

    These holders are for mounting fuse in wire. Holders consist of body and bayonet type
     knob - two contacts ready to be staked on ends of wire - a pressure spring that is used under
    contact in base of holder.
    Holders can also be mounted in panel up to $5 / 16$ inch thick by means of a No. 9969 Spring nut (Nut not furnished). Flat spot on holder permits it to be locked against rotation.

    Normal current carrying capacity: 15 amperes.
    Symbol
    List Price
    HOI for $1 / 4 \times 1$ inch fuses (AGX, MJB, MJW, SFE 14) $\$ 0.20$ Takes No. 18 or smaller wires.
    $H D J-A$ for $1 / 4 \times 11 / 4$ inch fuses ( $A B C, A G C$,
    MDL, MDX, MTH, SFE 20)
    Takes No. 18 or smaller wires.
    HDJ.B for $1 / 4 \times 11 / 4$ inch fuses (as above)
    Takes No. 14 or 16 wires.
    No. 9969 Spring nut for panel mounting ahove holders. . 04

    ## Holder-and-Fuse Assemblies

    Assembly consists of holder, fuse and 19 inch loop of No. 14 wire already staked and soldered to terminals.
    Offer simplest way to install protection. Wire can he cur to give leads of desired length. A spring nut, furnished with holder, can be used to mount holder on panel up to $3 / 32$ inch thick.

    List Price
    HRJ Complete with SFE 20 fuse
    \$0.45
    HRI Complete with SFE 14 fuse .45
    HRH Complete with SFE 9 fuse

    ## BUSS Fuses

    ## FUSETRON $\underset{\text { fitment }}{\text { DUAL }}$ Fuses and Fuse Holders

    ## for Protection of Radios, Instruments and Electronic Equipment

    ## FAST ACTING FUSES for PROTECTION OF INSTRUMENTS, Etc.

    

    Formerly called 8AG.
    Dimension $1 / 4 \times 1$ inch, Glass tube.
    Provide high speed action necessary to protect sensitive instruments

    | Voltage | Symbol | Anperes | L ist Price |
    | :---: | :---: | :---: | :---: |
    | 250 or less | AGX | 1 \%00 | \$1.20 |
    |  | AGX | $-1 / 200$ | . 46 |
    |  | AGX | 1100 | +0 |
    | " | AGX | 1/32 | 38 |

    

    Formerly called 8AG
    Dimension $1 / 4 \times 1$ inch, Glass tuhe.
    Provide high speed action necessary to protect instruments. Test specification-carry $100 \%$, open at $200 \%$ in 5 seconds.
    AGX are listed as approved by Underwriters' Laboratories.

    | Voltage | Symbol | Amperes | List Price |
    | :---: | :---: | :--- | ---: |
    | 250 or less | AGX | $1 / 16$ | $\$ 0.25$ |
    | "" | AGX | $1 / 8$ | .16 |
    | " | AGX | $1 / 4,3 / 8,1 / 2$ or $3 / 4$ | .15 |
    | 125 or less | AGX | $1,112,2$ or 3 | .08 |
    | ". | AGX | 5 or 20 | .05 |

    ## BUSS FUSES - SFE STANDARD

    All cuts actual size. Fuses of different amperages are of different lengths - to make it impossible to insert too large a size - thereby preventing over-fuseing.
    

    Glass tube - diameter $1 / 4$ inch. Length as pet table below. Test specification-carry $100 \%$, open at $125 \%$ in $1 / 2$ hour. Listed as approved by Underwriters' Laboratories.
    Made according to specifications of Society of Automotive Engineers.

    | Engineers. |  |  |  |  |
    | :---: | :---: | :---: | :---: | :---: |
    | Voltage | Symbol \& Amperes | Length Inches | Pounds per 100 | List Price |
    | 32 or less | SFE4 | 5/8 | . 70 | \$0.05 |
    | ، | SFE 6 | 3/4 | . 71 | . 05 |
    | ${ }^{\prime}$ | SFE 9 | 7/8 | . 72 | . 05 |
    | ${ }^{6}$ | SFE14 | 1116 | . 77 | . 04 |
    | ${ }^{4}$ | SFE 20 | $11 / 4$ | . 83 | . 04 |
    | * | SFE 30 | 1716 | 1.05 | . 06 |

    ## BUSS PIG-TAIL FUSES

    
    $1 / 4 \times 11 / 4$ inch Glass tube fuse with $13 / 4$ inch leads of No. 20 tinned copper wire. Symbol GJV.
    $1 / 4 \times 11 / 8$ inch Paper tube fuse with $13 / 4$ inch leads of No. 20 tinned copper wire. Symbol GJC.
    Test specifications - carry $110 \%$, open at $135 \%$ in 1 hour.
    Listed as approved by Underwriters' Laboratories.
    

    BUSS GLASS TUBE FUSES, $1 / 4 \times 11 / 4$ inch
    

    Test specification-carry $110 \%$, opern at $135 \%$ in 1 hour.
    Lisred as approved by ('nderwriters' Laboratories.

    | Voleage | Symhol | Amperes | List Price |
    | :---: | :---: | :--- | ---: |
    | 250 or less | AGC | 116 | $\$ 0.25$ |
    | " | AGC | 1,8 | .16 |
    | $"$ | AGC | $1 / 4,38,1 / 2$ or 34 | .15 |
    | $"$ | AGC | $1,11 / 2$, or 2 | .08 |
    | $"$ | AGC | 3 | .07 |
    | $"$ | MTH | 4,5 or 6 | .10 |

    

    Test specificarion-carry $110 \%$, open at $135 \%$ in 1 hour.
    Voltave

    | 32 or less | AGC | $5,6.71 / 2,10$ or 15 | $\$ 0.05$ |
    | :--- | :--- | :--- | :--- |
    |  | AGC | 25 or 30 | .06 |

    20 ampere size is an SFE 20 fuse.
    Sizes larger than 30 ampere are not recommended as clips or fuse holders would nor permir fuse to carry such high currents. If surges or starting currents make heavier fuse necessary, use MDL Fuse on dual-element fuses,

    ## BUSS CERAMIC TUBE FUSES $1 / 4 \times 11 / 4$ inch

    

    Formerly called 3AB
    Test specification-carry $110 \%$, open at $135 \%$ in 1 hour.
    Listed as approved by Underwriters' Lahoratories, 15 amps : and less.
    oltase
    ABC
    Amperes
    List Price
    250 or less

    ## ABC

    $10,12,15$ or 20
    \$0.15

    ## FUSETRON FUSES, $1 / 4 \times 11 / 4$ inch <br>  <br> Glass tube -Dual-Element type

    ## LONG TIME-LAG OR SLOW BLOWING TYPE

    These fuses avoid needless blows from starting currents or surges. They have a fuse link which operates only on very high overloads or short-circuits - they have a thermal cutout which functions on low overloads - the thermal cutout cannot operate quickly at any load, hence long time-lag is obtained. Yet protection is afforded against short-circuits or continued overloads.
    Test specification-cartv $110 \%$, open at $135 \%$ in 1 hour.
    Approximare blowing rime: at $200 \%$ load MOL 25 sec. MDX 12 sec.
    $\begin{array}{lllllll}\text { at } 300 \% & \text { a } & \text {. } & 8 & \text {. } & \text {.. } & 3 \\ \text { at } 500 \% & \text {. } & \text {. } & 3 & \text { " } & \text { ". } & 3 / 2\end{array}$
    125 and 250 volt sizes listed as approved by Underwriters' Laboratories.
    250 oltage Symbol Amperes List Price
    250 or less MDL $1 / 100$ or $1 / 32, \quad \$ 0.33$
    " MOL $1 / 2,6 / 10,8 / 10$ or 1 Mo 10,10 or 10
    " MOL $21 / 2$ or $28 / 10$. 20
    32 or less MDL $4,5,6 \frac{1}{4}, 8,10,15,20,25$ or 30

    ## FUSETRON PIG-TAIL FUSES

    

    These are MDL fuses with $11 / 2$ inch tinned copper wire leads. 0 to 8 amp have No. 20 wire, 10 to 15 amp . have No. 16 wire and 20 to 30 amp . have No. 14 wire.

    ## Symbol MDV

    For sizes and all other information see MDL fuses above.

    | Amperes | List Price |
    | :--- | ---: |
    | $1 / 100$ or $1 / 32$ | $\$ 0.33$ |
    | $1 / 16$ to 1 | .27 |
    | $11 / 4$ to 2 | .25 |
    | $21 / 2$ to 30 | .20 |

    ## mether

    ## 3 AG "LITTELFUSES" <br> 

    $1 / 4^{\prime} \times 1 / 1^{\prime \prime}$
    Standard Package-100
    Blow
    Time

    | Percentage of <br> rating | Blow Time |
    | :---: | :--- |
    | $110 \%$ | Iife |
    | $135 \%$ | $0-1$ hour |
    | $200 \%$ | $0-2$ minutes |

    311000 Scrics Littelfuses-Quick to medium-blowing fuses-for use in radios, auto-radios, amplifiers, etc. Straight-type fuse clement-positioned to center of fuse-makes open link always in the visible portion of fuse.

    | $\begin{aligned} & \text { Catalog } \\ & \text { No. } \end{aligned}$ | Amp. rating | $\underset{\text { Max. }}{\text { Molt }}$ | List Price, each |
    | :---: | :---: | :---: | :---: |
    | 311005. | 5 | 32 | \$0.05 |
    | 31107.5 | $71 / 2$ | 32 |  |
    | 311010. | $10^{10}$ | 32 | . 05 |
    | 311015. | 15 | 32 | . 05 |
    | 311020. | 30 | 32 | . 04 |
    | 311025. | 25 | 32 | . 06 |
    | 311030. | 30 | 32 | . 06 |

    312000 Serics Littelfuses-Quick-acting fuses-for low time-lag applications similar to the $\mathbf{3 1 1 0 0 0}$ fuse serics above. Protective-coated elements, on fuses to 3 amperes, prevent oxidation and promote clean break on fusion. Diagonal element alignment of this fuse assures accurate alignment and calibration, even when the fuse element is expanded by heat.

    | Catalog No. | Anp. rating | $\begin{gathered} \text { Mas. } \\ \text { volt. } \end{gathered}$ | List Price each |
    | :---: | :---: | :---: | :---: |
    | 312.062 | 16 | 250 | \$0.17 |
    | 312.125 | is | 250 | . 16 |
    | 31.150 | 15/100 | 950 | . 16 |
    | 312.175 | . 17.5 | 250 | . 16 |
    | 31.187 | 336 | 250 | .15 |
    | 312 | 2/6 | 250 | .15 |
    | 312.300 | 3/10 | 250 | . 15 |
    | 312.375 | $8 / 3$ | 250 | . 15 |
    | 312.510 <br> 312.750 | $1 / 3$ | -250 | .15 .15 |
    | 312.750 31001. | $1{ }^{3 / 4}$ | -250 | . 15 |
    | $31201 . \bar{\square}$ | 13\% | -50 | . 08 |
    | 312002. | $\stackrel{3}{ }$ | 250 | . 08 |
    | 312003. | 3 | 250 | . 07 |
    | 3120) 4. | $\pm$ | 950 | . 10 |
    | 312005. | i | $\bigcirc 50$ | . 10 |
    |  | ${ }_{8}^{6}$ | -250 | .10 .15 |
    | 312008. | 8 | 125 | . 15 |

    Approved by Underwriters' Laburatories.

    3 AG "SLO-BLO" "LITTELFUSES"
    

    14"x11/4"
    Standard package-100

    ## Blow

    time| Percentage of <br> rating | Blow Time |
    | :---: | :--- |
    | $110 \%$ | Life |
    | $135 \%$ | $0-1$ hour |
    | 200 | 60 seconds max. |
    |  | 5 scconds min. |

    313 м月 Series Littelfuses-Slo-Blo fuses with high time-lag to withetand heavy surges-quick on shorts. Designed for circuits with equipment having high inductive or capacitative surges, such as magnets, solenoids, etc., and for circuits with heavy starting currents, such as motors and lamp circuits. Anti-fatigue construction (compound element, with spring and resistor) makes these fuses ideal for inter-mittent-duty circuits on vibrators, control circuits, hi-tension electric fences, smail magnets, coils, etc. "Pioneered by Littelfuse."

    | $\begin{aligned} & \text { Citualog } \\ & \text { Nos. } \end{aligned}$ | $\begin{aligned} & \text { Pormer } \\ & \text { No. } \end{aligned}$ | Amp. rating | $\begin{aligned} & \text { Mux. } \\ & \text { volt. } \end{aligned}$ | List Price, each |
    | :---: | :---: | :---: | :---: | :---: |
    | 313.010 | 1259 | 1/100 | 125 | \$0.33 |
    | 313.1382 | 1261 | 1/32 | 125 | . 33 |
    | 313.160 | 1262 | 1/16 | 125 | . 27 |
    | 313.100 |  | 1/10 | 125 | . 27 |
    | 313.125 | 1263 | 1/8 | 125 | . 27 |
    | 313.150 |  | 15/100 | 125 | . 27 |
    | 313.175 |  | . 175 | 125 | . 27 |
    | 313.157 | 1263-4 | 3/16 | 125 | . 27 |
    | $313.2(1)$ <br> 313.250 <br> 150 | 1264 | $2 / 10$ $1 / 4$ | 125 | . 27 |
    | 313.300 | 1204 | 2/10 | 125 | . 27 |
    | 313.375 | 1265 | $3 / 8$ | 125 | . 27 |
    | 313.4 ( ) |  | $4 / 10$ | 125 | . 27 |
    | 313.500 | 1266 | 1/2 | 125 | . 27 |
    | 313.600 |  | 6/10 | 125 | . 27 |
    | 313.700 313.750 3150 |  | 7/10 | 125 | . 27 |
    | 313.80 |  | 8/10 | 125 | . 27 |
    | 313 (k)1. | 1268 | 1 | 125 | . 27 |
    | $3131: 2.5$ |  | $11 / 4$ | 125 | . 25 |
    | 31301.5 | 1041-C | $11 / 2$ | 125 | . 25 |
    | 31311.6 313012. | $\cdots 1042-{ }^{\circ}{ }^{\prime}$ | ${ }_{2}^{1-6 / 10}$ | 125 125 | . 25 |
    | 31302.5 | 1042-C | 21/2 | 125 | . 20 |
    | 313103. | $1043-\mathrm{C}$ | 3 | 125 | . 20 |
    | 313113.2 |  | 3-2/10 | 125 | . 20 |
    | $313(\mathrm{~N}) 4$. |  | $\stackrel{1}{2}$ | 125 | . 20 |
    | 313145. | 1080-C | T | 125 | . 20 |
    | 3136.25 313008. 31040 |  | $8{ }_{8}^{81 / 4}$ | 32 32 | . 20 |
    | 3130110. | 1081- ${ }^{\text {c }}$ | 10 | 32 | . 20 |
    | $31311 \%$ | $11182-\mathrm{C}$ | 15 | 32 | . 20 |
    | $33^{10} 0$ | $111 \times 3-\mathrm{C}$ | 0 | 32 | . 20 |
    | $3{ }^{3}$ |  | 30 | 32 | . 20 |
    | 31\% 36 | ........... | 30 | 32 | . 20 |

    Bumbed hx ["nderwritors' Laboratories through 5 amps.

    ## 3 AB "TINY MIGHTY" ''LITTELFUSES'’

    

    ##  Short Circuit

    
    

    NEW FUSE MOUNTING PANELS
    Open trpe fuse panels, stocked in 12 -pole units as shown-we cut them to $1,2,3,4$ or more poles as ordered, or you maty rut them in your plant ( $1 / 8^{\prime \prime}$ allowance for satic cut).

    | Fuse I'ype | Mtr. "ype | Dim. "13" | Dim. "C' | Dim. " ${ }^{\text {n' }}$ | Dim. "E" |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 8 AC | S | 138 | $3 / 16$ | 5/8 | $21 / 2$ |
    | 3A( | - | 15/8 | 316 | 5/8 | 21/52 |
    | 3AC: | ' | 238 | $7{ }^{2}$ | 29.6 | 11/16 |
    | .111; | T | $23 \%$ | 7732 | 29 ¢2 | ${ }^{13} 16$ |
    | E. 16 | 'r' | 2\% 4 | 93 | 31.15 | $1 / 5$ |

    FOR $4 A G$ FUSES-TYPE "T"
    Mountings with Solder Terminals-Type "S" Mhaphicr-13ronze, bright-dipped finish "lug- "lips" ar
     Mountings with Screw Terminals-Type " $T$ ". pacel to $\mathrm{U} / \mathrm{l}$ requirements for equipment eriremit notertinh. Alehen phted hrass surw termaths, mich ed or Nifluet) have rupuce wire-r taining washers undur
     terminal surek wathers or termimalo.

    | Catalog No. | $\begin{aligned} & \text { No. } \\ & \text { Polr. } \end{aligned}$ | $\begin{aligned} & 1 \text { inn. } \\ & \because . \end{aligned}$ | List Price Each |
    | :---: | :---: | :---: | :---: |
    | 4561)11 | 1 | 23 | \$0.50 |
    | 456 (11) | 2 | $1{ }^{11} 16$ | 1.00 |
    | 456010: | 3 | 219 : | 1.50 |

    
    

    FOR 3AG FUSES—TYPE "S"

    | Catalog No. | $\begin{aligned} & \text { No. } \\ & \text { PClis: } \end{aligned}$ | $\begin{aligned} & \\| i n t . \\ & \because \end{aligned}$ | List Price Each |
    | :---: | :---: | :---: | :---: |
    | 357101 | 1 | 1. | \$0.17 |
    | 357110 | 2 | $1{ }^{-1}$ | . 34 |
    | 35760:3 | 3 | 13. | . 51 |

    I'ric*- 35700t to 357012, 4 to 12 molio. on sur-itil yumation only

    FOR 3AG FUSES-TYPE "T"

    | Catalog No. | $\begin{aligned} & \text { Nu. } \\ & \text { lion } \end{aligned}$ | $\begin{aligned} & \text { !inn. } \\ & \cdots .! \end{aligned}$ | List Price Each |
    | :---: | :---: | :---: | :---: |
    | $3561 \times 1$ | 1 | $\because:$ | \$0.40 |
    | 356:102 | 2 | [11 | . 80 |
    | 356010: | 3 | $\because{ }^{19} 8$ | 1.20 |

    FOR 5AG FUSES-TYPE "T"

    | Catalog No. | $\ddot{\\|}_{i, 1} \mid=$ | $\begin{aligned} & \text { linn. } \\ & \because \Lambda \end{aligned}$ | List Price Each |
    | :---: | :---: | :---: | :---: |
    | 556011 | 1 | $\because$ | \$0.60 |
    | 5561 に! | 2 | $1{ }^{13}$ | . 95 |
    | 556000 | \% | $\underline{25 .}$ | 1.80 |

    Irises 556004 to 556012,4 poles. on
    surerial quotation only

    FOR 8AG FUSES-TYPE "S"

    | Catalog No. | $\begin{aligned} & \text { Nin. } \\ & \text { Polles } \end{aligned}$ | $\begin{aligned} & \text { Iit!. } \\ & \text { ". } \end{aligned}$ | List Price Each |
    | :---: | :---: | :---: | :---: |
    | 387001 | 1 | 1/2 | \$0.17 |
    | 387010 | $\because$ | 11/8 | . 34 |
    | 38:(H) ${ }^{\text {\% }}$ | 3 | 13/4 | . 51 |

    ## LITEIEUSE Exter Short Circuit＇＂

    LITTELFUSE BERYLLIUM COPPER AND PHOSPHOR BRONZE FUSE CLIPS
    

    Littelfuse fuse（llips are arailable in three shandard styles：＂ $\mathcal{N}$. ＂with＂ears＂or fuse －tops：＂XX．＂earless：and＂XXX．＂＂Lug． Clips，＂a new Littelfuse clip having a lug or solder terminal made as an integral part of the rlip．All styles are furnished in either 1＇hosphor－Bronze or Beryllium Copper．
    

    | Catalog Number | $\begin{aligned} & \text { Former } \\ & \text { Sumber } \end{aligned}$ | Fuse Adaptation |  | Dameximosi |  |  |  |  |  |  | $\begin{gathered} \text { Unit } \\ \text { Wit. } \\ \text { gramis } \end{gathered}$ | $\begin{aligned} & \text { Stel. Pks. } \\ & \text { Wi.- ibs. } \end{aligned}$ | $\begin{aligned} & \text { List } \\ & \text { Price } \end{aligned}$Each |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  |  |  | A | 13 | C | E | F | G | H |  |  |  |
    | BERYILIUM COPPER CLIPS SILVER PLATED—WITH FUSE STOP＂EARS＂ |  |  |  |  |  |  |  |  |  |  |  |  |  |
    |  | ${ }_{1}^{1216163}$ | SFF，3ACid 8AG Fuses | K | ${ }^{29} 9$ | $1 / 1$ |  | ＂11950 | 1／8 | ${ }_{3}^{5}$ | .$^{131}$ | ${ }_{1}^{16}$ | 1 | \＄0．06 |
    | 125001 | ${ }_{121813}^{12173}$ | BA， | स | \％ | 18 | 130 | ． 38.15 | 13515 | ${ }^{3}$ | ． 1717 | ${ }_{3}^{1.6}$ | 2 | ． 15 |
    | 127001 | 1219 | N．E．C．－30 Fuser． |  | 12.10 | ， | 19\％ | ${ }^{5}$ | 16 | \％ | ． 203 | 5.5 | 2 | ． 18 |
    | 1290101 | 1221 | Standard Li－－才ilage | X | 176 | 13.16 | ． 750 | 1／8 | ${ }^{13}$ | 的 | ． 265 | 14.5 | 4 | 40 |
    | SILVER PLATED－EARLESS TYPE |  |  |  |  |  |  |  |  |  |  |  |  |  |
    | 121002 123002 | ${ }_{\substack{1417 \\ 143}}$ |  |  |  |  |  |  |  |  |  |  |  |  |
    | 123002 125002 | 1437 |  | X X | 3164 | 3 |  | ． 388 | \％ | 淮 | ． 1717 | ${ }_{3}^{1.6}$ | $\frac{1}{2}$ | ． 15 |
    | 127002 | 1475 | N．E．C．－30 Fuses． |  |  |  | 19\％ | 5 | ，16 | $1 / 4$ | ．203 | 5.5 |  | ． 18 |
    | 129002 | 1474 | Standard Ui－Voltage． | X | 17 | 18 \％ 16 | ．730） | 7／8 | ${ }^{1316}$ | ${ }_{16}$ | 26.5 | 14.5 | 4 | ． 40 |

    SILVER PLATED－＂＇LUG－CLIP＂－－SOLDER TERMINAL ATTACHED
    

    ## PHOSPHOR BRONZE CLIPS

    BURNISHED NICKEL PLATE－WITH FUSE STOP＂EARS＂

    | 101001 | 101113 | SFF，3AC d Als，if 8Aci． | － | ${ }^{29} 96$ | 1／4 | ${ }^{3}$ 化 | ${ }^{11}$ | 1／4 | 3／6 | ． 131 | 1 | 1 | ． 02 |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 103001 | 1319 | 4AGd 4AB3．．．． | $\lambda$ | 9 | 3／8 | ${ }^{13}$ | ． 385 | 明 | ${ }^{16}$ | ．173 | 1.7 | 1 | ． 05 |
    | 105001 | 2049 | 5aCl，Hi－Yoltare－Midget | N | 3／4 | 1／2 | 7， 76 | 1／2 | 13／6 | 7 | ． 196 | 3.8 | $\stackrel{2}{2}$ | ． 05 |
    | 107001 | 5048 1463 | N．1．C．C．30 Fuses ．．．．．．．．．．．．．．．．． | N | ${ }^{13}$ | 186 | 19.6 | 5／8 | ${ }^{1810}$ | 3／4 | ${ }_{26} .203$ | 5．8 | 4 | ． 06 |
    | $\underline{109001}$ | 1463 | standard Hi－Voltage．．．．．．．．．．．．．．． | X | 1738 | 1510 | ． 750 | 7／8 | ${ }^{13} 16$ | 516 | ． 265 | 15.6 | 4 | ． 16 |

    BURNISHED NICKEL PLATE－EARLESS TYPE
    
    

    Finger Operated Knob
    
    

    342003

    ## ＂LITTELFUSE＂

    FUSE EXTRACTOR POSTS
    Quicker，safer method for mounting and changing fuses．Held in end of removable knob，fuse is easily replaced by unserewing knob．Availahle with finger－operated knob or with screw driver slot knob．

    | Catalog No． | $\begin{aligned} & \text { Forn.er } \\ & \text { No. } \end{aligned}$ | Descr．－－Kinob，How Operated | Mtg．Hole | Length Ünder Panel | List Price Each |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 341001 | 1075 S | 3AG－－screw Driver． | ． 500 （1）．505＂ | 23 的 | \＄0．46 |
    | 342001 | 1075 F | 3AG－linger．．．．． | ． $50(1) .505^{\prime \prime}$ |  | ． 46 |
    | 342003 |  | 3AG－Miniatur | ． $5000-.505^{\prime \prime}$ | 1．113： | ． 46 |
    | 342006 | ．．．．．．．． | 3AG－Miniature Watertight | ． $620-.625^{\prime \prime}$ | 1．：1： | 2.35 |
    | 342007 |  | 3AG－（elongated hole） | $\frac{.535}{510} \times \frac{.685{ }^{\prime \prime}}{600^{\prime \prime}}$ | 1．171 | 2.20 |
    | 342007 |  | 3nG－（elongated hole） | ． $540 \times .69{ }^{\prime \prime}$ | 1.1 .1 | 2.20 |
    | 342008 | ．．．．．． | 3AG－Miniature－Dustproof． | ．500－．505＊＊ | 1．03： | ． 54 |
    | 442001 442006 | ．．．．．．． | 4A（3．．．．．．．．．．．．．．．．．． | ．622－6．3．30 ${ }^{\text {a }}$ | $\cdots$ | 1.25 |
    | 442006 442007 | ．．．．．．．． | 4AG－Finger－Watertight 4 AG ．．．．．．．． | ． $6220-620-625^{\prime \prime}$ | 1.312 | 2.35 2.20 |
    | 570001 |  | 5AG： | ． $850-.855^{\prime \prime}$ | 1.472 | 1.35 |
    | 571004 |  | 5AC－Finger | ．850－．855＂ | 1.47 | 1.70 |
    | 371001 | 1087 S | 8AG－Screw Driver | ． $500-.50 \overline{3}^{7}$ | 23 32 | ． 46 |
    | 372001 | 1087F | 8AG－Finger．．． | ． $500-.50 \mathrm{~S}^{\prime \prime}$ | 27 | ． 46 |

    In－line fuse retainer now assembled with $19^{\prime \prime}$ loop of wire lead．

    # LITE LEUSE Ematr Short Circuit＂ 

    ## 8AG INSTRUMENT high speed LITTELFUSES

    ocked（at Aasembly and other exrmsive littelnce feature or brotection of thetionte tert equipment，tralsamometer，mincri－ dia．accurately rated，hish speal action，fhort time lag．Voltare
     in series．

    | Catalog No． | Former | Amp． <br> lkating | Mins． Volt． | ，Pll．IC．ITCON： |  |  | List Price Ea． |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  |  |  | $\begin{aligned} & \text { Volt- } \\ & \text { meters } \\ & \text { Ohms P.V. } \end{aligned}$ | All Magnetic Movement Williammeters | Thermo－ coupl＇s |  |
    | 361.002 |  | 1／500 | 250 | Over 1000 | Gialvanometers | 0） 11.1 to（1－0．5 | \＄1．20 |
    | 361.003 | 1000 | 1／200 | 250 | Over 1000 | （ial vanometers | Lipto 0.1 | ． 46 |
    | 361.010 | 1001 | 1／100 | 250 | 1000 | ［＇p to 0－1 | 0.5 to（1－10 | ． 40 |
    | 361.1031 | 1002 | 1／32 | 250 | $5010-1000$ | 0－1 to 0－10 | 0－10 to 0－2． | ． 38 |
    | 361.062 | 11103 | 160 | $\because 50$ | 100－500 | 0－10 to（0－25 | 0－9．5 to 0－60 | ． 25 |
    | 361.120 | 1004 | \％ | 250 | $\cdots(1-100$ | $0-25$ to（1－75 | 0－7．5 to（0－150 | ． 18 |
    | 361．2：0 | 1005 | $1 / 4$ | 250 | 1（1）－3） | 0－7．5 $1000-1.50$ | 0－115 to 0－200 | ． 15 |
    | 361.37 .5 | 1006 | $3 / 8$ | 250 | 5－10 | $0-1.50$ to（1－250 | 1－－300 to（1－300） | ． 15 |
    | 361.500 | 1097 | 12 | 250 | 3－5 | 02.50 to 0－3．51） | 0－300 tor 400 | ． 15 |
    | 361.250 | 1007 －A | 3／4 | 250 |  | 0－350 to 0－50） | 0－11，10 to（－6ivo | ． 15 |
    | 361001. | 1008 | 1 | 250 |  | $0-500$ to 01－5．50 | （1－600 to（1－100\％ | ． 10 |
    | 36101.5 | 1008－ 1 | $1^{1}{ }^{12}$ | 250 |  | 0－7．50 to（1－1000 | （1－10001 to（1－1．20） | .10 |
    | $361(1) \geqslant$ | 1609 | $\stackrel{3}{ }$ | 250 |  | 0－1000 to 0－1500 | 0－1500 to 0－3000） | ． 10 |
    | 361003. |  | 3 | 250 |  | （1－1500 to 0－20）0 | 0－3000 to 0－3006） | ．1n |
    | $36100 \%$ ． |  | 5 | 3： |  | 0－2000 to 0－4000 | $0-6000$ to 0－50）（10） | .10 |

    ## BAKELITE IN－LINE FUSE RETAINER

    Designed to hamir an the rable or monnt in the chassis，the nline fuse retainer moked of high intpatt hatiplite is pri－ marils for low－voliage applications：car radios，heaters， spot lights．clorkis，elc．
    The disansembled unit consists of the bakelite borly recep－ ande bakelite knoh with metal insert，one sprimp．two nifo－edage rivet contacts．

    155010 Nerie－－Issenbled with a $19^{\prime \prime}$ loop
     550 M （ For li－amas stry fuve
    
    
    
    094020 FUSE RETAINER ASSORTMENT $\$ 4.80$ EACH CARD
    

    | Cataloy | List Price |
    | :---: | :---: |
    | 天umber | Deariplion |
    | Each |  |

    3AG SLO－BLO PIGTAIL FUSES
    315010 1／100 amp．（12．）volt）
    
     31.51 .50 1．j 100 athp，12．j velt）
     $31-200 \times 10$ armp，（125 volt） $315.300 \quad 3 \quad 10$ amp（1．5 woli） 31－100 10 101）（ 315.500 1．，amp（1．5）volt） 31.1600 （i／10 atme（13．j volt） $31.5-50 \quad 3$ amp（1－3 volt） 315.40 ， 10 amp（ 12.5 volt） 315001 amp．（12swolt） 31．81．2．） 1 amp．（12．3 volt $31.501 .0 \quad 1-10,10$ athli（ 12.5 volt） 31.00022 amp．（ 125 voli）
    $31.5020 .5{ }^{2} 2$ atmp（ 125 volt）
    $31.0003, \quad \overline{3}$ atmp．（12．j volt）
    $31.503 .2 \quad 3-10$ anp．（12．j volt）
    $31.5004 . \quad$ t anp．（I2．）voll）
    $\$ .45$
    .45 .45
    .45
    .34

    | （ intalor <br> Nimulier | Dearription | List Price Each |
    | :---: | :---: | :---: |
    |  | 3AG PIGTAIL FUSES |  |
    | こ！心．Oに？ | 1 liatup．（2．j）volt） | \＄． 25 |
    | 314.1 \％ |  | 23 |
    | $314.20 \%$ | ${ }_{5}$ amp）（230）volt | ． 23 |
    | ： 15.37 | $3 \times$ amp．（230 volt） | 23 |
    | 315.500 |  | ． 23 |
    | 31－．7．30） | B atmp）（ 2.50 bolt | ． 23 |
    | 31.0001. | 1 athar（2．50 valt） | ． 15 |
    | ：1801．．5 |  | ． 15 |
    | 318002. | $\because$ atup．（2．0）valt） |  |
    | 31 400：3． |  | ． 15 |
    | 31 COOP | $\pm$ amp．（20），1t） | ． 16 |
    | 31500．）． | ．）amp（20） | ． 16 |
    | $315006 \%$ |  | ． 16 |
    | 8AG T．V．FUSES（No Pigtail） |  |  |
    | 312．13． | ${ }^{1} \mathrm{~N}$ a川lp．（2．50） | ． 16 |
    | 312.200 | ${ }_{4}{ }^{4}$ atup）（2．0）volt） | ． 16 |
    | 312．34．7＊ | $3 \times$ arar．（2．50 n（1） | ． 16 |
    | 36，${ }^{\text {a }}$（0） | $\mathrm{l}_{2}$ aump．（2．j）rolt） | ． 16 |
    | 302.8 .50 |  | ． 16 |
    | 302001 | 1 amp．（2，30 volt） | ． 08 |
    | 3tiz01．${ }^{\text {a }}$ | $1^{1}$ a amp．（ 12.5 volı） | ． 08 |
    | ： 42000. | 2 amp．（125 volt） | ． 08 |
    | 3ti2003． | 3 amp （（12．j volt） | 08 |
    | （i200\％） | f）4mp．（125 volt） | ． 05 |

    METER BACK MOUNTING
    

    Cat．No． 383002 （1059）－Mounts di－ rectly on meter binding post．Will not touch other posts on smallest standard meter．Linen bakelite base， $1^{\prime \prime} \times 11 / 8^{\prime \prime}$ ． langth over serew terminal， $11 / \mathbf{n}^{\prime \prime}$ ． Standard Package 20．Weight $1 / 2 \mathrm{lb}$ ．

    List Price Each
    $\$ 0.35$

    ## NEW TV SNAP－ON MOUNTINGS

    

    This suap－（）n Mounting has a rut out on both sides which makes the fuse acessibio for replatement from both sides．These atre asailable in bulk，on cards amd in
    


    ## LITTELFUSE

    ## NEW INDICATING FUSE POSTS FOR $3 A B$ and $3 A G$ fUSES

    Fulfilling a wide need for a fuse post which indicates by means of a light when fuse is blown. Littelfuse has developed a line of Indicating Fuse Posts in ratings up to 1.5 amperes and 500 volts. In normal use the indication light. located in the extractor knob, is shunted by the fuse and does not light. When the fuse blows. the open circuit voltage is thrown across the lamp which then lights, indicating that the fuse is blown.

    ## DESIGN FEATURES

    1 Smallest on the market. $23 / 8^{\prime \prime}$ overall. $3 / 4$ above panel, $15 / 8$ below panel, including the solder terminals.

    2 The most positive indication. Light is completely above panel to provide $360^{\circ}$ indication from any point.

    3 Rugged. Molded black high strength bakelite body; tough translucent nylon non-breakable knob of fingertip design. No sharp points or knurls.

    4 Can be manufactured to meet government requirements of water-proofing and fungus resistance.

    5 Mounts on $1-1 / 16^{\prime \prime}$ minimum center to center, dimension, knob, $15 / 16$ " OD, body mounts in $5 / 8$ " diameter "D" nonturuing hole: 5/8-18 thread on body.

    6 lost extracts fuse with knob removal.
    7 Contact pressure on fuse-5 to 8 lbs.
    8 Since the lamps are in shunt with the fuse the minimum rating is 1 amp for $6-8 \mathrm{~V}, 1 / 4$ amp for 10.32 V . and $1 / 8$ amp for $90-500 \mathrm{~V}$ : maximum amperage all posts 15 amps.

    9 For standard commercial application a half twist bayonet type of lock between knob and body will be used. Where it is desirable and necessary that the unit be splash and/or water-proof from front panel, "O" rings will be added between the knob and the body and between the body and the banel, and the locking design will be changed to a threaded sorew type instead of the bayonet style.

    10 ldentification. In order to provide positive identification of each different voltage range, the knob and the body will be clearly marked. This obviates the necessity for noninterchangeability between ranges, and/or color coding.

    11 loth solde terminals protrude from the bottom of the unit for easier assembly in equipment.

    The post will be available for five different voltage ranges as follows:
    (i. S volts using an incandescent lamp.
    fo- :id volts using an incandescent lamp.
    !n-1:3 volts using a neon lamp.
    1:מ-2.an volts using a neon lamp.
    $\because 60-500$ volts using a neon lamp.
    The variety of voltage ranges provides maximum light fintensity and long life. I, amps protected by selies resistors.
    

    ## 3AG INDICATING POST

    NON WATERPROOF-_BAYONET TYPE
    LOW VOLTAGE
    Part No.
    $:+4110$
    

    > List Prices $3+4111$

    HI VOLTAGE
    $3+4113$
    31 11114
    $3+101.1$

    ## WATERPROOF-SCREW TYPE

    LOW VOLTAGE

    | $3+411211$ | $4 i-a$ | $\$ 5.00$ |
    | :--- | :---: | ---: |
    | $3 H 1121$ | $11-3: \%$ | 5.00 |

    HI VOLTAGE
    $3+410 \cdot 3$
    $3+1031$
    31102.
    $\$ 3.40$

    | :101 - 1:30 | \$3.40 |
    | :---: | :---: |
    | 135-250 | 3.40 |
    | 2tio - fillo | 3.40 |

    ## PROTECT

    

    MANUFACTURED BY

    ## elmenco <br> PRODUCTS CO.

    ## FUSED PLUGS

    ## NOW AVAILABLE WITH TOUGH SHOCK-RESISTING HYCAR* SHELL for equipment subject to frequent handling and movement

    * B. F. Goodrich Trademark


    ## COMPLETE PROTECTION!

    The Elnienco Fused Plug is like any standard plug, is light in weight, bur easier to handle because of finger grips. How. ever, it contains 2 small fuses which provides complete protection against damage to the appliance and to the main line. The blown fuse is easy to remove and simple to replace. Fits any standard wall outlet.

    ## NEW MARKETS! GREATER VALUE!

    Approved by Underwriters Laboratories and used by many of the largest manufacturcrs of radio and electronic equipment, battery chargers, washing machines, curling irons, lighting equipment, automatic relay equipment, motors of every description, and practically every other' type of product that constames electricity.
    Every wired home, office and store is a prospect.
    We list a few of the torger consumers of the ELMENCO FUSED PLUG
    

    ## SIGHTMASTER CORPORATION

    ## NEW ROCHELLE, NEW YORK

    

    For use in radio, television, amplifiers and other electronic devices where heavy starting currents are not present.

    ## LOW VOLTAGE SERIES

    

    Quick blowing fuses with $11 / 2^{\prime \prime}$ No. 20 tinned copper leads (pigtails) for use in television and other electronic equipment where economy in space is essential.

    | Catalog No. | Maximum Voltage | List Price |  |
    | :--- | :---: | :---: | :---: |
    | 3 AG | $1 / 8$ | 250 | .23 |
    |  | $1 / 4,3 / 8,1 / 2$ or $3 / 4$ | 250 | .20 |
    |  | $1,11 / 2,2$ or 3 | 250 | .15 |
    |  | Underwriters' | Laboratories Approved |  |
    |  |  |  |  |

    
    Test $\quad\left\{\begin{array}{cl}\% \text { of Rating } & \text { Blow Time } \\ 110 \% & \text { Life } \\ 135 \% & 0-1 \text { hour } \\ 200 \% & 5-60 \text { seconds }\end{array}\right.$

    These fuses are engineered to withstand heavy starting currents. The design is such that these fuses operate only on very high overloads or short circuits. Catalog No.

    Naxinum Voltage List l'rice

    | $3 \Lambda G$ | $1 / 100$ or $1 / 32$ | 125 |
    | :---: | :---: | :---: |
    | $1 / 16$ to 1 amp. | 125 | .33 |
    | $11 / 4$ to 2 amp. | 125 | .27 |
    | $21 / 2$ to amp. | 125 | .25 |
    | $61 / 2$ to 30 | 32 | .20 |
    |  | Underwriters' Laboratories | Approved through 5 amp. |

    ## SIGHTMASTER 3AG timelag pigtail series

    $\left\{\begin{array}{cl}\text { \% of Rating } & \text { Blow Time } \\ 110 \% & \text { Life } \\ 135 \% & 0-1 \text { hour } \\ 200 \% & 5-60 \text { seconds }\end{array}\right.$

    Catalog No.

    | 3AG | 1/100 or 1/32 amp. | 125 | .45 |
    | :---: | :---: | :---: | :---: |
    |  | $1 / 16$ to 1 amp . | 125 | . 34 |
    |  | $11 / 4$ to 2 amp . | 125 | . 32 |
    |  | $21 / 2$ to 5 | 125 | . 30 |
    |  | $61 / 4$ to 30 | 32 | . 30 |

    ## SIGHTMASTER 8AG SERIES

    $1 / 4^{\prime \prime} \times 1^{\prime \prime}$
    
    Test $\quad\left\{\begin{array}{cl}\text { \% of Rating } & \text { Blow Time } \\ 110 \% & \text { Life } \\ 135 \% & 0-1 \text { hour } \\ 200 \% & 5 \text { sec. max. }\end{array}\right.$

    This series is similar to the 3AG fuses. This smaller size is used where space is a factor and also where a quick break under overload conditions is required. Especially recommended for use in electrical measuring equipment.

    | Catalog No. | Maximum Voltage | List Price |
    | :---: | :---: | :---: |
    | 8AG 1/16 | 250 | . 25 |
    | 1/8 | 250 | . 16 |
    | $1 / 4,3 / 8,1 / 2$ or $3 / 4$ | 250 125 | . 15 |
    | 5 ${ }^{1 / 2}$, 2 or 3 | 125 | . 10 |


    ## SIGHTMASTER 4AG SERIES

    $9 / 32^{\prime \prime} \times 114^{\prime \prime}$
    
    $\underset{\text { Test }}{\text { Tenifications }}\left\{\begin{array}{cl}\% \text { of Rating } & \text { Blow Time } \\ 110 \% & \text { Life } \\ 135 \% & 0-1 \text { hour } \\ 200 \% & 0-2 \text { minutes }\end{array}\right.$

    Fuses of the 4AG series may be considered a ruggedized version of the corresponding 3AG series, since these fuses afford greater protection against shock, vibration and rough handling than do the fuses of the 3.IG series. Most of the applications of this series are found in aircraft installations and wherever rugged construction is of major importance.
    

    ## SIGHTMASTER CORPORATION

    ## NEW ROCHELLE, NEW YORK

    ## SIGHTMASTER 4AG

    TIMELAG SERIES$9 / 32^{\prime \prime} \times 1 \frac{11}{4 \prime}$
    

    Test | Tecifications |
    | ---: | :--- | :--- |\(\left\{\begin{array}{cl}\% of Rating \& Blow Time <br>

    110 \prime / \& Life <br>
    135 \% \& 0-1 hour <br>
    200 \% \& 5-60 seconds\end{array}\right.\)

    High Timelag characteristics of this series makes these fuses ideal for circuits with heavy starting loads. Also, its more rugged construction makes this series ideal for the aircraft industry.

    | Catalog No. | Maximum Voltage | List l'rice |
    | :---: | :---: | :---: |
    | 4 AG | $1 / 10$ to 2 amp. | 250 |
    | $21 / 2103$ | 250 | .30 |
    | 41030 amp. | 32 | .25 |
    |  |  |  |

    SIGHTMASTER 5AG SERIES
    $13 / 32^{\prime \prime} \times 1 \frac{112}{\prime \prime}$
    

    | Test Specifications |  | \% of Ra $110 \%$ $135 \%$ $200 \%$ 200 | Rating $0 \%$ $5 \%$ $0 \%$ | $\begin{aligned} & \text { Blow } \\ & \text { Life } \\ & 0-1 \\ & 0-2 \end{aligned}$ | lime <br> our <br> minut |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Catalog No. |  | Maximum |  | Voltage | List |
    | 5 AG | 1, 2 or 3 a |  | 250 |  |  |
    |  | 5, 10, 15, | 25 or 30 | 303 |  |  |
    |  | 30, 10, 50 |  | 32 |  |  |

    ## SIGHTMASTER 5AG TIMELAG SERIES

    $13 / 32^{\prime \prime} \times 1 \frac{1}{2 \prime}$
    

    | $\begin{gathered} \text { Test } \\ \text { Specifications } \end{gathered}\left\{\begin{array}{c} 9 \end{array}\right.$ |  | $\begin{gathered} \% \text { of Rating } \\ 110 \% \\ 135 \% \\ 200 \% \end{gathered}$ | Blow Tlime <br> Life <br> 0-1 hour <br> 5-60 seconds |  |
    | :---: | :---: | :---: | :---: | :---: |
    | Catalog No. |  | Maximum | Voltage | List I'rice |
    | 5 AG | 1/16 to 2 amp. | p. 25 |  | .40 |
    |  | 3 | 25 |  | . 30 |
    |  | 5 to 20 |  | 2 | . 30 |
    |  | 25 or 30 |  | 2 | . 37 |

    ## SIGHTMASTER SFE AUTO SERIES

    

    Manufactured according to specifications of Society of Antomotive Engineers.
    Specifications $\left\{\begin{array}{cl}\% \text { of Rating } & \text { Blow Time } \\ 100 \% & \text { Life } \\ 125 \% & 1 / 2 \text { hour }\end{array}\right.$

    Catalog No. Maximum Voltage List l'rice
    SFE 4,6 or 9
    32
    .05
    .04
    14 or 20
    32
    .06

    ## SIGHTMASTER 6-1

    INDICATING HOUSEHOLD FUSE "THE NEVER WITHOUT LIFE FUSE"

    New and exclusive patented plug for the home and industry. Neon light shines when fuse blows. Just a flick of the wrist and a new fuse is in the circuitgood for 6 times.

    List Price
    Available in amperages of 15. 20,
    25 and 30 amps. $\$ .80$

    Underwriters* Laboratories Approved

    ## COMPONENT RECTIFIERS

    Rectifiers for practically any d-c power requirement are available from General Electric. Vac-u-Sel rectifiers are a new type of selenium rectifier produced
    by an exclusive $G-E$ vacuum evaporation process. In addition, General Electric also makes a full line of copper-oxide and germanium rectifiers.
    

    Miniature Vac-u-Sel rectifiers
    

    Standard Vac-u-Sel stack construction
    

    Tube-mounted Vac-u Sel stack construction

    ## GENERAL ELECTRIC $\sqrt{1 C-V_{2}}$ Sl RECTIFIERS

    - 63 VOLT PEAK INVERSE
    - 130 C AMBIENT OPERATION
    - 60,000 HOURS LIFE EXPECTANCY

    The sherial vacuum exajoration procers employed in making Vac-u-Sel rectitiers makes nossible the outstanding performance characteristies of this selenium rectifier. With G-E Vac-u-Sel rectifiers you can now match performance requirements for life expectancy, ambient nperating temperature, and atmospheric protection, as well as elecrical characteristics. Three new rectifier cells make up the new line of Vac-u-Sel rectifiers: a 26 -volt, low-temperature cell; a 26-volt, high-temperature cell; and a 45 -volt, hiph-temperature cell.
    The 26 -volt, low-temperature cell is the standard industrial cell, tsed on applications where ambient operating temperatures will not exceed 55 C. Rectifiers using this cell have a life expectancy of 60,000 hurre at normal current ruting.

    ## COPPER-OXIDE RECTIFIER STACKS

    G-E copper-oxide rectitier stacks offer these outstanding ieatures:

    - No unforming
    - Ability to withstand momen. tary current overloads
    - Whility to withstand momentary voltase overloads
    - Iong life with little aring
    - Highest efficiency at low voltares
    These features of $\mathbf{G}-E$ colper"xile rectifiers make them "sleeially suited for certain which require tha reatilier to withstand high current inrush and mommentary voltare overload.
    burhaps the most winlespread use of coppreoxide rectifiers is in the invild of circuit-luraker oparation. IIcre, the unique characteristics of copser-oxinle rectifiers are especially important.
    The above foatures alsn make (i-F corpernoxile rectifiers pleal for lax followily abllisations: Blocking - Metering * Polarizins
    
    
     High-voltace surme protectors * loc velders. Write for Mallatin
    
    ${ }^{*}$ Registered trade-mark of General Electric Co.

    The 26-volt, high-temperature cell can meet operating requirenents up to 130 C at full voltage. Current necd not lie derated where shorter life is acceptable. Life expectancy at 130 C is 1000 hours.
    The 45 -volt, high-temperature cell has a 63 -volt peak inverse voltage. Unlike most 45 -volt rectifiers, this is a true, lonf-life industrial cell. Frequently, this rectifier may be sulistituted for those employing 26 -volt cells. Since fewer cells are recuited, savings of us) to 30 per cent in cost, and up to 30 per cent in the size of the stacks are possible. Life expectancy of the 45 -volt cells is 40,000 hours and they can he used at ambient temperatures up to 110 C .
    411 Vac-u-k rectifiers operate with exceptionally low forwari roltage drop and low reverse leakage, and their marsin of superiority in these charaeleristics incroasas with service. All fac-u-spl rectifiers undergn extensive tastiny ami grading, and matcherd cells are used in ussemblint stacks. A variety of finishes and mounting arranmemente are available to meet virtually any requirements. Write for Hullatime (iEA-593: (miniatures); GEA-6273 (standard).

    INDUSTRIAL GERMANIUM RECTIFIERS
    

    G-E industrial rectifiers offer these outstanding features:

    - Lowerst forward lrof juer ampere
    - Highest output valtag, pel cell
    - lest current output, snallpst size, and limbtest weipht per watt ontput oi existing metallic rectifiers
    - High efficiency
    - No formini required
    - No loss of rectification after remaining adle.

    These new G-E fermanium metallic rectitiers are of the mond-area
     Firfest output voltace por cell permits the use of fower colls. and
     womely hiof current densities, and a large d-c output is ohtainthle from a very small sermanium rectitier.
    The regulation is less than $G$ per cont when operated at the hizh current densities permissible with germanium rect. firrs. With most metallic rectifers, regulation is usually betwern $\boldsymbol{i}$ and of prow rem: at their normal current densities. Germanium rectititers hate an und aqulimation in power eorversion where size and werght twatirnurt:
     thers); GEA-ina:
    nuctroplating .
    
    

    ## SCHAUER INSTRUMENT

    

    TYPE C. 4

    Schaner copper oxide rectifiers for instrument and other uses are processed and individually tested to meet the rec!uirements of the user. Versatile processing techniques make possible variations in characteristics for special or umusual applications. Wach rectilier is rated conservatively for long life and dependable operation.
    Size "AA," " $A$ " and " $B$ " Rectifiers are encapsulated-fully sealed in special formula polyester plastic in attractive red color. Cells are specially processed with vacuum evaporated rold contact areas to give maximum elficiency, stable operation and low aging characteristics. All rectifiers are supplied with $3^{\prime \prime}$ leads, color-coded. (Red, positive; black, negative; yellow, ..C.) Plastic encapsulated rectifiers have lead insullation imbedeled in the plastic for better scaling, eliminating short circuits at the rectifier. lead lengths of other than $3^{\prime \prime}$ can be supplied on special order.

    ## RECTIFIERS

    $\because$ A" SIZE CELLS are $1 / 8$ " dia. cells for low capacitance and high frequency response. Maximum rating is 2 volts ID.C. at 1 MA in a full wave bridge.
    " $A$ " SIZE CELLS have good frequency responsc above the audio range and can be used at higher frequencies. Recommended for meter applications needing 1 MA or less for operation. Can be used for other applications requiring up to $5 \mathrm{M} . \mathrm{A}$.
    "B" SIZE, CELLLS are for meter, relay and other applications requiring 1 M. up to their maximum rating. Recommended for commercial and low audio frequency operation
    "C" SIZE CELLLS are for general applications requiring larger output currents and operation of incters, relays and other apparatus. Special process cells for varistor applications. Write, wire or telephone for complete information. We welcome your inquirics concerning any special rectification problem.

    | Max. Cont. Katingr |  |  | Circuit <br> Diagram Fig. | Cell Jia. Inches | No. of Cells | Leads | Mounting screw Nize | 1) I M Eis SIONS** |  |  |  |  | Type |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | $\underset{\text { M.A. }}{\text { D. }}$ | $\begin{aligned} & \text { B.C. } \\ & \text { Polts } \end{aligned}$ | Max. RMS |  |  |  |  |  | $\underset{A}{(1) \text { ia. })}$ | B | C | 1) | E |  |
    | . 5 | 1 | 1.5 | 2 | 1/6 | 2 | 3 | Hole for 2-56 |  | 7/62 | \% | $1 / 2$ |  | AA 212 H |
    | 1 | 2 | 3.0 | 3 | 1/6 | 4 | 5 | Hole for 2-56 |  | $1 / 8$ | $3 / 8$ | 2\% |  | AA4PH |
    | 5 | 1.5 | 2.5 | 2 | 3/6s sq . | 2 | 3 | Hole for $2-56$ |  | 8 | 1/4 | 216 |  | A2M |
    | 5 | 3.0 | 5.0 | 3 | s/6sq. | 4 | 4 | Hole for 2-56 |  | 18 | $1 / 4$ | 218 |  | A4M |
    | 5 | 1.5 | 2.5 | 2 | \% 6 sq . | 2 | 3 | Hole for 2-56 |  | 3 化 | 3/6 | 1/2 |  | A2PH |
    | 5 | 3.0 | 5.0 | 3 | \% $/ 6 \mathrm{sq}$. | 4 | 5 | Ilole for 2-56 |  | 8/60 | 8/6 | 5/8 |  | A4PII |
    | 5 | 1.5 | 2.5 | 1 | $3 / 68 \mathrm{sc}$. | 1 | 2 | None |  | 16 | 3 | \% |  | A1P |
    | 5 | 1.5 | 2.5 | 2 | $3 / 6851$. | 2 | 3 | None |  | 14 | 3 | 3 |  | A2P |
    | 5 | 1.5 | 2.5 | 4 | \% Ste sc. | 2 | 3 | None |  | $1 / 4$ | 3/3 | 8/8 |  | A2P |
    | 5 | 3.0 | 5.0 | 3 | 3/689. | 4 | 5 | None |  | 明 | 1/60 | \% 18 |  | A4P |
    | 13 | 1.5 | 2.5 | 1 | 76 | 1 | 2 | 6-32 | 120 |  |  | 36 | $1 \cdot \frac{12}{}$ | B1 |
    | 13 | 1.5 | 2.5 | 2 | 7\% | 2 | 3 | 6-32 | 180 |  |  | 13 | 3/10 | B2 |
    | 26 | 1.5 | 2.5 | 4 | 1/6 | 2 | 3 | 6-32 | 916 |  |  | $1 / 2$ | 36 | 132 |
    | 26 | 3.0 | 5.0 | 3 | 760 | 4 | 5 | 6-32 | 3.18 |  |  | ${ }^{3} 36$ | 3\% | 134 |
    | 32 | 1.5 | 2.5 | 1 | 3 | 1 | 2 | 10-32 | $3 / 4$ |  |  | 11/6 | 5/6 | C1 |
    | 32 | 1.5 | 2.5 | 2 | 8 | 2 | 3 | 10-3: | $3 / 6$ |  |  | $3 / 4$ | 5,16 | C2 |
    | 6,4 | 1.5 | 2.5 | 4 | $3_{4} 4$ | 2 | 3 | 10-32 | 34 |  |  | $8 / 4$ | $3 / 16$ | C3 |
    | 6.1 | 3.1 | 5.0 | 3 | $3 / 4$ | 4 | 5 | 10-32 | 34 |  |  | ${ }^{5}$ | 3/10 | C4 |

    

    Dimersions
    
    

    | SIN <br> DC OUTPUT At $35^{\circ} \mathrm{C}$. Amb. |  | CIRCUIT <br> Refer to <br> Diogram | 4 | 3 | U | W | VE | REC | FIER STACKS |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  | Mox. <br> AC <br> Input <br> Volts | APPROXIMATE DIMENSIONS—Refer to |  |  | Figure | Cotolog <br> No. | CIRCUITS AND DIMENSIONAL DIAGRAMS |
    | Valts | Mox. Amps |  | A | B | C |  |  |  |
    | 6.10 | 2 | C.T. | 13 | 3" | $21 / 2$ " | $3^{\prime \prime}$. | 2 | D. 10 | CENTER TAP (C.T.) |
    | 6.10 | 4 | C.T. | 13 | $4^{\prime \prime}$ | $21 / 2$ " | 4** | 2 | D. 11 | Cententaple.t. |
    | 6.10 | 6 | C.T. | 13 | 4" | 2\% ${ }^{\prime \prime}$ | 4" | 2 | D. 12 |  |
    | 6.10 | 8 | C.T. | 13 | 5" | 21/2" | $6^{\prime \prime}$ | 2 | D. 13 | Oll Eac |
    | 6.10 | 12 | C.T. | 13 | 5" | . $2 \%$ " | $6^{\prime \prime}$ | 2 | D. 14 | 2 LOAD + |
    | 6.10 | 15 | C.T. | 13 | $41 / 4.1$ | 21/2" | $12^{\prime \prime}$ | 3 | D. 15 | $9 \\| 6 \text { eac }$ |
    | 6.10 | 22.5 | C.T. | 13 | $41 / 4^{\prime \prime}$ | 2\% ${ }^{\prime \prime}$ | 12* | 3 | D. 16 | $1 \mathrm{~N}^{+}$ |
    | 6.20 | 1.5 | BR. | 26 | $2{ }^{\prime \prime}$ | 112" | $2^{\prime \prime}$ | 1 | D. 52 |  |
    | 6.20 | 2 | BR. | 26 | 3" | . 317. | 3" | 2 | D. 17 | RIDGE (Br.) |
    | 6.20 | 4 | $B R$. | 26 | 4" | $3 \cdot \frac{18}{16}$ | $4^{\prime \prime}$ | 2 | D. 18 | erioge (br.) |
    | 6-20 | 6 | BR. | 26 | 4"' | 4", | $4{ }^{\prime \prime}$ | 2 | D. 19 |  |
    | 6-20 | 8 | BR. | 26 | 5"' | 3130 | $6^{\prime \prime}$ | 2 | D. 20 |  |
    | $6-20$ | 12 | BR. | 26 | 5" | $4 "$ | $6^{\prime \prime}$ | 2 | D. 21 |  |
    | 6.20 | 15 | BR. | 26 | 41/4." | $3{ }^{3} / 6$ | $12^{\prime \prime}$ | 3 | D. 22 |  |
    | $6-20$ | 22.5 | $B R$. | 26 | $41 / 4^{\prime \prime}$ | $4^{\prime \prime}$ | 12" | 3 | D. 23 |  |
    | 20-40 | 2 | 8 R . | 52 | $3^{\prime \prime}$ | 4\% | $3^{\prime \prime}$ | 2 | D. 24 |  |
    | 20.40 | 4 | BR. | 52 | $4^{\prime \prime}$ | 4\% " | 4"10 | 2 | D. 25 |  |
    | $20-40$ 20 | 6 | BR. | 52 | $4^{\prime \prime}$ | $6 \frac{5}{6}{ }^{\circ \prime}$ | 4" | 2 | D. 26 | $\frac{1}{716} \Omega n$ |
    | $20-40$ $20-40$ | 8 12 | BR. $B R$. | 52 52 | 5"' | 416" | $6^{\prime \prime}$ | 2 | D. 27 D. 28 | $T$ T |
    | 20-40 | 15 | BR. | 52 | 41/4" | 4\%\%" | $12^{\prime \prime}$ | 3 | D. 29 | $\hat{i}$ 昰 |
    | 20-40 | 22.5 | BR. | 52 | $41 / 4^{\prime \prime}$ | 6, $8^{\prime \prime}{ }^{\prime \prime}$ | 12' | 3 | D. 30 | 1 |
    | 40-60 | 2 | BR. | 78 | 3" | 6 " | $3{ }^{-1}$ | 2 | D.31 | c |
    | 40.60 | 4 | BR. | 78 | $4{ }^{\prime \prime}$ | 6 " | 4" | 2 | D. 32 | FIGURE-1 |
    | 40.60 | 6 | BR. | 78 | 4" | 8\% ${ }^{\prime \prime}$ | 4" | 2 | D. 33 |  |
    | 40.60 | 8 | BR. | 78 | 5"' | $6^{\prime \prime}$ | $6^{\prime \prime}$ | 2 | D. 34 | 5/16.18THD $\frac{1}{7 / 8}$ |
    | 40.60 | 12 | BR. | 78 | $5^{\prime \prime}$ | 8\% ${ }^{\circ}$ | $6^{\prime \prime}$ | 2 | D. 35 |  |
    | 40.60 | 15 | $B R$. | 78 | $41 / 4.1$ | $6^{\prime \prime}$ | 12" | 3 | D. 36 |  |
    | 40-60 | 22.5 | BR. | 78 | $41 / 4{ }^{\prime \prime}$ | 8\% ${ }^{\circ}$ | 12' | 3 | D. 37 | $\hat{1}$ |
    | 60.100 | . 5 | $B R$, | 130 | $1.6^{\prime \prime}$ | $5_{1,2}{ }^{\text {a }}$ " $"$ | $1.6^{\prime \prime}$ | 1 | D. 38 |  |
    | 60.100 | 1 | BR. | 135 | 2' | 5171" | $2^{\prime \prime}$ | 1 | D. 39 |  |
    | 60.100 | 2 | BR. | 130 | $3^{\prime \prime}$ | $81^{\prime \prime}{ }^{\prime \prime}$ | $3{ }^{\prime \prime}$ | 2 | D. 40 | - 2 |
    | 60.100 | 4 | $B R$. | 130 | $4^{\prime \prime}$ | 813. | $4^{\prime \prime}$ | 2 | D-41 |  |
    | 60.100 | 6 | BR. | 130 | $4^{\prime \prime}$ | 1314." | $4^{\prime \prime}$ | 2 | D. 42 | 5/16-18 THD + |
    | 60.100 | 8 | BR. | 130 | $5^{\prime \prime}$ | 818." | $6^{\prime \prime}$ | 2 | D.43 |  |
    | 60.100 | 12 | BR. | 130 | 5" | 131/4 | $6^{\prime \prime}$ | 2 | D. 44 |  |
    | 100.120 | . 5 | BR. | 156 | $1.6^{\prime \prime}$ | 6 " | $1.6^{\prime \prime}$ | 1 | D-45 |  |
    | 100-120 | 1 | BR. | 156 | 2' | $6 "$ | $2{ }^{\prime \prime}$ | 1 | D-46 | $\cdots \frac{1}{1}$ - |
    | 100.120 | 2 | 8R. | 156 | 3" | 10\% ${ }^{\prime \prime}$ | 3" | 2 | D-47 |  |
    | 100.120 | 4 | BR. | 156 | 4" | 101/." | 4" | 2 | D-48 | Figure-3 |
    | 100.120 | 6 | $B R$. | 156 | $4^{\prime \prime}$ |  | 4" | 2 | D-49 | ALL DIMENSIOMS |
    | 100.120 | 8 | BR. | 156 | $5^{\prime \prime}$ | 1014" | $6^{\prime \prime}$ | 2 | D. 50 |  |
    | 100.120 | 12 | BR. | 156 | 5" | 15 ${ }^{\frac{18}{46}}$ | $6^{\prime \prime}$ | 2 | D. 51 | ARE APPROXIMATE |

    ## SARKES TARZIAN, INC., RECTIFIER DIVISION

    ## Dept. RM

    

    ## Centre-Kooded

    ## SELENIUM RECTIFIERS For All DC Power Requirements

    

    ## HIGH VOLTAGE SELENIUM RECTIFIERS

    Sarkes Tarzian high voltage selenium rectifiers are designed for use in photo-flash supplies, cathode ray oscilloscopes, television receivers, high potential test equipment, and electronic equipments used by milltary forces.
    Designated as Type 0 for current ranges to 5 milliamperes and as Type 1 for current ranges to 25 milliamperes, the units are available in half wave, full wave bridge, and center tap stacks. Both types are available with voltage ratings to 4000 in single unit and hundreds of thousands of volts by using multiple units in series. In center tap and bridge circuits the maximum allowable D.C. current is 10 MA for Type 0 and 50 MA for Type 1 assemblies.
    The Type 0 , in a glass enclosure is hermetically sealed for high humidity operation (Half Wave units only) and mounting is by means of silver plated ferrules. Tre bakelite enclosed Type 0 rect fiers are designed for normal commercial use and electrical con-
     nection is made by means of axial pigtail use and electrical conrations to 208 volts $A C$ ar semblies require a mounting clip.
    

    The Type 1 rectifier is available only in square bakelite enclosures. The unit, normally supplied, is not hermetically sealed; however, it is possible to "capsulize" the Type I rectifier for high humidity applications

    For complete information or engineering assistance-write, phone or wire. No obligations on your part.

    New Handbook Available iz latres of valuable information alout
    
    
    

    ## SARKES TARZIAN, INC., RECTIFIER DIV.

    Dept. RM
    

    RADIO
    RECEPTOR SELENIUM RECTIFIERS

    ...For complete protection in Radio and Television circuits

    Radio Receptor Selenium Rectifiers are built and tested to eliminate arc-over danger, short circuits and heating at the center contact point. This "Safe Center" feature is an added safety factor that gives protection during mounting and in use.

    Because of their consistent dependability under all conditions - including high humidity - these bright green units are demanded by an ever increasing number of engineers and servicemen in the U.S. and throughout the world. The rectifiers listed to the right are normally stocked by distributors. Many other types available for special applications.

    > See yeur lecel distributer for yeur requiroments. Recommended initial cell temperature is $70^{\circ} \mathrm{C}$.
    "Stud mounted - overall: 2".

    RR radio and tv selenium rectifiers

    | MAX. D.C. OUTPUT CuraEnt | $\begin{aligned} & \text { CODE } \\ & \text { NO. } \end{aligned}$ | MIN. SERIES RESISTOR (OHMS) | MAX. <br> INPUT VOLTAGE R.M.S. | MAX <br> PEAK inverse VOLTAGE | $\begin{aligned} & \text { CELL } \\ & \text { SIZE } \end{aligned}$ | stack thick. NESS | $\begin{aligned} & \text { LIST } \\ & \text { PRICE } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 100 MA | $1 \mathrm{M1}$ | - | 25 | 75 | 1" sq. | 3: | \$0.75 |
    | 30 MA | 8 Y 1 | 47 | 130 | 380 | $1 / 2^{\prime \prime}$ sq. | $12^{\prime \prime}$ | 1.00 |
    | 25 MA | 16 Y 1 | 47 | 260 | 760 | $1 / 2^{\prime \prime}$ sq. | \%" | 2.10 |
    | 65 MA | 8 JJ | 33 | 130 | 380 | "K" sa. | $1 / 2^{\prime \prime}$ | 1.35 |
    | 75 MA | 5M4 | 22 | 130 | 380 | $1^{\prime \prime}$ sq. | 1/8" | 1.75 |
    | 75 MA | 6M1 | 22 | 156 | 456 | 1"sq. | \%"' | 1.80 |
    | 100 MA | $5 \mathrm{M1}$ | 22 | 130 | 380 | 1" sq. | $1 /{ }^{\prime \prime}$ | 1.90 |
    | 100 MA | 6M2 | 22 | 156 | 456 | 1" sq. | 1\%" | 1.95 |
    | 150 MA | 5P1 | 15 | 130 | 380 | 13:" sa. | \%" | 2.20 |
    | 150 MA | 6 P 2 | 15 | 156 | 456 | 1Kı" sq. | 136" | 2.30 |
    | 200 MA | 5R1 | 5 | 130 | 380 | $11 / 2^{\prime \prime} \times 11 / 4^{\prime \prime}$ | \%" | 2.75 |
    | 250 MA | 6R4 | 5 | 130 | 380 | $11 / 2^{\prime \prime} \times 11 / 4^{\prime \prime}$ | -* | 2.95 |
    | 250 MA | 501 | 5 | 130 | 380 | $11 / 2^{\prime \prime}$ sq. | 11" | 2.95 |
    | 250 MA | 601 | 5 | 156 | 456 | $11 / 2^{\prime \prime} \mathrm{sq}$. | 11\%" | 3.00 |
    | 250 MA | 602 | 5 | 156 | 456 | $11 / 2^{\prime \prime} \mathrm{sq}$. | 2180" | 3.00 |
    | 300 MA | 60.4 | 5 | 130 | 380 | $11 / 2^{\prime \prime} \mathrm{sq}$. | -* | 3.10 |
    | 350 MA | 5QS1 | 5 | 130 | 380 | $11 / 2^{\prime \prime} \times 2$ " | 11/" | 3.85 |
    | 350 MA | 6SQ1 | 5 | 156 | 456 | $13 / 4^{\prime \prime} \times 11^{\prime \prime}$ | 13/0" | 3.95 |
    | 350 MA | 60S2 | 5 | 156 | 456 | $11 / 2^{\prime \prime} \times 2^{\prime \prime}$ | 11/0" | 3.95 |
    | 350 MA | 6054 | 5 | 156 | 456 | $11 / 2^{\prime \prime} \times 2^{\prime \prime}$ | -* | 3.95 |
    | 400 MA | 5S2 | 5 | 130 | 380 | 2" sq. | 11/" | 4.05 |
    | 400 MA | 654 | 5 | 156 | 456 | 2"sq. | 11\%" | 4.15 |
    | 500 MA | 553 | 5 | 130 | 380 | 2"sq. | 13" | 4.30 |
    | 500 MA | 6 62 | 5 | 156 | 456 | 2"s.9. | $13{ }^{\prime \prime}$ | 4.40 |

    Current ratings are for half wave capacitive load with a maximum cell temperatura of $75^{\circ} \mathrm{C}$ when the rectifiers are new, in a maximum amblent temperature of $43^{\circ} \mathrm{C}$.

    Output current ratings are based on RMS rectifier current not in excess of 2.5 times rated output current. Dielectric test 900 V RMS between terminal lugs and eyslet.

    Semiconductor Division RADIO RECEPTOR COMPANY,INC.

    In Radio
    and
    Electronics
    Since 1922
    

    | APPROX. DC VOLTS AT MAX. INPUT |  | $\begin{aligned} & \text { MAX. } \\ & \text { DC } \\ & \text { AMPS } \end{aligned}$ | MAX. <br> AC VOLTS INPUT | CIRCUIT | RRco. CODE NO: | RECTIFIER |  | DIMENSIONS IN INCHES See Figure 3 |  |  | $\begin{aligned} & \text { RECTI. } \\ & \text { FIER } \\ & \text { PRICE } \end{aligned}$ | MOUNTING BRACKETS PRICE EACH |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | NEW | AGED |  |  |  |  | A | B | C | D | E |  |  |
    | 10 | 9.5 | $\begin{array}{r} .9 \\ 1.4 \\ 3.2 \\ 6.0 \\ 10.0 \\ 15.0 \end{array}$ | $26 \dagger$ | $\begin{aligned} & \text { C.T. } \\ & \text { Fig. } 1 \end{aligned}$ | QICISIG <br> SICISIG <br> UIC1SIG <br> WICISIG <br> HICISIG <br> LICISIG | $\begin{aligned} & 15 / /^{*} \\ & 15 / 8 \\ & 31 / 16 \\ & 31 / 6 \\ & 31 / 4 \\ & 31 / 4 \end{aligned}$ | $11 / 8$ $111 / 6$ $1^{113}$ $2^{136}$ 2 | $\begin{aligned} & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 6 \\ & 71 / 4 \end{aligned}$ | $\begin{aligned} & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 5 \\ & 6 \end{aligned}$ | $\begin{aligned} & 1 / 2 \\ & 1 / 2 \\ & 5 / 8 \\ & 1 \frac{13}{3} \\ & 2 \end{aligned}$ | $\begin{aligned} & 1.45 \\ & 2.10 \\ & 3.28 \\ & 4.41 \\ & 6.11 \\ & 8.07 \end{aligned}$ | $\begin{aligned} & .17 \\ & .22 \\ & .22 \\ & .28 \\ & .44 \end{aligned}$ |
    | 20 | 19 | $\begin{array}{r} .9 \\ 1.4 \\ 3.2 \\ 6.0 \\ 10.0 \\ 15.0 \end{array}$ | 26 | $\begin{aligned} & \text { Br. } \\ & \text { Fig. } 2 \end{aligned}$ | Q1B1S1G S1B1S1G UIB1S1G W1B1S1G H1B1S1G L1B1S1G | $\begin{aligned} & 17 / \mathrm{l}^{*} \\ & 27 / 16 \\ & 313 / 16 \\ & 313 / 16 \\ & 43 / 16 \\ & 43 / 16 \end{aligned}$ | $\begin{aligned} & 11 / 2 \\ & 111 / 16 \\ & 2916 \\ & 29116 \\ & 2151 / 16 \\ & 215 / 16 \end{aligned}$ | $\begin{aligned} & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 6 \\ & 71 / 4 \end{aligned}$ | $\begin{aligned} & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 5 \\ & 6 \end{aligned}$ |  | $\begin{array}{r} 2.40 \\ 4.16 \\ 6.34 \\ 8.82 \\ 12.38 \\ 16.11 \end{array}$ | $\begin{aligned} & .17 \\ & .22 \\ & .22 \\ & .28 \\ & .44 \\ & .44 \end{aligned}$ |
    | 40 | 38 | $\begin{array}{r} .9 \\ 1.4 \\ 3.2 \\ 6.0 \\ 10.0 \\ 15.0 \end{array}$ | 52 | $\begin{aligned} & \text { Br. } \\ & \text { Fig. } \end{aligned}$ | $\begin{aligned} & \text { Q2B1S1G } \\ & \text { S2B1S1G } \\ & \text { U2B1S1G } \\ & \text { W2B1S1G } \\ & \text { H2B1S1G } \\ & \text { L2B1S1G } \end{aligned}$ | $\begin{aligned} & 3 \\ & 35 / 16 \\ & 5 \\ & 5 \\ & 5 \mathrm{y} / \mathrm{s} \\ & 515 / 16 \end{aligned}$ | $\begin{aligned} & 21 / 4 \\ & 28 / 16 \\ & 33 / 4 \\ & 33 / 4 \\ & 45 / 6 \\ & 411 / 16 \end{aligned}$ | $\begin{aligned} & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 6 \\ & 71 / 4 \end{aligned}$ | $\begin{aligned} & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 5 \\ & 6 \end{aligned}$ | $\begin{aligned} & 1 / 2 \\ & 1 / 2 \\ & 5 / 8 \\ & 51 / 8 \\ & 21 / 8 \\ & 3 \end{aligned}$ | $\begin{array}{r} 5.64 \\ 7.60 \\ 11.25 \\ 16.08 \\ 22.71 \\ 29.75 \end{array}$ | $\begin{aligned} & .17 \\ & .22 \\ & .22 \\ & .28 \\ & .44 \\ & .44 \end{aligned}$ |
    | 100 | 95 | $\begin{array}{r} .45 \\ .9 \\ 1.4 \\ 3.2 \\ 6.0 \\ 10.0 \\ 15.0 \end{array}$ | 130 | $\begin{aligned} & \text { Br. } \\ & \text { Fig. } \end{aligned}$ | WP5B1S1G <br> WQ5B1S1G <br> WS5B1S1G <br> WU5BISIG <br> WW5B1S1G <br> WH5B1S1G <br> WL5B1S1G | $\begin{aligned} & 6 \% / 66 \\ & 69 / 6 \\ & 73 / 8 \\ & 11 \\ & 11 \\ & 137 / 6 \\ & 135 / 6 \end{aligned}$ | $\begin{gathered} 513 / 6 \\ 513 / 6 \\ 65 / 6 \\ 93 / 4 \\ 93 / 4 \\ 12316 \\ 123 / 8 \end{gathered}$ | $\begin{aligned} & 1116 \\ & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 6 \\ & 71 / 4 \end{aligned}$ | $\begin{aligned} & 1116 \\ & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 5 \\ & 6 \end{aligned}$ | $\begin{aligned} & 3 / 1 \\ & 1 / 2 \\ & 5 / 2 \\ & 21 / 8 \\ & 3 \end{aligned}$ | $\begin{aligned} & 10.41 \\ & 12.68 \\ & 18.08 \\ & 24.87 \\ & 37.82 \\ & 53.41 \\ & 70.27 \end{aligned}$ | $\begin{aligned} & .17 \\ & .17 \\ & .22 \\ & .22 \\ & .28 \\ & .44 \end{aligned}$ |
    | 120 | 114 | .45 .9 1.4 3.2 6.0 10.0 15.0 | 156 | $\begin{aligned} & \text { Br. } \\ & \text { Fig. } 2 \end{aligned}$ | WP6B1S1G WQ6B1SIG WS6B1SIG WU6B1S1G WW6B1S1G WH6B1S1G WL6BIS1G | $\begin{gathered} 79 / 6 \\ 71 / 6 \\ 81 / 2 \\ 123 / 4 \\ 123 / 4 \\ 1511 / 16 \\ 1515 / 16 \\ \hline \end{gathered}$ | $\begin{gathered} 611 / 16 \\ 613 / 6 \\ 73 / 4 \\ 111 / 2 \\ 111 / 2 \\ 141 / 16 \\ 1411 / 16 \end{gathered}$ | $\begin{aligned} & 11 / 16 \\ & 11 / 2 \\ & 2 \\ & 3 \\ & 4 \\ & 6 \\ & 71 / 4 \\ & \hline \end{aligned}$ | $1 \%$ $111 / 2$ 2 3 4 5 6 | $\begin{aligned} & 3 / 8 \\ & 1 / 2 \\ & 1 / 2 \\ & 5 / 9 \\ & 5 / 9 \\ & 21 / 6 \\ & 3 \end{aligned}$ |  | $\begin{array}{r} .17 \\ .17 \\ .22 \\ .22 \\ .44 \\ .44 \\ \hline \end{array}$ |

    *Screw mounted-10/32 stud extends to one side only.
    $\dagger$ Across outer legs of center tap connection.
    These rectifiers may be used at lower inputs to secure lower DC voltages as required.

    More and more engineers choose Radio Receptor Selenium Rectifiers for their power applications. Rugged, dependable and highly efficient, these flexible units are giving long and satisfactory service in such diversified installations as the toll gates of N. Y.'s Triborough Bridge, elevators in more than 150 skyscrapers in New York and Chicago and mag-amp regulators used aboard many U.S.N. submarines.

    The stacks shown above are those which are normally in stock at your distributor and are adaptable for a wide range of applications. Many other types available for special applications. Division

    RECTIFIER CIRCUITS, CONNECTIONS AND DIMENSIONS

    Figure 1 Center Tap
    

    Figure 2 Bridge Circuit
    

    NOTE: \#10/32 for all stacas with code numbers starting $Q, S, W P, W Q, W S .=5 / 16 \cdot 18$ for all others.

    RADIO RECEPTOR COMPANY, INC.
    In Radio and Electromics Since 1922

    # Federal Radio－TV Selenium Rectifiers For unlimited use in radio • television • electronics 

    

    | $\begin{aligned} & \text { Feveralal } \\ & \text { (at. So. } \end{aligned}$ | $\begin{aligned} & \text { Ontwit } \\ & \text { M.S-IN } \end{aligned}$ | $\begin{aligned} & \text { Max. } \\ & \text { Yults } \end{aligned}$ | $\begin{aligned} & \text { luput } \\ & \text { MA } \end{aligned}$ | $\begin{aligned} & \text { lin. Nur. } \\ & \text { lics. } \\ & \text { "k. } \\ & \text { Ohms } \end{aligned}$ | Prak lunerse Vilts （Max．） $\qquad$ |  | Plate size |  | Aprlication | List Price Eath |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 1159 | 20 | 130 | 54 | 511 | 380 | 200 | ＊：＂1in． | $\cdots$ | 13＋Bmaster ：Bias | \＄1．55 |
    | 1002 A | 65 | 130 | 175 | 2 | 3：0 | （150） | $1^{\prime \prime} \mathrm{Sq}$ ¢ | \％＂ |  | 1.50 |
    | 1003.1 | 75 | 130 | 200 | 29 | ：80 | 750 | $1^{\prime \prime} \mathrm{S} 6_{1}$ | $3{ }^{3}$ |  | 1.85 |
    | 11014 | 100 | 130 | 270 | 29 | 380 | 1010 | $1^{\prime \prime} \mathrm{S} q$ ． | $11 / 81$ | 13＋kindius．Telm． | 1.90 |
    | 1004 A | 100 | 130 | 270 | $\underline{2}$ | 380 | 10010 | $11: 3 \times 18$ | \％${ }^{\prime \prime}$ | 1i＋Ramblins．Trlas． | 2.05 |
    | 1005． | 150 | 130 | 410 | 15 | 380 | 15101 | $163 \times 18$ | 1 ＂ |  | 2.25 |
    | 10018 | 200 | 130 | 540 | 5 | 380 | $2(100)$ | $1!\mathrm{nc}$ Sq． | 1 ＂ | $\mathrm{B}+\mathrm{T}$ derision | 3.15 |
    | $\underset{(1010)}{* 1028 A}$ | ） 250 | 130 | 675 | 5 | 380 | 2501 | $13^{\prime \prime} \mathrm{S}$ S ${ }^{\text {c }}$ | $11 / 4 \prime$ | 1：＋Pbunster：1ains | 3.15 |
    | 1090A | 300 | 130 | 810 | 5 | 380 | 3000 | ${ }_{1}{ }^{1}{ }^{\prime \prime}$ S4． | $20^{6 \%}$ | B＋Telerision | 3.30 |
    | $\begin{aligned} & 1023 \\ & (1201 ;) \end{aligned}$ | $)^{350}$ | 130 | 945 | 5 | 380 | 3500 | $13 / 4 /{ }^{\prime \prime} \mathrm{Sq}$. | $2{ }^{-75}$ | B＋Telerision | 4.10 |
    | $\begin{array}{r} 1130 \\ (1056) \end{array}$ | $)^{400}$ | 130 | 1080 | 5 | 380 | 4000 | $3^{\prime \prime} \mathrm{Sq}$. | 11／4＂ | IS＋Telerision | 4.25 |
    | $\begin{gathered} 1179 \AA \\ (1021) \end{gathered}$ | $)^{500}$ | 130 | 1350 | 5 | 380 | 5000 | $2^{\prime \prime} \mathrm{Sq}$ ． | $23^{7} 9$ | $\mathrm{B}+$ Television | 4.40 |
    | 1022 | 450 | 160 | 1200 | 5 | 460 | 4500 | $2^{\prime \prime} \mathrm{Sq}$ ． | 2130 | $\mathrm{B}+$ Telerision | 4.95 |
    | 1016 | 300 | 25 | 350 | ．．．． | 35 | 1500 | $1{ }_{61} \times 1 \times 18$ | 31＂ | Iridge Rectifier | 2.40 |
    | 1017 | 600 | 25 | 700 | ．．．． | 35 | 3000 |  | $3{ }^{3} 17$ | Bridge Iteetifier | 3.15 |
    | 1013 | 360 | $9+$ | ．．．．．． | $\ldots$ | ．．．． | ．．．．．．．． 1 | $13^{\prime \prime} \mathrm{S}_{4}$ ． | $14^{\prime \prime}$ | Hattery Charger | 1.40 |
    | 1018 | 1600 | 20 $\ddagger$ | ．．．．．． | ．．．． | ．．．． |  | $41 /{ }^{\prime \prime} \mathrm{lg}$ ． （Mitg．Plt．） | 5\％${ }^{\prime \prime}$ | thattery charger | 3.85 |
    | 1001 | 75 | 20 | 200 | ．．． | 35 | 350 | $1^{\prime \prime} \mathrm{Sq}$ ． | $3_{5}{ }^{\prime \prime}$ | lias liectifier | ． 80 |

    

    Ferleral Selenium Rectifier Hamuknh
    Federal Selenium liectifier kephacenent Ginde
    ＊Beelet construction－henhaces catalug Su． 1010.
    tThe input roltage shown is the maximum which may he applied in a half－wate rectifier cir－ cuit fur battery charging．
    ：The input voltage shown is the masimum whith mas he applied tur the outside terminals in al center－talu rectifier cirmit．
    Letfer＂A＂after catalug number indicates luching bug
    

    Federal＇s Universal Replacement Line

    | Cat．No． | Outほut <br> M．S－II | Max．［ぃりい （RM心） |  | $\begin{gathered} \text { Me. (H1 } \\ \text { bim. } \\ \text { H:x. } \end{gathered}$ | Min．＊＇tr． <br> $181 \%$ <br> ＂•R＂ <br> （blims |  |  |  |  | List Price Each |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  | Vinlt： | 11. |  |  |  |  |  |  |  |
    | 1263 A | ti： | 130 | 17i | $\because!\pm$ ！ | $\because \cdots$ | 3 al | （i，） 1 | 11．＂${ }^{15}$ |  | \＄1．35 |
    | 1236 A | 3001 | 130 | －11 | $1: \square_{\text {，}}{ }^{3}$ \％ | 5 | 3N1 | $3 \times 1811$ | 15＂＊＊＊ |  | 3.30 |
    | 1238 A | 3.50 | 1311 | 445 | $1 \because$ 士 $!$ | 5 | 3N17 | 号云析 | 1号＂＂＊ |  | 4.10 |
    | 1241A | 4110 | 130 | 11001 | 11年呺 | 5 | 3201 | 11010 | $\because{ }^{\prime \prime}$ 約． |  | 4.25 |
    | 1237 A | ． 1100 | 180 | 1：3：51 | $1: \pm \pm$ n | 5 | 3－0 | －100） | －＂ |  | 4.40 |

    
    

    # PACKACED POWER SELENIUM RECTIFIER STACKS 

    ## by Federal

    Federal has America＇s largest stock ofi stacks for all popular applications available for prompt shipment．Special design data and prices for the asking

    ## Price List and Data Sheet－Effective May i7， 1955

    NOTE：Ratings for $35^{\circ} \mathrm{C}$ ．Ambient；Resistive or Inductive loads；all designs shown are for single phase full wave rectificat：on

    | Maximum <br> D．C．Output （Approximate）$\ddagger$ |  | $\begin{gathered} \text { Rectifier } \\ \text { Stack } \\ \text { Code Number } \end{gathered}$ | Maximum A．C． Input Volt．s | ＊Rectifier Stack Dimensions |  | Catalog <br> Number＊＊ | Net <br> User＇s <br> Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Volts | Amps． |  |  | A | 1 土 $^{\frac{1}{16}}{ }^{\prime \prime}$ |  |  |
    | 10 | 3.0 | $106 \mathrm{C} 1 \mathrm{SAX1}$ | 13 | $3^{\prime \prime}$ Sq． | 1 ＂， | 2100 S | \＄ 4.62 |
    |  | 6.11 | 133C1SAY 1 | $1: 3$ | $4^{\prime \prime}$ Sq． | $13{ }^{4}$ | 2101 S | 6.18 |
    |  | 12.19 | 136C1AN： | 1：3 | $5 " \times 6$＂ | $13 / 4$ | 2102 | 7.70 |
    | 20 | 3.0 | 106\％1SAX1 | $2 \overline{6}$ | $3^{\prime \prime} \mathrm{Sa}_{1}$ ． | 2 尔＂ | 2103 S | 8.40 |
    |  | 6.0 | $13: 1315 \times 1$ | 25 | 4＂Sq． | $2{ }^{1 / \prime}$ | 2104 S | 11.00 |
    |  | 12.0 | 13681AX1 | 26 | 5＂x6＂ | $23 / 4$ | 2105 | 14.10 |
    | 40 | 3.0 | $10632 \mathrm{SNX1}$ | 52 | 3＂Sq． | $3,1{ }^{1 / 2}$ | 2026 S | 15.28 |
    |  | 6.0 | 13：32SSAX1 | 52 | $4{ }^{\prime \prime}$ Sq． | $5{ }^{\prime \prime}$ | 2107 S | 20.15 |
    |  | 12.0 | 136132 AX 1 | 52 | 5＂x6＂ | $51 / 41$ | 2108 | 26.20 |
    | 60 | 3.0 | $106 \mathrm{B3SAX1}$ | 78 | 3＂Sq． | $41 / 2^{\prime \prime}$ | 211 sS | 20.43 |
    |  | 6.0 | 13：333SAX1 | 78 | $4^{\prime \prime}$ Sq． | $6{ }^{3 / 4} 1$ | 2033 S | 28.53 |
    |  | 12.0 | 136B3AX1 | 78 | 5＂x6＂ | 7 信＂ | 2085 | 37.82 |
    | 80 | 3.0 | 106 B4SAX1 | 104 | $3^{\prime \prime}$ Sq． | $51 / 21$ | 2109 S | 25.63 |
    |  | 6.0 | $133 \mathrm{B4SAX} 1$ | 104 | $4^{\prime \prime}$ Sq． | $8{ }^{\text {\％}}$ | 2110 S | 35.75 |
    |  | 12.0 | $136 \mathrm{B4ax} 1$ | 104 | $5^{\prime \prime} \times 6^{\prime \prime}$ | 9 9\％ | 2111 | 49.23 |
    | 100 | 1.0 | $139 \mathrm{B5} \mathrm{AX} 1$ | 130 | $2^{\prime \prime} \mathrm{Sq}$ ． | $53 / 81$ | 2112 | 19.38 |
    |  | 2.4 | 10635SAX1 | 130 | $3^{\prime \prime}$ Sq． | 65／8＂ | 2113 S | 31.02 |
    |  | $6.1)$ |  | 130 | $4^{\prime \prime}$ Sq． | $10{ }^{\text {a }}$ ，＂ | 2114 S | 41.80 |
    | 120 | 0.3 | $10: 3136 \mathrm{AX1}$ | 156 |  | $43 / 4$ | 2115 | 13.33 |
    |  | 0.6 | 10486 AX 1 | 156 |  | $47 / 8$ | 21336 | 15.68 |
    |  | 1.0 | 139136AX1 | 156 | $2^{\prime \prime}$ Sq． | $6_{7} 7^{\prime \prime}$ | 2116 | 22.68 |
    |  | 2.4 | 106136SAX1 | 156 | $3^{\prime \prime}$ Sq． | 75／8＂ | 211385 | 36.23 |
    |  | 6.0 | 133B6SAX1 | 156 | $4^{\prime \prime}$ Sq． | $12_{\text {矿＂}}$ | 2117 S | 49.38 |

    ＊A dimension is cell size．
    $B$ dimension is mounting size．

    Note；Ratinus for $3.5^{\circ}$ C Ambinh；Rusistive or Inductive loads；all degigns shown are for simele blase full wate reditication
    ＊：indicates sfuare whates－formerly romblno change in electrical characteristics．
    $\ddagger$ Resistive or Inductive Loads．
    Federal＂S－C－S＂（Single－Crystal－Stabilized）Germanium Diodes
    
    
    
    
    －No contact potential－polahity clearly identified

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    ## Selenium Rocitifiers

    WIDEST RANGE In the INDUSTRY
    COLOR TV, RADIO and TV MINIATURE RECTIFIERS
    

    | Catalog Number | Max DC MA | Max. <br> RMS <br> Volts | Mig Dim. <br> Max | Plate Size | Cotolog Number | Max. DC MA | Max <br> RMS <br> Valts | Mig. Dim. <br> Max. | Plote Size |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | RS050 | 50 | 130 | ${ }^{\text {3/ }}$ | ${ }^{2} 3^{\prime \prime}$ Sq. | MR350 | 350 | 130 | 114" | $11_{2}{ }^{\prime \prime} \mathrm{Sq}$, |
    | RSO65 | 65 | 130 | $3_{4} 1$ | $1^{\prime \prime} \mathrm{Sq}$. | RS350 | 350 | 130 | 114." | $2^{\prime \prime} \mathrm{Sq}$ |
    | RS075 | 75 | 130 | $3^{3}$ | $1 "$ Sq. | RS350SL | 350 | 130 | $1{ }^{3}{ }^{\prime \prime}$ | $2^{\prime \prime} \mathrm{Sq}$ q |
    | RS 100A | 100 | 130 | $1{ }^{18}{ }^{\text {a }}$ | 1 " Sq. | 6RS350SL | 350 | 156 | $15^{3 \prime \prime}$ | $2^{\prime \prime} \mathrm{Sq}$. |
    | RS100 | 100 | 130 | $3{ }^{\prime \prime}$ | 11.4 Sq. | RS400 | 400 | 130 | 14" | $2^{\prime \prime} \mathrm{Sq}$ q. |
    | RS150 | 150 | 130 | $1 "$ | $11_{4}{ }^{\prime \prime} \mathrm{Sq}$ S | RS400SL | 400 | 130 | $13^{\prime \prime \prime}$ | $2^{\prime \prime} \mathrm{Sq}$, |
    | 6RS150 | 150 | 156 | $1{ }^{\prime \prime}$ | 114" Sq. | RS450SL | 450 | 130 | 2'4' | $2^{\prime \prime} \mathrm{Sq}$ q. |
    | RS200 | 200 | 130 | $1 "$ | $1^{1 / 2}$ Sq. | MR500 | 500 | 130 | い" | $2^{\prime \prime} \mathrm{Sq}$ q. |
    | RS250 | 250 | 130 | 11" | $1^{1 / 2}{ }^{\prime \prime}{ }^{\text {Sq }}$ S | RS500SL | 500 | 130 | $2^{14}{ }^{\prime \prime}$ | $2^{\prime \prime} \mathrm{Sq}$ |
    | 6RS250 | 250 | 156 | 11." | 1'z" Sq. | 6RS500SL | 500 | 156 | 214" | $2^{\prime \prime} \mathrm{Sq}$ q |
    | MR300 | 300 | 130 | 1"" | $1^{1} z^{\prime \prime \prime} \mathrm{Sq}$. | RS650MSL | 650 | 130 | 2's' | $2^{\prime \prime} \mathrm{Sq}$ q. |
    | RS300SL | 300 | 130 | 214" | $1^{11_{2}{ }^{\prime \prime} \mathrm{Sq}}$ 9. | RS 10005 | 1000 | 130 | 3" | $3^{\prime \prime} \mathrm{Sq}$. |

    

    ## INDUSTRIAL and POWER RECTIFIERS

    *Ratings ta 25

    
    BATTERY CHARGING RECTIFIERS

    | D. 116 G |  | 2 | 26 | 3 | c | 3 | 3 | ? | Eyelet type |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | D. $1166^{*}$ * |  | 4 | 1326 | 1 | c | 3 | 3 | \% | Eyelet type |
    | D. 117 G |  | 4 | 26 | 3 | c | $4^{3}$ | $4^{3} i^{\prime}$ | $\because$ | Eyelet type |
    | D. 117G** |  | 8 | 1326 | 1 | c | $4^{3}$. | 4', | ': | Eyelet type |
    | D.241G | 0.10 | 6 | 26 | 3 | c | 6 | 5 | 1, | Eyelet type |
    | D.241G** |  | 12 | 1326 | 1 | c | 8 | 5 | ': | Eyelet type. |
    | D. 240 G |  | 9 | 26 | 3 | c | $7{ }^{1}$ | 61: | 13 | Eyelet type |
    | D.240G ${ }^{\text {- }}$ |  | 18 | 1326 | 1 | c | 714 | $6{ }^{4} 4$ | $1:$ | Eyelet type |

    

    - Descriptive Literafure Available on Request-Write Dept. M-on your letterhead, please


    ## INTERNATIONAL RECTIFIER CORPORATION

    ## CONANT

    SERIES
    

    280
    TUA
    SERIES
    280
    TUR

    ## SERIES

    160
    

    SERIES
    160C
    

    SERIES
    160 ERM
    

    ## all rectifiers shown actual size

    ## INTERNAL CIRCUITS

    Stondard rectifiers ore connected internally occording to one of the five circuit diagrams shown.

    ## Illindurue Illearlic: Restifers

    S TA $N$ D A R D

    SERIES 500 Copper oxide only. Color coded. Welded leod wires $3^{\prime \prime}$ long. Synthetic locquer-enomel finish. Single 6-32 stud mounting. Avoilable in special types. Cell diometer $.500^{\prime \prime}$. Cell rating 5 r.m.s. volts, 30 overage mils.

    SERIES SOO-ERM Copper oxide or selenium. Colar coded. Solid lead wires $3^{\prime \prime}$ lang. Locquer finish. Single hole mounting. Available in special types. Cell diameter . $500^{\prime \prime}$. Cell ratings, copper oxide 5 r.m.s. valts, 30 overage mils; selenium, 25 r.m.s. volts, 30 overage mils.
    SERIES SOO-TUA Selenium anly. Color coded. Salid oxial leads $3^{\prime \prime}$ long. Locquer finish. Mounts by lead wires only. Fully enclosed ond sealed in phenolic tube. Half wave types only far high valtoge. Cell diameter .500". Cell rating 25 r.m.s. volts, 30 overoge mils. Per cell rotings subject to deroting according to rectifier design.
    SERIES SOO-TUR Selenium only. Color coded. Solid rodial leads $3^{\prime \prime}$ long. Locquer finish. Mounts by lead wires only. Fully enclosed and sealed in phenalic tube. Cell diometer, $.500^{\prime \prime}$. Cell rating 25 r.m.s. volts, 30 overoge mils. Per cell ratings subject to derating according to rectifier design.
    SERIES 280-ERM Copper oxide or selenium. Color coded. Solid lead wires $3^{\prime \prime}$ long. Locquer finish. Mounts by "Bracketerminal" combining cathode (plus) terminal and mounting bracket. Available in standard types only. Cell diameter $.280^{\prime \prime}$. Cell roting, copper oxide, 5 r.m.s. volts, 10 average mils; selenium, 25 r.m.s. volts, 10 overage mils.
    SERIES 280-TUA Selenium only. Color coded. Salid axial leads 3" long. Locquer finish. Mounts by leod wires only. Fully enclosed and seoled in phenolic tube. Half wave trpes only, for high voltoge. Cell diometer $.280^{\prime \prime}$. Cell rating 25 r.m.s. valts, 10 average mils. Per cell rating subject to derating according to rectifier design.
    SERES 280-TUR Selenium only. Color coded. Solid rodial leads 3" long. Lacquer finish. Mounts by lead wires only. Fully enclosed and sealed in phenolic tube. Cell diameter .280". Cell rating 25 r.m.s. volts, 10 average mils. Per cell roting subject to derating according to rectifier design.
    SERIES 160 Copper oxide or selenium. Color coded. Welded lead wires $3^{\prime \prime}$ long. Fully enclosed and seoled in molded phenolic case. Mounts by \#2 screw. Cell diameter . $160^{\prime \prime}$. Cell rating, copper oxide, 5 r.m.s. volts, 5 overage mils; selenium, 25 r.m.s. volts, 5 average mils.
    SERIES 160-C Copper oxide or selenium. Color coded. Welded lead wires $3^{\prime \prime}$ long. Fully enclosed and sealed in welded brass case. Mounts in midget fuse clip. Cell diameter $.160^{\prime \prime}$. Cell rating, copper oxide, 5 r.m.s. volts, 5 average mils; selenium, 25 r.m.s. volts, 5 average mils.
    SERIES 160 -ERM Copper oxide or selenium. Color coded. Solid leads $1^{\prime \prime}$ long. Locquer finish. Mounts by lead wires only. Cell diameter . $160^{\prime \prime}$. Cell rating, capper oxide, 5 r.m.s. volts, 5 overage mils; selenium, 25 r.m.s. volts, 5 average mils.

    Standard rectifiers are connected internally according to one of the five circuit diagrams shown.
    Series 500,160 and 160-C are the well known standard line of instrument rectifiers and are constructed to the highest standards of quality. Construction is conventional.
    TUA (tubular, axial leads) and TUR (tubular, radial leads) construction is desiroble especially in rectifiers designed for high voltage operation. Total enclosure of the stack however limits heot radiation necessitating derating of cells.
    ERM (external resilient member) construction insures maintenance of aptimum stack pressures regardless of ambient or operating temperotures. Rectifiers in ERM construction ore smaller, lighter and cheaper.
    

    ## STANDARD SINCE 1933

    ELECTRONIC DEVICES INC．<br>Precision Rectifler Division BROOKLYN 15，N．Y．

    ## IRECTISEL Longer Life Selenium Rectifiers <br> b，lol．RECTISEL units are miniature rectifiers for <br> FULLY GUARANTEED

    radio and television and similar applications．（Var－ fully constructed of the finest available vacoum cells．E．I．I．rectifiers are the＂Longer－life＂rectifiers Exceptionally low forward drop and low reverse leak are mean cooler operation．It all adds up to fons． （lppendable，maintenance free operation．

    All E．D．I．rectifiers are guatanteed for lllm hours or one year．whicheyer comes first when used at rated current and roltage with rerommended serios resistor in ambients up to $510^{\circ} \mathrm{C}$ ．
    

    | Type | Series <br> Resistor | Cell <br> Size | Max． <br> A．C．Input | Max． <br> Peak Inv． | Cont，D．C． Current | Approx． Rect．Drop | Overall Length |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 1 1． 8 | 3：3！？ |  | $1: 311$ | Bal 1. | 1i．）M．ו． | $\bigcirc 1$ | $\therefore$＂ |
    | PRS 65 | ：3：！？ | 7／6＂ 3.4 | 1301． | Zッロ 1 ， | $1 .-M_{i 2}$ | 71 | $11 \times$ |
    | PRS 75 | コロ！！ | 7／8＂ 31. | $1: 111$. | ふい11。 | － $\mathrm{Na}_{1}$ | $\therefore 1$ | ＂＊＂ |
    | PRS 100 | 2－3！ | 10 sit． | 1314 1. | 3र01． | 1011 M：1． | $\therefore 1$. | ！＂ |
    | PRS 150 | 1：3！ | 1 1／3＂st． | 1301. | 3 al 1 | 1 Sal Mit． | －1． | $1 "$ |
    | PRS 200 | －1？ |  | 13015 |  | 2010 Ma． | it ${ }^{\text {I }}$ | $1^{\prime \prime}$ |
    | PRS 250 | 50 |  | 130 V ． | 3801. | 250 ， 12. | 5 V ． | $11 / 4^{\prime \prime}$ |
    | PRS 300 | 5！ | $11 / 4$＂ 4. | $1: 311$. | Sxい1． | \＆lll M：1． | ． 1. | $1{ }^{\circ} \mathrm{m}$＂ |
    | PRS 350 | ：！！ | $11 / \underline{y \prime} x^{\prime \prime}$ | 1：3口1。 | $3 い 111$. | 3．11 Ma． | I 1 | $13_{6}{ }^{1 / 2}$ |
    | J 400 | 58 | $1 \% / 4{ }^{\prime \prime} \mathrm{s}$ ¢ | 130 V | 380 V ． | 400 Ma． | 5 V | 11／4 |
    | J 500 | 6！ | $13_{4}^{\prime \prime}$ s¢1． | 1311\％ | 35111 | － 111 На． | $\therefore 1$. | ］7／8＂ |

    ## New UNIVERSAL REPLACEMENT LINE for Radio \＆TV <br> Now available through the use of high voltage

    vacuum process cells four rectifiers to replace 12 different sizes．This line will cut your inventory almost $70 \%$ ．These are high quality long life recti－ fiers made especially for replacement field．
    These rectifiers may be had in either bulk packed or individually hoxed in attractive boxes．These boxes are placed in display cartons which may be used as connter displays for quick easy sales！

    | Model No． | Replaces Ma． | Cell Size | Overall Length | Max． AC Input | Max． PIV | Max． DC Ma． | Approx． Rect． Drop |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | U－75 | 19／50／105／75 | $11^{\prime \prime}$ st． | 汹＂ | 1：31 | ：sw | i－ | （i）． |
    | U－150 | 1010－150 | 1 1，＂${ }^{1}$ | $133^{3 \prime \prime}$ | 13：1 | ：80 | 150 | 5 V |
    | U－300 | $200 / 2.013010$ |  | $11_{4}$ | 1：30 | ：3x0 | 3011 | 5 V |
    | U－500 | $3501400 / 4501800$ | 1 $\because 10$ | 1\％＂ | 1：31 | 3 SO | $\therefore 110$ | 51. |

    
     molded comdurnsers．Tlueso seallad in mits lave the following alvantaders
     applications beranse they can be monnted against chassis or in contact with ohho（onmplomeots．
    Shock hazarel in small sumtact chansis is fomblately rymimated
    
     unit has fine tail luarls．
    Aids in ferat ，lis－ipationt．
    
    

    ## POWERSEL HIGH POWER TYPE RECTIFIERS

    The entire facilities of the E．D．I．Engineering Depart－ ment are available to assist you with your problem． There is no obligation for this service．A letter，tele－ gram．or phone call will result in a pronipt reply．
    
    full wave bridge rectifiers, single phise, resistiveinductive loads all prices shown are user net prices
    Max. Amps
    1
    2
    $21 / 2$
    4
    6
    10
    12
    20
    24
    30
    36
    18v. in. $14 v$. out
    $\$ 1.40$
    2.10
    3.00
    3.75
    4.50
    6.60
    8.20
    13.25
    16.25
    20.00
    25.00
    36v. in. 28 v. out
    $\$ 2.40$
    3.00
    4.20
    7.50
    9.00
    12.75
    16.25
    25.50
    32.50
    38.00
    48.50
    54v. in $-42 v$. out
    $\$ 3.80$
    5.40
    6.00
    11.50
    13.00
    20.00
    22.50
    38.00
    45.00
    130v. in-100v. out
    $\$ 8.50$
    10.50
    13.00
    13.00
    25.25
    25.25
    33.00
    33.00
    42.50
    42.50
    46.00
    79.50
    86.50

    For Half-Wave, Center-Tap, Doubler, Tripler or 3-Phase, Qwotations on Request Custom Built Stacks - 24 Hour Service

    DIRECTRON FAST CHARGER STACKS
    

    Primary taps at 100. 105, 110 and 115 volts now available on 13 amp, $2+$ amp, 30 amp and 50 amp transformers. No extra charge. Custom built transformers - 48 hour service

    # Mfd. by SANFORD MILLER COMPANY 

    BROOKLYN 6, N. Y.
    r's Net P
    $\$ 15.00$
    21.00
    24.00
    27.00
    27.00
    109
    $100+50$
    $100+5 \cdot 1$
    $100+54$
    $80 / 45$
    $\$ 15.00$
    21.00
    24.00
    27.00
    21.00
    27.00
    

    ## TECHNICAL CHARACTERISTICS

    Power supply requirements for every radio，television and instrument use－ranging from small AC－DC receivers to large－ screen TV－can be met with available Kool－Sel rectifiers．A summary of the important engineering characteristics of each Kool－Sel type is given on this page．You should consider the use of Kool－Sel components for the follwing applicatins：
    RADIOS and RADIO－PHONOGRAPHS－Low－cost，efficient rectifiers for radios and radio－phonograph combinations are Kool－Sel KS－65，KS－75 and KS－150．The needs of most 5 －tube chassis are met by the KS－65，while the KS－75 and KS－ 150 are used in sets with larger current requirements．
    RADIO ACCESSORIES—TV boosters，UHF converters，pho－ nograph oscillators，intercoms and the like gain compactness and dependability when you use small，cool－running Kool－Sel． Type KS－65 is suitable for most of these uses．
    TELEVISION－High－voltage power supplies in television receivers－including color sets－use Kool－Sel rectifiers，Cata－ log Nos．KS－200，KS－250，KS－300，KS－350，KS－400 and KS－500． These rectifiers，used in voltage doubler or voltage tripler circuits，provide proper B－plus voltage，eliminating the size， cost，weight and hum problens of power transformers．
    LABORATORY INSTRUMENTS，POWER SUPPLIES，AM－ PLIFIERS－Rectified high voltage through the use of voltage doubler and tripler circuits，for equipment where current requirements run as high as 500 ma ，may be provided with Kool－Sel rectifiers．Catalog Nos．KS－200，KS－250，KS－300， KS－350，KS－400 and KS－500 will be found useful for laboratory power supplies，DC filament supplies，motion picture projec－
    

    DIMENSIONS
    in inches

    | Catalog Number | A | B | C |
    | :---: | :---: | :---: | :---: |
    | KS－65 | ${ }_{3}^{29}$ | 18 | $1 \frac{1}{6}$ |
    | KS－75 | \＃3 | 18 | 32 |
    | KS－100 | \％${ }^{2}$ | 1 | $\frac{29}{32}$ |
    | KS－150 | 1年 | 1 | 176 |
    | KS－200） | 1 需 | 132 | $11^{5 / 8}$ |
    | KS－250 | 1\％ | $11 / 2$ | $11^{5} 8$ |
    | KS－300 | $1{ }^{\text {第 }}$ | $1{ }^{12} 3$ | $1{ }^{16}$ |
    | KS－3．30 | $11 \frac{3}{8}$ | 11／2 | $11 / 2$ |
    | KS－400） | 113 | 13 3 | $11 / 2$ |
    | KS－500 | 113 | 2 | 11／2 |

     tors，amplifiers，test equipment and other specialized uses．

    For more detailed information and specific data on any type，write directly to the PYRAMID ELECTRIC COMPANY．
    CHARACTERISTICS

    | CATALOG NUMBER | KS65 | KS75 | KS100 | KS150 | KS200 | KS250 | KS300 | KS350 | KS400 | KS500 |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Maximum RMS Input Voltage | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 | 130 |
    | Maximum Inverse Peak Voltage | 380 | 380 | 380 | 380 | 380 | 380 | 380 | 380 | 380 | 380 |
    | Maximum Peak Current（MA） | 650 | 750 | 1000 | 1500 | 2000 | 2500 | 3000 | 3500 | 4000 | 5000 |
    | Maximum RMS Current（MA） | 162 | 187 | 250 | 375 | 500 | 625 | 750 | 875 | 1000 | 1250 |
    | Maximum．DC Current（MA） | 65 | 75 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 500 |
    | Approximate Rectifier Voltage Drop | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
    | Minimum Series Resistance | 22 | 22 | 22 | 15 | 5 | 5 | 5 | 5 | 5 | 5 |

    Maximum Operating Plate Temperature $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C}$ ． $85^{\circ} \mathrm{C} .85^{\circ} \mathrm{C}$ ．
    
    $50-430 \mathrm{kc} ., 480 \mathrm{kc} .35 \mathrm{mc}$. And 50.54 mc . Voice, CW. NFM (with adaptor). Edge-lighted, direct frequercy-reading scale. with one range in view at a time. 3 I.F. stages at 456 kcs . employing 12 permeability-tuned circuits on all bands plus one I.F. stage at 1990 kcs on all frequencies above 7 mcs . Switching is done automatically when coil set is plugged in. Built-in, isolated heavy-duty power supply. Sensitivity of 1 mv . or betwer at 6 db . sig./noise. Selectivity variable from 8 kc . overall to app. 1200 cps . at 40 db . Current-regulated high frequency oscillator and first converter heaters. Voltage-regulated high frequency oscillator and S-meter amplifien. Negligible drift after warm-up. Micrometer dial for logging: Prövision for crystal calibrator unit. Variable ant. trimmer. Lively S-meter. Min. tubes in front end and high freq. osc. Osc. circuits not disabled when receiver in sead position. High-fidelity push-pull audio ( $\pm 2 \mathrm{db}$. $50-15,000$ cps.) with phone jack. BFO switcle separated from BFO freq. control. Illumination dimmer controL. Accessory socket for Select-O.Ject.
    $\$ 533.50$
    The NC.183D incorporates every feature you want in a truly modern receiver! Dual conversion on the three highest ranges (including $6,10,15,20$ and 40 meter ham bands) no "birdies"! Steepsided skirt selectivity with 3 I.F. stages (16 tuned circuits on the 3 high bands - 12 on all other bands, compared to 6 normally used) plus a new crystal filter. Approximately 1 microvolt sensitivity on 6 meters for a 10 db . signal-to-noise ratio! New, indirectly-lighted lucite dial scales! New bi-metailic, temperature-rompensated tuning condenser for drift-free operation! Plus all the time-tested features of the famous NC-183! Controls include: Main tuning; bandspread tuning; band switch; RF gain $\longrightarrow$ AC on/off; AF gain; send/receive switch; AVC/MVC switch; tone CWO switch; AC on/off; AF gain; send/receive switch; AVC/MVC switch; tone
    $\$ 399.50$
    For shortwave listeners, novices and experienced amateurs, here's a receiver that tops them all for value" Compare these features: Crystal filter and $S$ meter, Calibrated bandspread for $80,40,20,15,11$ and 10 meter bands (large $6^{\prime \prime}$ indirectly lucite scales), advanced A.C. superhet circuit uses 8 high gain minia. ture tubes plus rectifier, covers 540 kcs . to 40 mcs. in 4 bands, tuned R.F. stage, two I.F. stages, 2 andio stages with phono input and 2 -position tone control, antenna trimmer, separate high frequency oscillator, sensitivity control, series valve noise limiter, delayed A.V.C., headphone jack, standby-receive switch, conelrad (CD) frequencies clearly marked. The main tuning and bandspread tuning capacitors are connected in parallel on all bands. This arrange* ment permits bandspread runing at any frequency within the range of the receiver and a logging scale is provided. Controls include: Main tuning; bandspread tuning; band selector; sensitivity; AC on/off - volume; receive/standby switch; ANL On/Off switch; tone Hi-Lo switch; CWO pitch; antenna trimmer; AM/CW switch, selectivity, phasing.
    $\$ 149.95$
    NC-98 sW Same as above but furnished with shortwave broadcast bandspread logging scale instead of amateur scale.
    

    Compare the NC-88, feature for feature, with other receivers costing far more and you'll see why it's such a popular favorite with hams, novices and SWLS! Calibrated bandspread for $80,40,20,15,11$ and 10 meter bands (large $6^{\prime \prime}$ indirectly-lighted lucite scales), advanced A.C. superhet circuit uses 8 high gain miniature tubes plus rectifer, covers 540 kcs . to 40 mcs . in 4 bands, tuned R.F. stage, two I.F. stages, 2 audio stages with phono input and 2 -position tone control, built-in speaker, antenna trimmer, separate high irequency oscillator, sensitivity control, series valve noise limiter, delayed A.V.C., headphone jack, standby-receive switch. The main tuning and bandspread tuning capacitors jack, standby-receive switch. The main tuning and bandspread conning capacted in parallel on all bands. This arrangement permits bandspread tuning at any frequency within the range of the receiver and a logging scale is provided. Controls inclade: Main tuning; bandspread tuning; band selector; sensitivity; AC on/off - volume; receive/standby switch; ANL On/Off switch; tone Hi-Lo switch; CWO pitch; antenna trimmer; AM/CW switch. \$119.95
    

    NC-125 Incorporates famed National SELECT.O.JECT for amazing selectivity at such a low price! such a fow price. reading scales show amateur, police, ship and foreign frequencies. Continuous cov erage from 540 kcs . to 35 mcs . $\$ 199.95$
    

    SW-54 540 kcs . to 30 mcs. in 4 bands. Sensitive and selective superhet circuit, using new miniature tubes Bandspread dial is ad justable to assure log. justable accuracy. Built-in ging accuracy
    speaker and power speaker and power
    supply. Volume, re. supply. Volume, re ceive-standby, band.
    switch. AM - CW, phono. Headphones provision. Speaker.
    $\$ 49.95$

    ## COIL FORMS

    

    XR-50. These mica-filled bakelite coil forms may be wound as desired to provide a permeability tuned coil. The form winding length is $11 / 16^{\prime \prime}$ and the form winding diameter is $1 / 2$ inch. The iron slug is $3 / 8 "$ dia. by $1 / 2^{\prime \prime}$ long.
    XR-51. same but with brass slug.
    High-grade ceramic coil forms conforming to JAN specifications. May be wound as desired to provide a perme-ability-tuned coil. Extra lugs provided.

    XR-60 Grooved for \#26 wire with iron slug.
    XR-61 Grooved for \#26 wire with brass slug.
    XR-62 Not grooved, winding length $11 / 4^{\prime \prime}$ with iron slug.
    XR-63 Not"grooved, winding length $11 / 4$ " wïth brass slug.

    XR-70 Grooved for \#19 wire with iron slug.
    XR-71 Grooved for \#19 wire with brass slug.
    XR-72 Not grooved, winding length $1^{\prime \prime}$ with iron slug.
    XR-73 Not grooved, winding length $1^{\prime \prime}$ with brass slug.

    ## COUPIINGS

    TX.9. This small insulated flexible coupling provides high electrical efficiency when used to isolate circuits. Insulation is steatite. $15 / \mathrm{s}^{\prime \prime}$ diam. Fits $1 / 4^{\prime \prime}$ shaft.

    TX-10. A rery compact insulated cou. pling free trom backlash. Insulation is canvas bakelite. 1-1/16" diam. Fits $1 / 4^{\prime \prime}$ shaft.

    TX-19. A steatite insulated flexible coupling for $1 / 4^{\prime \prime}$ shafts. Conservaively rated at 5000 volts peak. Di a.ater $1 \frac{3 \prime \prime \prime}{}$, length $1^{\prime \prime}$. Length and as aover voltage can be increased :y turning collars outboard.

    TX-23. A deluxe insulated flexible coupling designed for coupling $1 / 4$ " shafts. Will handle a maximum radial misalignment of $1 / 16^{\prime \prime}$ also 2 degrees maximum angular misalignment.

    ## RAD RIGHT ANGLE DRIVE

    Right angle drive. A sturdy right angle drive with Die cast zinc Housing and Gears. Ideal for ganging condensers or potentiometers or other parts located in hard to get to locations on the chassis.
    

    ## SAFETY GRID AND PLATE CAPS

    SPP-9. Ceramic insulation. Fits 9/16" diameter.
    SPP-3. Ceramic insulation. Fits 3/8" diameter. National Safety Grid and Plate Caps have a ceramic body which offers protection against accidental contact with high voltage caps on tubes.

    ## GRID AND PLATE GRIPS

    Type 12, for 9/16" Caps.
    Type 24, for $3 / 8 /$ Caps.
    Type 8, for $1 /{ }^{\prime \prime}$ Caps.
    National Grid and Plate Grips provide a secure and positive contact with the tube cap and yet are released easily by a slight pressure
    
    

    These RF chokes are identical electrically, but differ in mounting provisions. The $R-100$ employs pigtail leads; the $R-100 \mathrm{U}$ has pigtail leads and a removable stand-off insulator; the $\mathrm{R}=100 \mathrm{~S}$ has cotter-pin lug terminals and a non-removable stand-off insulator; the $R-100$ ST has a 6r32 threaded stud at each end. These chokes are available in $2.5,5$ and 10 millihenry sizes and are rated at 125 milliamperes.
    

    These RF chokes are similar in size to $R-100$ series but have higher current capacity. The $R-300 U$ is provided with a removable stand-off insulator at one end. The R-300S has a non-removable stand-off insulator and cotter-pin lug terminals. The $\mathbf{R}-300$ ST has a 6-32 threaded stud at each end. Inductance values of $0.5,1.0,2.5$ and 5.0 millihenries are available with a current rating of 300 milliamperes. R-300, R-300U, R-300S and R-300ST are identical electrically.

    ## CRYSTAL SOCKEFS

    CS. The CS-5, CS-6, CS-7 and CS- 8 are crystal Mounting Sockets for crystal holders. Socket bases ceramic Conforming to Jan 110 Body glazed. Unglazed surface DC 200 treated.
    C5-5. Contacts spaced $500^{\prime \prime}$ pin diameter .125". Phosphor bronze contacts silver plated. CS-6. Contacts spaced $.486^{\prime \prime}$ : pin diameter .095". Phosphor bronze contacts silver plated. C5-7. Contacts spaced .486" pin diameter . $050^{\prime \prime}$. Beryllium copper contacts silver plated. CS-8. Contacts spaced .750" pin diameter .125". Phosphor bronze contacts silver plated.
    

    R-33. The R-33 series chokes are 2 section RF chokes available in 10,50 , 100 and 750 microhenry sizes. Also available in this series is a single layer solenoid choke of 1 microhenry inductance. All are rated at 100 milliamperes. The chokes are wound on a $3 / \mathrm{s}^{\prime \prime}$ long form and range in diameter up to $5 / 16^{\prime \prime}$ maximum.

    R-50, R-50-T. The R-50 series chokes are 3 and 4 -section RF chokes and available in $0.5,1,2.5$, and 10 millihenry sizes. They are rated at 100 millamperes. The chokes are wound on a $1^{\prime \prime}$ long form and have a maximum diameter of $15 / 32^{\prime \prime}$. The 10 millihenry $R-50-1$ choke is wound on an iron core.

    R-152. For use in the range between 2 and 4 Mc. Ideal for high power transmitter stages operated in the 80 meter amateur band. Inductance $4 \mathrm{~m} . \mathrm{h}$. , DC resistance 10 ohms, DC current 600 ma . Coils honeycomb wound on steatite core.

    ## DIALS, MECHANISMS AND KNOBS

    

    HRS (gray or black) The HRS series knobs are a popular easy to grip knob. They are molded of high quality plastic and have $13 / 8^{\prime \prime}$ dia. chrome plated bevel skirts fit $1 / \mathbf{x}^{\prime \prime}$ shafts available in the following scales:

    | HRS-1 | ON-OFF | through $30^{\circ}$ |
    | :--- | :--- | :--- |
    | HRS-2 | $5-0-5$ | through $180^{\circ}$ |
    | HRS-3 | $0-10$ | through $300^{\circ}$ |
    | HRS-4 | Single etched line |  |
    | HRS-5 | $0-10$ | through $180^{\circ}$ |

    HR (gray or black) An HRS type knob without the chrome plated skirt but with a white dot for spotting rela ive control settings.
    

    HRT-M. This smaller version of the HRT - now available in choice of gray or black - is $1-7 / 16^{\prime \prime}$ in diameter.
    AM Dial. The original "Velvet Vernier" mechanism in a metal skirted dial $3^{\prime \prime}$ in dia. ratio 5 te 1. It is available with $2,3,4,5$ or 6 scale and fits $1 \mathbf{1}^{\prime \prime}$ shaft. Mechanisms also available separately.
    $N$ Dial. The four-inch $N$ and $A D$ Dials have engine divided and die stamped scales respectivels. The $\mathbf{N}$ Dial has a decimal vernier; the AD Dial employs a pointer. The planetary drive has a ratio of 5 to 1 , and is contained within the body of the dial. $2,3,4$, 5 or black scale. Fits $1 / \mathbf{2}^{\prime \prime}$ shaft. Specify seale.

    HRM KNOB. This straight knurl beass satin HRM KNOB. This straight knurl beass satin shaft. See catalog for description.

    # Harvey-WELLS ELECTRONICS, INC. TBS-50 BANDMASTER TRANSMITTERS 

    40-50 WATTS - 8 BANDS - PHONE OR CW<br>80, 40, 20, 15, II, 10, 6 and 2 Meters<br>(completely wired and tested-not a kit)

    BANDMASTER SR. TBS-50C \$111.50

    Amateur Net

    A complete ready to go transmitter including the new crystal-oscillator-vfo switching circuit, Phone or CW - Eight bands - 80, 40, 20, 15, 11, 10, 6 and 2 meters. Ideal for either mobile or fixed station use. Will operate from A.C. power packs up to 450 volts at 275 ma., vibrator supply or dynamotor supply for portable mobile operation. Employs Pi antenna matching net work. Power input to final is 50 watts with 450 volt power supply on Bands 1 through 7, 30 watts on Band 8. No tuning adjustments are necessary except those required to resonate the final output to the antenna. May be mounted on rack panel with power supply. For use with carbon microphone. No plug in coils.
    CONTROLS: Band Switch. Excitation Control, Antenna Loading, Amplifier Tuning, Power-on Switch, Carrier-on Switch. Meter Switch. Antenna network will match non-reactive feeder of approximately $50-500$ ohms. Frequency calibration chart on front panel as well as two scale grid and plate DC milliammeter.
    TUBES: 6AQ5 Crystal Oscillator, 6AQ5 Buffer-Multiplier, 807 Final Amplifier, 2—6L6G Class B Modulators. In sturdy steel cabinet. $8^{\prime \prime}$ wide by $12^{\prime \prime}$ high by $8^{\prime \prime}$ deep.

    ## BANDMASTER DELUXE TBS-5OD \$137.50

    Amateur Nel
    The last word in a versatile small transmitter for ham or commercial use. Used extensively in foreign countries for important commercial applications. Has built-in three tube preamplifier for use with crystal mike, and ALL the features of the Bandmaster Sr.

    ## BANDMASTER VFO FOR TBS-50

    Extremely stable, both electrically and mechanically-no loss of power or frequeney shift even on 28 mc . The Bandmaster VFO has been designed to meet the flexible requirements of today's versatile amateur. Six bands-each directly calibrated on the oversize slide rule dial-provides $20-25$ volts R.F. output over entire frequency range, measured across the 6AQ5 in the transmitter oscillator-Plate and heater voltages are obtained from the terminal strip on the transmitter. Power requirements are 6.3 V $@ 0.65 \mathrm{amps}$. and $300 \mathrm{v} @ 30 \mathrm{ma}$. Highly stable clapp type oscillator circuit uses $6 A G 7$ and $O B 2$ voltage regulator.
    Cabinet size $9^{\prime \prime} \times 111 / 2^{\prime \prime} \times 4^{\prime \prime}$.
    $\$ 47.50$
    Amateur Net
    

    POWER SUPPLIES

    APS-50 BANDMASTER POWER SUPPLY FOR $110 v$ A.C.

    Delivers 425 v . at 275 . ma. and 6.3 v . at 4 amps . May be mounted on rack panel. For 110 Voit A.C. $50-60$ cycles.

    FOR PORTABLE OPERATION DPS-50
    A dyлamotor supply for portable operation. Delivers 300 Volts 250 ma.

    For 6 Volt operation.
    For 12 Volts operation ( 400 Volts 250 mel .
    

    ACCESSORIES

    ## REMOTE CONTROL PANEL FOR MOBILE OPERATION

    CRYSTAL MIKE PRE-AMPLIFIER
    CMA-50
    For dashboard mounting, complete with interconnect. ing and microphone cables.

    Provides for a complete remotely controlled installa. tion.
    

    Crystal microphone pre-am. plifier. Tint unit built into the Bandmaster Deluxe which you may add to other Bandmaster models. Simple to install. tion.
    

    ## Harvey-WELLS ELECTRONICS, INC. NEW! BANDMASTER SERIES

    ## T-90 BANDMASTER TRANSMITTER

    The $7-90$ is the result of our long study concerning the operating requirements of most amateurs. Sufficient power to "get out" on all bands, either fixed or mobile, under today's ORM conditions, plus space limitations of the average home, has been the prime objective in its design. The many refinements contributing to smooth and efficient operation which have been incorporated in the $\mathrm{T}-90$, have up to this time been found only in transmitters selling at a much higher price. A close study of the following features will provide convincing evidence that the $T .90$ is the transmitter YOU WANT for your shack or car DIMENSIONS (overall): Cabinet $123 / 8^{\prime \prime}$ wide, $101 / 2^{\prime \prime}$ deep. $63 / 4^{\prime \prime}$ high; weight $173 / 4$ lbs. Factory built and tested complete with tubes, less power supply.
    $\$ 179.50^{*}$

    ## R-9 BANDMASTER RECEIVER

    In our further studies of amateur requirements, we found that the ultimate desire of all was to have equipment which "went together." The difficulty of installing odd sizes of cabinets has always been a source of irritation to the neat and efficient operator. The R-9 is physically an identical twin to the T.90 Now at last, without any reservation, you can have fixed station performance either in your shack or in your car. This highly stable all-band double conversion receiver has a versatility and a number of refinements which have never before been offered in such small space. Price is complete with tubes. Dimensions same as transmitter.
    \$149.50*
    Amateur Net

    ## FEATURES - T-90 TRANSMITTER

    ## I. TVI Suppressed

    2. Complete band-switching; no plug-in coils
    3. Complete Break-in Keying or keying of multiplier stages only
    4. VFO Tuning without carrier on
    5. Cathode biased Exciter tubes and clamp tube control of Final Amplifier Screen Voltage
    6. Initial tuning at reduced power
    7. Three position excitation contral
    8. Antenna loading flexibility
    9. Selector switch allows meter-
    ing of PA Grid, PA Cathode and Modulator currents
    10. Remote Break-in and Receiver muting provided by relay control
    II. VFO voltage regulated and temperature compensated
    11. Illuminated dial and meter
    12. Crystal door on front panel
    13. Filament Operation 6 or 12 volts $A C / D C$
    14. Low average Modulator current
    15. Built-in provision for either Carbon, Crystal or Dynamic microphone and push-to-talk.

    ## FEATURES - R9 RECEIVER

    volf DC power supply avail.

    1. Double canversion on all bands
    2. Three turred circuits on each band, in R.F. section
    3. All coils slug tuned, provid ing high " $Q$ " circuits
    4. Separate oscillator coils for each band (no spurious response)
    5. Bandwidth:

    Four kilacycles wide at the 6 ab point
    6. Complete with tubes and built-in AC power supply. 6/12
    able
    7. Crystal filter and crystal calibrator avai isble as accesso. ries
    8. Approximatey $6^{\prime \prime}$ of dial spread on ill bands. Accurately calibrated
    9. Rigid Steel construction (Vibration-Proof)
    10. $63 / 4^{\prime \prime}$ height enables easy under dash mounting for mobile installation.

    POWER SUPPLIES AND ACCESSORIES
    

    APS-90 POWER SUPPLY ( 115 V. A.C.)
    Cabinet same size as transmitter. Supplied complete with cables. \$79.50*
    

    VPS-T90
    MOBILE POWER SUPPLY
    For b/12 volt D.C. operation.
    Designed for easy operation and
    service.
    \$89.50*
    

    SPEAKER FOR
    MOBILE
    OPERATION
    \$7.50*
    *All prices subiect to change without notice.
    

    SPEAKER FOR FIXED STATION OPERATION
    $\mathrm{H}^{\prime} \mathrm{gh}$ quality cual-6" $\times 9^{\prime \prime}$
    Cabinet matches other units.
    \$10.50*
    

    ## MC-55 FIVE BAND MOBILE CONVERTER

    For 10, 15, 20, 40 and 80 meters. 1.25 micro-volt sensitivity on alf bands. Large, attractive edge-lighted dial. $25-t 0-1$ worm gear tuning. Efficient automatic noise limiter built-in. Integral transmit-receive switch. Three gang tuning capacitor. Individual coils for each band and each circuit controiled by single band switch. Aperiodic i.f. stage aids in providing high-gain characteristic. Input impedance $50-72$ ohms. Output frequency 1550 kc . Separate input for car antenna is automatically switched to car radio when converter is switched out.
    Requires $150-180 \mathrm{v}$. at 18 ma . Provisions for either 6 or 12 -volt operation. Tube lineup: 6BJ6 r.f. amp: 12AT7 osc-det; 6BJ6 if. amp; 6AL5 noise limiter. Attracrive cabinet finished in dark gray enamel. Complete with tubes, cables and instruction sheets. Size: $4 \frac{1}{8 \prime \prime}$ high, $5 \frac{\pi}{4}$ " wide, $51 / 4^{n}$ deep. Shipping weight. 6 lbs. Amateur Nel.

    ## DB-23 PRESELECTOR

    Substantially improves the performance of any receiver. Employs three 6 J 6 twin triodes as neutralized push-pull stages in a unique combination of selective and wide band r.f. amplifiers. Provides minimum gain of 20 db throughout all ham bands from 3.5 to 30 mc with substantial image rejection. Signal-to-noise ratio improvement is better than 7.5 db over that of the receiver alone. Permits optimum use of mechan. ical, crystal or audio filters. Input circuits accurately match any standard type antenra. Operation is simple; merely set band selector and adjust peaking control for maximum signal.
    Entirely self-contained with built-in power supply. Handsome cabinet is small, compact and finished in blue-gray. Complete with all tubes and instruction sheet. Size: $5^{\prime \prime}$ high, $75_{8}^{\prime \prime \prime}$ wide, $6^{\prime \prime}$ deep. Shipping weight, $61 / 2 \mathrm{lbs}$. Amateur Net . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 49.50$

    ## RME 100 SPEECH CLIPPER

    Specially designed peak limiting pre-amplifier that provides hisher articulation and intelligibility to combat QRM and QRN in phone bands. Ideal for use with Johnson Viking. Collins 32 V and all hambuilt phone equipment. Clipping level adiustable from 3.20 db . Pi low-pass fiter provides high suppression of senerated harmonics above 3000 cps , concentrating voice power to most effective band of frequencies. Frequency response $200-3000$ cps.
    If set to provide $100 \%$ modulation, louder speech will not over-modulate. Front panel input for high. impedance microphone takes PC2 connector. Tube lineup: $6 \mathrm{SC7}$, 6 H 6 and $6 \times 5 \mathrm{GT}$ rectifier. Entirely self-contained in handsome blue-gray steel cabinet. Complete with tubes, shieldec output cable and instruction sheet. Size: $5^{\prime \prime}$ high, $75 / 8^{\prime \prime}$ wide, $6^{\prime \prime}$ deep. Shipping weight, $6^{2}$ I Jbs . Amateur Net. . . . $\$ 39.50$

    ## SECOND OP DX INFORMATION COMPUTER

    No ham can afford to be without this ingenious computer, whether he is a DX enthusiast or not. Here on one clever instrument you can instantly read complete data on every country and amatcur sub-division. Right at your fingertips is the following information: great circle beam headings; time and date at DX location; continent; DX zone; prefix-to-country translations; QSL bureau addresses; postal rates for airmail, first class and QSL cards; international reply coupon exchange rates, etc. The "Second Op" includes log space to indicate date of contact and receipt of QSL from each country. Well made, of heavy stock with long lasting varnish finish. Amateur Net . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 1.00$

    ## MODEL 3005 FM BOOSTER

    The lasting pieasure of fine FM music under all conditions is made possible with the Model 3005 FM Booster. No more "lost programs" in difficult city locations or in outlying lowsigna! areas. Utilizing a special design high-gain circuit, this all-electronic broadband booster takes full advantage of all FM features without compromise. Extends the useful range of FM reception; clearly brings in stations not possible before. Increases signal strength over 10 times ( 20 db ) uniformly throushout the entire FM spectrum from 88 to 108 mc . Thermal relay permits FM booster to be turned "on" and "of" by the receiver without any circuit modifications. Completely automatic, no tuning or adjustment required simple to install.
    Uses two $6 \mathbf{J} 6$ dual triode tubes in a highly developed, low internal noise circuit. 300 -ohm input and output. For 105.125 volt, 60 cycles AC. Automatic switch actuated by sets consuming between 40 and 250 watts. Sturdy metal two-tone gray case. Vertical mounting brackets included; rubber feet. $51 / 2^{\prime \prime} \times 4^{\prime \prime} x$ $5 \mathrm{~s} / \mathrm{m}^{\mathrm{m}}$. Complete with tubes and plug-in cord. Shipping weight 3 lbs . List Price. . . . . . . . . . . . $\$ 45.00$

    ## ULTRA-LINEAR HIGH-FIDELITY CERAMIC CARTRIDGES

    80 Series Ultro-Linear Ceramic Cartridges. Latest High Fidelity development employs stable, emperature-proof ceramic element. Response flat with new standard RIAA curve. No preamp required; hich-level output works into 3 -meg load at 5 volt. No inductive hum pickup; compliance for clean ex-hish-level output works lines low distortion Standard mounting includes professional liftins lever. $\$ 38.50$
    Model 84-D WITH DIAMOND STYLUS (Microgroove) List Price
    Model 84-S WITH SAPPHIRE STYLUS (Microsroove) List Price. $\$ 16.00$
    $\$ 38.50$
    Model 82-D WITH DIAMOND STYLUS (78 rpm) List Price. $\$ 38.50$
    $\$ 16.00$

    ## MAGNETIC INPUT ADAPTER FOR MODEL 80 SERIES

    Model 504 Adopter. Required for 80 series cartridges where only magnetic input is available. Deequalizes magnetic input and reduces output of ceramic to conform. List Price. . . . . . . . . . . . . . $\$ 6.00$

    ## REPLACEMENT STYLI FOR MODEL 80 SERIES CARTRIDGES

    Part No. 4127 I.MIL SAPPHIRE STYLUS (Red Dot) for MODEL 84-S Lisi Price ........ $\mathbf{\$ 2 . 5 0}$ Part No. 4130 3-MIL SAPPHIRE STYLUS (Blue Dot) for MODEL 82-S Lisi Price . . . . . . . . $\$ \mathbf{2 . 5 0}$ Port No. 4146 1.MIL DIAMOND STYLUS (Orange Dot) for MODEL 84-D List Price . . . . . . $\$ \mathbf{2 5 . 0 0}$ Part No. 4145 3.MIL DIAMOND STYLUS (Silver Doi) for MODEL 82-D Lisi Price. . . . . $\$ 25.00$
    
    

    AUTOMATIC ELECTRONIC

    ## GHA b OOGUG

    ## 

    ## $\leftrightarrow E H \mathcal{A} \rightarrow \in$

    

    4146
    
    

    Unit is xtol controlled for maximum stobility ond utilizes 8 tuned circuits of 262 kcs for high selectivity. Self-contoined vibrotor power supply furnishes voltoge reguloted power to converter and to BFO. Lotter is highly stoble with odiustoble pitch control. Seporate RF ond AF Goin controls, odiustoble squelch, effective noise clipper. Built-in speaker with connec tions for external speaker, if desired. Pertinent controls are on o small control heod which mounts neor the converter for "fingertip" operotion. Connecting cobles ond plugs ore sup plied. Power pock is designed for quick conversion to 12 V DC Xiol furnished is for 1430 kc (Super. Six) input, but moy be factory exchanged for other common inputs of no chorge Compoct, $6^{7} \mathrm{~g}^{\prime \prime}$ wide, $63 / 4^{\prime \prime}$ deep, $51 / 4^{\prime \prime}$ high. Price does no
    include converter.

    Model $=3041$-Net -119.50

    ## AUDIO AMPLIFIER-POWER SUPPLY

    

    An audio omplifier-power supply spe. cifically designed to supply outpu oudio and power for puners with low level oudio outpuis. Hos built in PM ponel speaker, audio gain ond tone controls. Ideol for use with Gonset FM $A M$ tuners, two meter tunable and cpystal controlled funers, to provide o complete, independent communications receiver. Size $6^{\prime} /{ }^{\prime \prime}$ deep, $7^{\prime \prime}$ wide. $6^{\prime \prime}$ 's high.

    Model $=3034$ ( 6 V input) Madel $=3036$ (115V-AC) Net-44.50
    

    Model $=3002$

    SUPER-SIX

    ## SIX BAND CONVERTER

    The new six band de luxe converter covering $10.11,15,20,40$ and 75 meters. Improved sensitivity and odded band spreod. Also covers 19 and 49 meter SW broodcost bands. Built.in BC trap. Seporate isoloted ontenno inputs for converter and BC set. Oscillotor correction control on rear of chassis. Sturdy, drown oluminum outer cose

    ## 3-30" SW CONVERTER

    An excellent general coverage con verter where extreme band-spreod is not required. Covers 3 to 30 mes in three ranges. Uses four tubes 6BH6 RF, GAV6 mixer, 6C4 oscilloior ond 6BH6 I.F. stoge. Extremely compoct ond easy to install with ony car rodio.

    Net
    44.75
    

    > Model $=3003$
    > Net . . ... 46.00

    ## POLICE-MARINE CONVERTER

    Overoll performance and construction comparoble to 3-30 model except covers 1.6 to 6 mcs in two bands and employs 1 mic output. Ideol for police, marine, CAP, Civil Defense, disoster communicotions as well os amoteur 75 and 160 meter mobile work. Compoct, efficient, ruggedly constructed.

    ## TWO METER CONVERTER

    Covers 14.148.3 for amoteur or CAP fixed or mobile service. Superimposition luning and 1 mc output 1.F. doubles band-spreod and speeds funing, ovoids image. Righ stability, excellent sensi pivity. Utilizes power supply of receiver to which connected. Standard Gonset drawn aluminum sase. Tubes 6CB6. 12AT7 and OB2.
    

    Model $=3008$ Net

    ### 44.50

    ## VHF AIRCRAFT ADAPTER

    Used in conjunction with outo radio or LF oircroft receiver elc., to provide inexpensive, sensitive peceiver covering 108.128 mics. For 6 or 12 vol operation with 24 volt special. Includes series gate noise clipper. Instollation does not effect operation of existont equipment Rugged, stoble and compact. Specify 6 or 12 volis. Add $\$ 5.00$ for 24 volts
    Model $=3014$. Net 69.50
    

    Model $=3015$
    (squelch)
    Net $\quad 79.50$

    ## TWO METER TUNER WITH CASCODE

    The receiver portion of the extremely populor "Communicotor" is now ovoil oble as o seporate unit. Hos 6BQ7A Coscode RF, 12AT7 Mixer-oscilloror. hree stoges of I.F.. second detector and Gow-level oudio. Includes the famous Gonse: Noise Clipper with Gonsel Squelch an optional teorure. Requires power supply and ouppu oudio which may be ideally supplied by Gonsel Audio.Amplifier Power Supply unil Size: $5^{\prime \prime} 4^{\prime \prime} \times 3^{\prime \prime} 2^{\prime \prime} \times 51^{\prime \prime} 4^{\prime \prime}$ deep.
    

    Model $\pm 3037$-Neq-89.50 De Luxe Model $=3038$-with squelch-Net-99.50

    ## VHF CRYSTAL CONTROLLED TUNERS

    This unit is similor in circuitry to the receiver used in the "Communicator with the exception that it is specifically designed for fixed, noniunoble AM or FM operation on ony single frequency in the ronge of 30 to 170 mss. The unit includes o Coscode RF, crystol con trolled HF oscillator, I.F. ond low leve cudio. Also, Gonset Noise Clipper ond odiustoble squelch. The unit becomes o highly sensitive communications receiv er when used with Gonsel Audio Amplifier Power Supply or with equivo lent sections of o LF receiver. Size: $53{ }_{4}^{\prime}$ $\times 358^{\prime \prime} \times 5^{1} 4^{\prime \prime}$ deep. Specify frequency ond whether FM or AM. IPrice includes quoriz crysial.
    

    Model $=3029-$ Net -125.00

    ## COMMERCIAL-TYPE FM-AM TUNERS

    Gonset tuners provide on inexpensive yet sensitive and stable receiver when used in conjunction with ordinory outo, home or communicotion receivers or with the Gonset Audio.Amplifier Power Supply unit. Tuners include squelch and noise clipper, I.F., ond low.level audio. Very compoir mounts on steering post or under dosh for mobile applicalions. 50 ohm input, simple to connect to Audio. Power supply unit or equivo. lent sections of L.F. receiver
    
    30.40 mc . FM-Model $=3009$
    $30-40 \mathrm{mc}$. $A M$-Model $=3009$
    40.50 mc . $F M$-Model $=3010$
    40.50 mc . $A M$-Model $=3010$
    88.108 mc . FM-Model $=3011^{*}$ (less squelch)
    $15-162 \mathrm{mc}$. FM Model $=3012$ 162.174 mc . FM -Model $=3013$ (all models)-Net-6950

    # COMMUNIGATIONS EQUIPMENT <br> GONSET <br> c 0 <br> Burbank, Calit. 

    ## LINEAR RF POWER AMPLIFIER

    

    S5B-250-300W P.E.P. OUTPUT $\mathrm{CW}-220-240 \mathrm{~W}$ OUTPUT
    AM-80-100W CARRIER AM-80.100W CARRIER

    Model 5cow
    Net 339.00

    A complete, ready to operate RF A complear amplifier with single can. frol bondswitching for 10-11-15.20. $40-80$ meter amateur bands. Operates in Class AB: 10 provide sub. stantial power output with very low grid drive. Uses 4.807's with pi network output, is completely free from parisitic or self oscilla. tion. Heavy duty AC power supply uses 4-860 JR's in bridge with 80 uses 4-866 JR's in bridge with 80 mrol and complete metering, (cothodes, grid and RF outpui)' simpliodes, grid and ries linear amp adiustments. Screen fies linear cimp adiusiments. prevents underload. Operation may be AM, SSB C.W.

    COMMANDER" 50.60W Multi-band Transmitter FREQ. RANGE: 1.7 .54 mcs contin. yous.
    

    Complete with tubes, and mierophone.

    Model $=3016$
    Net
    124.50
    

    Model $=3020$
    Net
    TUBES: RF-6AG7, 6146. AF-12AT7 two 7C5's.
    POWER REQUIREMENTS: 300 V .500 V (i) 200.225 ma (phone) and 6.3 V , $A C$ or DC (c) $3.15 A$. UP to 60 W input, phone or CW.
    MODULATOR: Closs A82 tetrodes and integral hi-level speech clip. ping.
    ANTENNA FEED: All conventional feed lines, Coax, ribbon ar apen line ar direct to Marconi antenna.
    MICROPHONE INPUT: Any stand ard carban or PA type hi-impedance dynamic or crystal.

    ## VFO FOR COMMANDER

    A companion unit for use with the Cammander. Unique circuit employs no tubes therefare affords goad stability because of no heaf gen. erated in heavy aluminum box. Same size as Super.Six. Covers 10 , $15,20,40,75$ phone bands. Merely plug inta receptacle on Commander panel. Stable, with canstruction ex. tremely sturdy for rugged mobile

    ## STEERING POST MOUNTING BRACKET

    Can be mounted on either right or left hand side of steering post. May be rotated to mount the converter above or below the steering post in the most convenient posision in relation to the driver of the automobile. Complete with mounting straps and hordware.

    Model $=3006-\mathrm{Net}^{\mathrm{t}}-3.90$
    

    ## DE LUXE NOISE CLIPPER-SQUELCHER

    The combination is applic able to any omateur mobile or communications receiver. Small size permits easy mounting directly beneath any of the Gonset standard converters. The unit is very simply connected to exist ing auto receivers. Size $4^{1} 8^{\prime \prime}$ deep $x 5^{\prime} a^{\prime \prime}$ wide $x$
    21/8" high. Madel $=3000-$ Net-24.50
    

    ## AR-T AIRCRAFT

    ## TRANSMITTER -RECEIVER

    AR-1 is a complete VHF transmitterreceiver package that will meet every communication requirement of the private plane owner.

    Comslete tronsmitter-receiver unit, utilizing 11 tubes, weighs less thon 5 pounds, fits within the glove compartment of the average small plane Sensitive receiver is continuously tunoble from 108 to 128 mcs . Has isolating stage far omni, provisions for Lf converter. Transmitter has 8 crystal controlled channels, with well modulated saeech output. Other features channets, with well modulated saeech output. "ther features switch to shift audio circuits to intercam, edge lighted dial switch to shift audio circuits to intercam, edge lighted dial
    with oncoff switch. Operating voltoge 12.14 .5 V . Current drain, with on off 5 witch. Operating voltoge 12.14 .5 V . Current drain, 122.5 mics. Models for 24 volts available on special order

    AR-I TRANSMITTER RECEIVER (W 2xils) 269.50 Plus Federal Excise Tax . . . 16.17)

    DYNAMOTOR POWER SUPPLY AND INSTALLATION KIT
    Including all connecting cables, mike and phone jacks, two dipole antennas and associated coax cables. Net ..... 30.00

    # GOMMUNIGATIONS EQUIPMENT <br> GONSET <br> c 0 <br> Burbank, Calif. 

    ## GONSET "COMMUNICATORS"... ANTENNAS ... ACCESSORIES.

    The very well known Communicator is now available in several differen models ta meet fully the varied quirements of Amully CAP Commer in Industrial and Airpori Corvices. Each model is a comple station uperher perciver with "Coscode" upi contralled transmitter (VFO is also vailable separately) Self containo vawer supply for 115 V AC and 6 V DC Also ll 5 V AC and 12 V DC) Modulator may also be used as a PA system mo may also be used as a PA system, mo $73 / 4 \times 103 /{ }^{\prime \prime} \times 91 /{ }^{\prime \prime}$ All ghly. pact, $3 / 4 \times 1038 \times 1 / 2$. All ore light in weight and conveniently portable.

    2 METER DELUXE COMMUNICATOR $115 V A C / 6 V D C$
    $115 V A C / 12 V$ $=3025 \quad$ Net 229.50 Net 229.50
    $115 V A C / 6 V$ DC (less squelch, etc.)
    …... $\mathbf{2 0 2 6}$

    6 METER DE LUXE COMMUNICATOR
    $115 V$ AC $6 V$ DC
    $115 V A C / 2 V$
    $=3049$ $\pm 305 B$

    Net 229.50
    Net 229.50
    INDUSTRIAL COMMUNICATOR
    Il5V AC/6V DC
    $\pm 3042$ Nef 350.00
    (Plus Federal Excise Tax . . 21.00 )
    ZIPPER CARRYING BAG FOR COMMUNICATORS Net 14.95

    ## 2 METER DELUXE COMMUNICATOR

    Tunable receiver, xil contralled pransmitter, (AM). Cover 144.148 .3 mes. 2E26 final delivers 6.7 wafts output. Has adustable squelch, (silent standby), famous Gonset noise clip per, phane iack and speaker muting, dial light switch.

    ## 2 METER STANDARD COMMUNICATOR

    Same as above except less squelch, earphone jack, dial light switeh, etc.

    6 METER DE LUXE COMMUNICATOR
    General size and appearance is identical to 2 meter Cammu nicators. Operates on amateur o meter band. Has Cascode front end, double conversion for increased selectivity usable on o meters. Transmither delivers 6 to 8 watts output with either 0 , (or 12 ) volf $D C$ or $115 V$ universal supply. De luxe models only. (Squelch, earphone jack, efc.)

    ## NDUSTRIAL COMMUNICATOR

    Designed specifically for low power industrial fixed or port able services, with autput power limited to comply with FCC ules. Both iransmitter and receiver are xil controlled. Has squelch and noise limiter, panel mounted speaker. Same size and appearance as other Communicators.

    ## ZIPPER CARRYING BAG FOR COMMUNICATORS

    Convenient carrying bag for all models. Holds unit plus mike antenna, coax and other accessories. Made of heory canvas padded. Altractive green color.

    ## 2 METER RF LINEAR AMPLIFIER

    A new RF linear power amplifier for use with Communicators to increase carrier out put to $50-60$ watts' No alterations required on Communicator. Tune up is easy, fool. proof, with no danger to rubes. Uses P.P 826's with forced air coolang as linear amplifier, two SU4G rectifiers in self contoined power supply. Cabinet morches Communicaror both os to siyle and size
    $=3063$
    Net 149.50

    6 METER FOUR ELEMENT BEAM

    Includes special balun for bal. ance and match of falded di. pole driven element to 52 ohm coax.

    An exsellent four element Yagi bled for easy installation. Features high forward gain. low SWR and symmetrical pattern.

    $$
    =1523
    $$

    Net 24.50

    ## 2 METER "TWIN-SIX" BEAM

    

    Twin-six, a rugged, quickly assembled dual Yagi, provides well over 10 db gain and FBR throughout the 2 meter band. Sperial balun and matching networks assure symmetry and
    low SWR with 52 ohm coax line feed low SWR with 52 ohm coax line feed.
    Array is largely preassembled and designed for use with standard TV rotator. Antenna may be arranged for horizontal or verfical polarization. De Luxe model includes braced $5^{\circ}$ boom and mast section, standard model daes not.
    

    Highly effective 15 and 20 meter, 2 element rotaries with element lengths only $161 / 2^{\prime}$ tip-totip. Performance closely approaches full-length antennas in all kinds of weather. Light. weight...TV-type rotator can be used. Uses "Bow lie" ele. ments, very high " $Q$ " center loading inductors for lowest

    Single 52 ohm coax feed with link coupling and "Magic match termination assures low VSWR, symmetry, balanced pattern. Antennas are factory luned, require no field adiustments.

    # JAMESMM』ULEN M A LDEN 

    
    90.921

    ## ONE INCH

    ## INSTRUMENTATION OSCILLOSCOPE

    Miniaturized, pachoged panel mounting cathode ray oscilloscope designed for use in instrumentation in place of the comwentional pointer type moving coil meters uses the 1 " ICPI tube. Panel bezel matches in size and type the standard 2 square meters. Magnitude, phase displacement, wave shape, etc. are constantly visible on scope screen. No. 90901 , less tube

    ## INS'RRUMENT DIAL

    The No. 10030 is an extremely sturdy instrument type indicator. Control shaft has 1 to 1 ratio. $V$ eeder type counter is direct reading in 99 revo lutions and vernier scole permits readings to 1 par in 100 of a single revolutian. Has bultin used with and $1 / 4^{\prime \prime}$ drive shaft coupling. May be used wim multi-revolution trunsmitter controls, etc., or through gear reduction mechanism for conirol of laboratory revolution
    No. 10030.
    . . \$

    ## GEID DIP METER

    The No. 90651 NILLEN GRID DIP METER is compact and completely self contained. The AC power supply is of the "transformer" type. The drum dial $M C$ to 300 MC with generous over laps plus an M arbirary scale wits battery operation for ankenna measurement. No. 90651 , with lube

    Additional Iriductors for lower Frequencies No. 46702 - 925 to 2000 KC No. 46703-500 to 1050 KC No. $46704-325$ to 600 KC No. 46705-22 to 350 KC

    ## LABORATORY SYNCHROSCOPES

    The $5^{\prime \prime}$ laboratory synchroscopes are available with and without detector-video strips.
    Model P-4-2, with tubes
    Model P.4E-2, with tubes

    ## MINIATURE SYNCHROSCOPE

    The compact design of the No. 90952, measuring only $71 / 2^{\prime \prime} \times 5 \%{ }^{\prime \prime} \times 13^{\prime \prime}$, and weighing only 17 lbs., makes available for the first time a truly DESIGNED FOR APPLICATION "field service Synchroscope.
    No. 90952 , with tubes................ $\$$

    ## CATHODE RAY OSCILLOSCOPES

    The No. 90902 , No. 90903 and No. 90905 Rack Panel Oscilloscopes, for two, three and five inch tubes, respectively, are inexpensive basic units comprising power supply, brilliancy and centering controls, safety features, magnetic shielding, switches etc. As a transmitter monitor, no additional equipment or accessories are required. The well-known tropezoidal monitoring patterns are secured by freding modulated carrier voltage from a pickup loop directly to vertical plates of the cathode rcy fube and audio modulating voltage to horizontal plates. By the addition of such units as swerps, pulse generators, amplifiers, units as swereps, pulse generators, amplifiers, veniently and neatly constructed on companion rack panels, the original basic 'scope unit may be expanded to serve any conceivoble industrial or laboratory apolication.
    No. 90902 , leis tubes
    No. 90903 les tubes. No. 90905 la.s tubes

    ## SCOPE AMPLIFIER - SWEEP UNIT

    Vertical and horizontal amplifiers along with hard tube, saw tocth sweep generator. Complete with power supply mounted on a standard $5 \frac{1}{4}$ "rack panel.
    No. 90921 , with tubes.
    $\$$

    ## REGULATED POWER SUPPLIES

    A compact, uncased, regulated power supply, either for tasle use in the laboratory or for in corporation es an integral part of larger equipments. Regulated, unregulated, bias and filament voitages provided.
    Model 90201. less tubes.
    $\$$
    

    70952
    

    #  M A L DE:N 

    

    92101
    

    90711
    

    ## STANDING WAVE RATIO BRIDGE

    The Millen S.W.R. bridge provides easy and inexpensive measurement of standing wave ratio on antennas using co-ax cable. As assembled the
    bridge is set up for 52 ohm line. A calibrated 75 bridge is set up for 52 ohm line. A calibrated 75
    ohm resistor is mounted inside the case for sub. ohm resistor is mounted inside the case for
    stitution in the circuit when 75 ohm line is used. No. 90671 .............................. . \$

    ## PHASE-SHIFT NETWORK

    A complete and laboratary aligned pair of phase:
    shift networks in a single compact $2^{\prime \prime} \times 1 / 16^{\prime \prime} \times 4^{\prime \prime}$ cose with characteristics so as to provide a phase
    shift befween the two networks of $90^{\circ} \pm 1,3^{\circ}$ over a frequency range of 225 cycles to 2750 cycles, This unit is equally well adapted for use in either single sideband tronsmitting or receiving equipment. When used in a suitably designed transmitter it is possible to obtain a 40 db suppression of the unwanted sideband. The No. 75012 precision adjusted phase-shift network makes possible the building of single sideband equipment without the necessity of complicated labaratary equipment for network adiustment.
    No. $75012 . . . . .$. .

    ## R9'er MATCHING PREAMPLIFIER

    The Millen 92101 is an electronis impedance matching device and a broad-band preamplifier combined into a single unit, designed primarily for operation on 6 and 10 meters. Coits for 20 meter band alsa available. Na 92101 , less tubes
    ## SO WATT EXCITER-TRANSMITTER

    Modern design includes features and shiolding for TVI reduction, bandswitching for 4-7-14-21-28 megacycle bands, circuit metering. Conservatively high power PA stages. 5763 oscillator-buffer-mulfiplier and 6146 power amplifier. Rack mounted. No. 90801 , less tubes

    VARIABLE FREQUENCY OSCILLATOR
    The No. 90711 is a complete transmitter control unit with 6SK7 temperature-compensated, electron coupled oscillator of exceptional stability and low drift, a 6 SK7 broad-band buffer or frequency doubler, o 6 A67 tuned amplifier which tracks with Output sulficient to drive an 807 is available on 160,80 and 40 meters and reduced output is available an 20 meters, Since the output is isolated from the oscillator by twa stages, zero frequency shift occurs when the output load is varied from shin occurs when the output load is varied from open circuitlo short circuit. The entire unit is unoccurs due to vibration. The keying is clean and free fram all annoying chirp, quick drift, jump, and similar difficulties often encountered in keying variable frequency oscillators.
    No. 90711 , with fube

    ## HIGH VOLTAGE POWER SUPPLY

    The No. 90281 high voltoge power supply has o d.e. output of 700 volts, with maximum current of 235 ma . In oddition, a.c. filoment power of 6.3 volts supply is an ideal unit for use with transmitters, such as the Millen No 90801, as well as general lab oratory purposes. The power supply gises two oratory purposes. The power supply uses two No
    816 rectifiers. The panel is standard $83 /^{\prime \prime} \times 19^{\prime \prime}$ ack muntin. rack mounting.

    ## HIGH FREQUENCY RF AMPLIFIER

    A physically small unil capable of o power outpul af 70 to 85 watts on 'phone or 87 to 110 watts on $\mathrm{C}-\mathrm{W}$ an $20,15,11,10,6$ or 2 meter amateur bands. Provision is made for quick band shift by means of the new No. 48000 series VHF plug-in coils. The Na. 90811 unit uses either an $829-8$ or 3E29.
    No. 9081 ! with 10 meter band coils, less
    tube..................................... \$-

    ## RF POWER AMPLIFIER

    This 500 watt amplifier may be used as the basis of o bigh power amateur transmitter. The No. 90881 RF power amplifier is wired for use with the papular " 812 A " type fubos. Other popular tubes may bo used, The amplifier is of unusually sturdy mechanical construction, on o $101 / 2^{\prime \prime}$ relay rack panel. Plug-in inductors are furnished for operation on 10, 20, 40 duch meter amoleur bands. The standard Millen No. 90801 exciter unit is on ideal driver for the No. 9080 excirer unit is an ideal driver for the Now No. 81 with por is an ide
    No. 40881 , with one set of coils, but less
    

    #  <br> MALD DEN 

    ## PANEL DIALS

    The No. 10035 illum nated panel dial has 12 to 1 ratio; size, $81 / 2^{\prime \prime} \times 61 / 2^{\prime \prime}$. Smoll No. 10039 has 8 to 1 ratio size, $4^{\circ} \times 311^{\prime \prime}$. Both ore of campoci mechanical design, easy to mount and have totally self.contoined mechunism, thus eliminating bock of ponel interference. Provision for mounting and marking auxiliary controls, such as switches, poentiometers, etc. provided on the No. 10035 Standord finish, either size, flot black ort metol. No. 10039 No. 10035

    ## WORW DRIVE UNIT

    Cast oluminum frome may be ponel or base mounted. Spring leaded split gears to minimize bock losh.
    Standord rotio $16 / 1$. Alsa in $48 / 1$ on request. No. 10000-(stote ratio) . . . . . . . . . . . . . \$

    ## DIALS AND KNOBS

    Just a few of the many stock types of small dials and knobs are illustrated herewith. 10007 is $11 / \mathbf{s}^{\prime \prime}$ diometer, 10009 is $21 / 2^{\prime \prime}$ and 10008 is $31 / 2^{\prime \prime}$ No. 10002
    No. 10008
    Na. 10008
    No. 10009
    No. 10018
    No. 10021
    No. 10065

    ## PIGMT ANGIE DRIVE

    Extremely compact, with provisions for many methads of maunting. Ideal for operoting potentiomelers, switches, etc., that must be locoted, for short leods, in remote parts of chossis. No. 10012.

    ## HIGM VOLTAGE INSULATED

    SHAFT EXTENSIONNo. 10061 shaft locks and the No. 39023 insulated high voltoge potentiometer extension mountings ore ovailoble as a ingle integrated unit-the No. 39024. The proper shaf length is independent of the panel thicknes. The standard shaft has provision for screw driver odjustment. Special shoft arrangements are available for industrial opplications. Extension straft and insulated coupling ore molded as o single unit to provide occuracy of alignment and eo:e of installation.
    Na. 39023, non lecking type
    No. 39024 , lacking type

    ## SHAFT LOCKS

    In oddition to the original No. 10060 and Na. 10061 "DESIGNED FOR APPLCATION" shaft locks, we can also furnign such voriations as the No. 10062 ond No. 10063 for easy thumb operation as illustrated obove. The No. 10061 instanlly canverts ony plain " $1 / 4$ shaff" volume control, condenser, etc. from "plain" to "haft locked" rype. Easy to maunt in place of regular mounting nut.
    No. 10060
    Ne. 10061
    No. 10062
    No. 10063

    ## TRANSMISSION LINE PLUG

    An inexpensive, compoct, and efficient palystyrene unit for use with the 300 ahm ribbon type poly ethylene transm ísion lines. Fits into standard Millen No. 33102 (aystal) sackef. Pin spacing 1/2 diameter. $095^{\circ}$
    No. 37412

    ## DIAL LOCK

    Compact, easy to mount, pasitive in oction, daes Compoct, esy for in perationl Rotation of dae "A" depresses finger " $B$ " and " $C$ " without imparting any ratary motion to Dial. Single hole maunted. No. 10050 .
    

    #  

    

    ## TUBE SOCKETS

    ## DESIGNED FOR APPLICATION

    MODERN SOCKETS for MODERN TUBES! Long Flashover path to chassis permits use with trans. mitting tubes, 866 rectifiers, etc. Long leakage path between contacts. Contacts are type proven by hundreds of millions already in government. commercial and broadcast service, to be extremely dependable. Sockets may be mounted either with or without metal flange. Mounts in standard size chassis hole. All types have barrier between contacts and chassis. All but octal and crystal sockets olso have barriers between individual contacts in addition.

    The No. 33888 shield is for use with the 33008 ostal socket. By its use, the electrostatic isolation of the grid and plate circuits of single-ended metal tubes can be increased to secure greater stability and $g$ ain.
    The 33087 tube clamp is easy to use, easy to install, effective in function. Available in special sizes for all types of subes. Single hole mounting. Spring steel, cadmium plated
    Cavity Socket Contast Discs, 33446 are for use with the "Lighthouse" ultra high frequency tube. This set consists of three different size unhardened beryllium copper multifinger contact discs. Heat treating instructions forwarded with each kit for hardening ofter spinning or forming to frequency requirements.
    Voltage regulator dual contact bayonet socket, 33991 black phenolic insulation and 33992 with low loss high leakage mica filled phenolis insulation.
    No. 33004
    No 33005
    No. 33006
    No. 33007
    No. 33008
    No. 33888
    No. 33087
    No. 33002
    No. 33102
    No. 33202
    No. 33302
    No. 33446*
    No. 33991
    No. 33992

    * For set of 3 .


    ## FLEXIBLE COUPLINGS

    The No. 39000 series of Millen "Designed for Application" flexible coupling units include, in addition to improved versions of the conventional types. also such exclusive original designs as the No. 39001 insulated universal jaint and the No. 39006 'slideaction" coupling lin both steatite and bakelite insulation).
    The No. 39006 "slide-action" coupling permits longitudinal shoft motion, eccentric shaft motion and out-of-line operation, as well as angulor drive without backlash.
    The No. 39005 is similar to the No. 39001, but is not insulated and is designed for applications where relatively high lorque is required. The steatite insulated No. 39001 has a special antirbacklash pivat and socket grip feature. All of the above illustrated units are for $1 / 4^{\prime \prime}$ shaft and ore stand ard production type units. The No. 39016 incorporates features which have long been desired in a flexible coupling. No Back Lash-Higher Flexibility - Higher Breakdown Voltage-Smaller Diameter-Shorter Length-Higher Alignment Accuracy-Higher Re. sistance to Mechanient Shock-Solid Insulating Barrier Diaphragm—Molded as a Single Unit.
    No. 39001
    No. 39002
    No. 39003
    No. 39005
    No. 39006
    No. 39016
    
    $a d$
    M A L DE N


    

    ## 04000 and 11000 SERIES TRANSMITTING CONDENSERS

    A new member of the "Designed for Application" series of transmilting variable air capacitors is the 04000 series with peak voltage ratings of 3000,6000 , and 9000 volts. Right ongle drive, 1-1 ratio. Adjustable drive shaft angle for either vertical or sloping panels. Sturdy construction, thick, roundedged, polished aluminum plates with $134^{\prime \prime}$ radius. Constant impedance, heavy current, multiple finger rotor contactor of new design. Available in all normal capacities.
    The 11000 series has $16 / 1$ ratio center drive and fixed angle drive shaft.

    | Code | Volts | Capacity | Price |
    | :---: | :---: | :---: | :---: |
    | 11035 | 3000 | 35 | $\$$ |
    | 11050 | 3000 | 50 |  |
    | 11070 | 3000 | 70 |  |
    | 04050 | 6000 | 50 |  |
    | 04060 | 9000 | 60 |  |
    | 04100 | 6000 | 90 |  |
    | 04200 | 3000 | 205 |  |

    ## 12000 and 16000 SERIES

    TRANSMITTING CONDENSERSRigid heavy channeled aluminum end plates. Isolantite insulation, polished or plain edges. One piece rotor contact spring and connection lug. Compact, easy to mount with con: nector lugs in convenient locations. Same plate sizes as 11000 series above.
    The 16000 series has same plate sizes as 04000 series. Also has constant impedance, heavy current, multiple finger rotor contactor of new design. Both 12000 and 16000 series available in single and double sections and many capacities and plate spacing.

    ## THE 28000-29000 SERIES VARIABLE AIR CAPACITORS

    "Designed for Application," double bearings, steatite end plates, cadmium or silver plated brass plates. Single ar double section $.022^{\prime \prime}$ or $.066^{\prime \prime}$ air gap. End plate size: $19 / 16^{\prime \prime} \times 11 / 16^{\prime \prime}$. Rotor plate radius: $3 / 4^{\prime \prime}$. Shaft lock, rear shaft extension, special mounting brackets, etc., to meet your requirements. The 28000 series has semi-circular rotor plate shape. The 29000 series has approximately straight frequency line rotor plate shape. Prices quoted on request. Many stock sizes.

    ## NEUTRALIZING CAPACITOR

    Designed originally for use in our own No. 90881 Power Amplifier, the No. 15011 dise neutralizing capacitor has such unique features as rigid channel frome, horizontal or vertical mounting, fine thread over-size lead screw with stop to prevent shorting and rotor lock. Heavy rounded-edged polished aluminum plates are $2^{\prime \prime}$ diameter. Glazed Steatite insulation.
    Na. 15011

    ## THRU-BUSHING

    Efficient, compact, easy to use and neat oppeoring. Fits $1 / 4^{\prime \prime}$ hole in chassis. Held in ploce with a drap af solder ar a "nick" from a crimping tool.
    No. 32150
    $\$$
    
    JAM芭 S M IULEN MALDEN
    MASSACHUSETTS
    

    ## TRANSMITTING TANK COILS

    A full line-oll popular wattages for all bands. Send for special cotolog sheet.

    ## TUNABLE COIL FORM

    Standard actal base of low loss mica-filled bakelite, polystyrene $1 / 2^{\prime \prime}$ diameter coil form, heavy aluminum shield, iron tuning slug of high frequency type, suitable for use up to 35 mc . Adjusting screw protrudes through senter hole of standard octal socket.
    No. 74001, with iron core . . . . . . . . \$
    No. 74002, less iron core.

    ## RF CHOKES

    Many have copied, few have equalled, and none have surpassed the genuine original design Millen Designed for Application series of midget RF Chokes. The more popular styles now in constant production are illustrated herewith. Special styles and variations to meet unusual requirements quickly furnished.
    Figures 1 and 4 illustrote special types of RF chokes available on order. The populor 34300 and 34200 series are shown in figures 2 ond 3 respectively. General Specifications: $2.5 \mathrm{mH}, 250 \mathrm{~mA}$ for types 34100, 34101, 34102, 34103, 34104, and $1 \mathrm{mH}, 300 \mathrm{~mA}$ for types 34105 , 34106, $34107,34108,34109$.

    No. 34100 ........................ $\$$
    No. 34101
    No. 34102
    No. 34103
    No. 34104

    ## MIDGET COIL FORMS

    Made of low loss mica filled brown bakelite. Guide funnel makes for easy threading of leads through pins.
    No. 45000 .
    \$
    No. 45004.
    No. 45005.

    ## OCTAL BASE AND SHEELD

    Low loss phenolic base with octol socket plug and oluminum shield con $17 / 6 \times 1 \% \times 31 / 16$.
    No. 74400 .

    ## l.F. TRANSFORMERS

    The Millen "Designed for Application" line of I.F. transformers includes air condenser tuned, and permeability tuned types for all applications. Standard stock units are for 456,1600 and 5000 kc .B.F.O.also available.

    ## PERMEABILITY TUNED CERAMIC <br> FORMS

    In addition to the populor shielded plug-in permeability tuned forms, 74000 series, the 69040 series of ceromic permeobility funed unshielded forms are available as standard stock items. Winding diameters and lengths of winding space are $17,12 \times 12$ for 69041-2; $1 / 4 \times 3 / 4$ for 69043-7-8; $1 / 2 \times 11 / 10$ for $69045-6 ; 3 / 16 \times 3 / 16$ for 69044 .
    No. 69041 -(Copper Slug).
    No. 69042-(lion Core)
    No. 69043 -(Iron Core).
    No. 69044-(Copper Slug)
    No. 69045-(Copper Stug)
    No. 69046-(Iron Core)
    No. 69047-(Copper Slug) No. 69048-(Iron Core).
    

    # a) $a d \sqrt{n} \sqrt{n}$ <br> () <br> M M IL L E N M A S S AC H USETT S 

    

    ## CERAMIC PLATE OR GRID CAPS

    Soldering lug and contact one-piece. Lug ears annealed and solder dipped to facilitate easy combination "mechanicas plus soldered" connection of cable.
    No. 36001-9/16"
    No. 36002-3/8'
    No. 36004-1/4'

    ## SNAP LOCK PLATE CAP

    For Mobile, Industrial and other applications where tighter than normal grip with multiple finger $360^{\circ}$ low resistance contact is required. Contact self-locking when cap is pressed into position. Insulated snap button at top releases contact gris for easy removal without damage to tube.
    No. $36011-9 / 16^{\prime \prime}$ \$ No. $36012-3 /{ }^{\prime \prime}$.

    ## SAFETY TERMINAL

    Combination high voltage terminal and thrubushing Tapered contact pin fits firmly into conical socket providing large area, low resistance connection. Pin is swivel mounted in cap to prevent twisting of lead wire.
    No. 37001, Black or Red.. .......
    No. 37501, Low loss.

    ## TERMINAL STRIP

    A sturdy four-terminal strip of molded black Textolite. Barriers between contacts. "Non turning" studs, threaded 8/32 each end. No. 37104.

    POSTS, PLATES and PLUGS
    Designed for Application! Compact, easy to use. Made in black and red regular bakelite as well as low loss brown mica filled bakelite or steatite for R.F. Uses. Posts have captive head.
    No. 37202 Plates (pr.). . . . . . . . . . . \$ No. 37212 Plugs
    No. 37222 Posts (pr.).

    ## STEATITE TERMINAL STRIPS

    Terminal and lug are one piece. Lugs are Navy turret type and are free floating so as not to strain steatite during wide temperature variations. Easy to mount with series of round holes for integral chassis bushings.
    No. 37302
    No. 37303.
    No. 37304
    No. 37305.
    No. 37306

    ## CATHODE RAY TUBE SHIELDS

    for mony years we have specithized in the design and manufacture of magnetic mefal shields of nicoloi ond mumetal for cathode ray fubes in our own complete equipment, as well os for applications of all other principol complete equipment manufacturers. Stack types as well as special designs to customers' specifications pramptly availoble. No. 80045-Nicoloi for 5BP1
    No. B0055-Nicoloi for 5CP1
    No. 80043-Nicoloi for $3^{\prime \prime}$ fube
    No. 80042-Nicoloi for $2^{4 \prime}$ fube

    ## BEZELS FOR

    ## CATHODE RAY TUBES

    Standard types are of satin finish black plastic. $5^{\prime \prime}$ size has neoprene support cushion and green lucite filter. $3^{\prime \prime}$ and $2^{\prime \prime}$ sizes have integral cushioning. No. 80075-5"
    No. 80073-3
    No. $80072=2$
    
    

    ## MINIATURICED

    DESIGNED for APPLICATION miniaturized components developed for use in our own equipment such as the 90901 Oscilloscope, are now available for separate sale. Many of these parts are similar in most details except size with their equivalents in our standard component parts group and in certain devices where complete miniaturization is not paramount, a combination of standard and miniature components may possibly be used to advantage. For convenience, we have also listed on this page the extremely small sized coil forms from our standard catalogue. Additional miniature and subminiature components are in process of design and will he announced shorily.

    CODE
    AOOS

    ## DESCRIPTION

    ## NET PRICE

    Matches stondord knabs in style. Block plostic with bross insert. For $1 / /^{\prime \prime}$ shoft. Overall height $1 / 2^{\prime \prime}$. Diam. eter $3 / /^{\prime \prime}$

    Same os A018 except for $5 / /^{\prime \prime}$ diameter plastic dial with 5 index lines.
    AO12 Right angle drive. $1 / /^{\prime \prime}$ diameter shafts. Single hole mounting bushing $1 / 4^{\prime \prime}-32$ diometer.
    AO1:
    $1 / 4^{\prime \prime}$ diameter black plastic knob with brass insert for $1 / /^{\prime \prime}$ shaft. Skirt diameter $3 / \mathbf{n}^{\prime \prime}$. Overall height $5 / /^{\prime \prime}$. Unique design has serewdriver slot in top.

    ## CDMIDNENTS

    NET PRICE
    Similar to A018, but without flange.

    A066 Shaft bearing, for $1 / \mathbf{1 0}^{\prime \prime}$ diometer shofts. Nickle ploted brass. Fits 174" diameter hole.
    E001 Steafite standoff or tie-paint integral mounting eyelat .205 averoll diameter. Box of five.
    J300-500 Iron ecte RF choke 500 uh.
    1300-1000 Iron core RF choke 1000 uh.
    1300-2500 Iron core RF choke $21 / 2 \mathrm{mh}$.
    MOO3 Solid coupling for $1 / 3^{\prime \prime}$ diometer shoft. Nickle ploted bross
    M006 Univeriol joint style flexible coupling, Spring finger. Steatite insulotion. Nickle ploted bross for "/" diamefer shofts.
    Insuloted coupling, with nickle ploted brass inserts or $1 / s^{\prime \prime}$ diometer shofts.
    Insulated shoft extension for maunting sub minioture potertiometer with $1 / 4^{\prime \prime}$ diommer shofts and $1 / 4^{\prime \prime}-32$ bushiag.
    Steotite coil form. Adjustoble core. Tap taned. Tapped 4-40 hole in case for mounting. Winding space $1 / 4^{\prime \prime}$ diamever $\times 13 / 2^{2}$ " length,
    69044 Steatite coil form. Adjustable trass core. Bothom Puned. Mounting by No. ID- 32 brass base. Winding space .187 diameter by $3 / 6$ " length

    $$
    \begin{aligned}
    & \text { JAMESMMIULEN } \\
    & \text { M A L D E N } \\
    & \text { MASSSACH USEETHS }
    \end{aligned}
    $$

    

    ## Exciters, Modulators and Power Supplies

    ## EXCITER-TRANSMITTER

    The 90801 Exciter-I'ransmitter is of the most mondern designiechading features and shielding for TW reduction, band-switching for the $4-\mathrm{i}-14-21$ and 28 megacyele band, circuit metering. Con ervatively rated for use either as a transmister or exciter. 5763 oscillatorhuffer multiplier and 01.46 pow $r$ amp lifier. 90 watts inputior $C W$. Can be keyed in the oscillator and, or amplitier or tyy means of keyed external V.F.O. such as the 90711.67 watts input ifhone. Rack mounted. $31 / 2^{\prime \prime}$ panel heisht.
    No. 94801, less tubes.
    $\$ 00.00$

    ## HIGII VOLTAGE POWER SUPPLY

    The 90281 hifh voltage power eupply has a d.c. output of 5.00 ta 700 volts, with maximum current of 235 ma . In addition, a.c. filament power of 6.3 volts at 4 amperes is alse, availablr. This power rupply is an deal unit for use with trinsmiters an well as generad laboratory purpose. A single power upply will provide high valtage for both the 90801 'Transmitter and tho 90831 Modalator. List s 2 816 zuercury vapor reetifiers and inoorporates a two section filter which resulte in excellent regalation and very low ripule. Nack mounted. $833_{4}^{\prime \prime}$ panel height.
    No. 90281 , less tubes
    . $\$ 0.00$

    ## MODULATOR

    The 9083140 watt modulator designed especially for use with 908tl transmitter. 12AX7 speech amplifier-6C4 voltage amplifier. class A $1316146^{\circ}$ s. Suitahle for modulating transmitters with power input up to 80 watts. Gain is ample for the use of low level, high impedance crystal or dynamic microphones. Frequency response is adjusted for good communication intelligibility with limited side bands. Modulator incorporates a switeh for complete ehange-over of modulator and transmitter from CW to 'phone. Rack mounted. 514" panel height.
    No. 90831, leas tubes.

    ## LOW VOLTAGE POWER SUPPLY (not illustrated)

    The 90201 is a compact uncased regulated and general purpose power supply either for table use, in the laboratory or for incorjoration as an integral part of larger egtipments. It will provide modulator and exciter low voltage as well as bias and heater voltager when used with the 90801 and 908.11 . lis multiple outputs include 250 volt 125 ma . unregulated - 105 volt 35 ma . rexulated-bias voltage to minus 100 volis- 6.3 volt filament power at 4.2 amperes.
    Model 90201, with tubes.
    \$00.00

    #  <br>  

    

    ## The Oscilloscopes and the Amplifier Sweep <br> 'The macilloseopso in their patkaged form are entirtly alequate for many

    latmoratore an watl as inmostrial and commumication lises. As a transmitter mos-lulation monitor, no additional romipment or anermorice are remuired. By the andithon of such units as sweres. pulse generators, aniplificres, servo momanion rach pancle. the original basie scope unit ean be expanded to werre any romerivalule application.
    Itere amain the researelt engineer is fread of the drudgary of time remsuming
     being alale lo broced with his speciatizel work.
    'the rescilloseopers art desumed for standard rack monmting and incorporato mumbetal thicliding and power supply as well as functional enontrolm.

    ## No. (1) 3()$^{2}$ TW() NCII OSCII,I, OSCOPH

    Inwer supply: $105-125$ volts - 60 cycles. Powos consumption -19 Ihysical Inimensionm: 11 right - $31 / 3$ Inches, Width - 19 Inchers. I epth -91 Truches. Wright - 12 P'ounds
     betereim zernitivit

    120 zolts dict per ineth 120 zolte d.c. per ine h
    No. 9ugut: I'wo luch (3scilloscope lens mines.
    800.00

    N(). サon 'IIRFFINC\| OSCIIIASCOPH,
    Inwer supily: 105-125 volis - 60 eycles. Power connumption - 19
     - $1.31 / 2$ Inches, Wrizht - It Itounds
    
    1hifleotiontrasitivity: Vartical — 10 volts E.c. ner inch. Iforizontall16, volite dec. per inct.
    Na. Gugons: 'Vhree Inch (neilloscope less tubes.

    ## NO. 90905 FIVE INCII OSCII.LOSCOPE

    I'ower Sup;ily: 105-12.5 valis - ind rycles. Fower anisenmption - 32 watts
     Wepth ( ${ }^{\text {Dverall }}$ ) - $16 \frac{1}{2}$ lnchues, Wetight - $2+$ Pounde
    
     Fectilier
    Oellection Sornsitivity: Vertical - 50 volts d.c. per inch. Horizontal( 4 ) velte Ale. per insh
    No. Gomaty: live Inch Oseillose:oper lens thbes
    The Millen 9012! Amplifirr-Sweet may the used with any hasia: ancillonacope
    
     together with at sawtorth swaep genorator using at eqari" tulur omeilla-
    
    

    ## NO. 90921 A MPLIFIER SWEEP

    l'ower supply: 105-L25 valts - (4) cycles. Hower consmonption - 32
    Physioal Himensions: Height - i' í luehes, Width - 19 Laches, Depth (Oreralt) - $83 / 8$ lurher. Weight - 13 Poumbs
    
    
    Gain of eaft amplifier - Aprosimately 25 dhe.
    Frequency 14 esponse - 15 rycelfse to 125 kilocy des. Flat within 2 db .
    Sweap Frequentiek - 15 reyeles to 10 hilucyclea. A overlapring ranges
    Mamimum D.C. to amphifier ingmi - 100 volte
    Maximum modistorted atmplefirenniput - Approximately 70 volts peak to wah lmoth vertical and horexomital amplifiers
    No. P(M221 Amplifier-Swrep, with tubes.

    #  <br> M A L DEN M M A S SACH USET T S 

    

    ## LA HORATORY DELAY LINE STANDAIEIDS

    The Millen delay line kit effeetively provides a means for the: development and design enginerr to chrek the affect of various delays in their actual developmental setups without the time los. and expense of producing separate lines for each trial. Increased reguirement for time delay circuits in radar, color telerision and other modern electronic applications has presented a problem to the design and development engineer as it has been both time consuming and expensive to oktain delay lines for developmental work as cach line was necessarily cut to the estimated delay and any change in requirements nexessitated the fabrication of a new delay line. The Millen delay line kit i:- dewigned to provide a ready means of obtaining various delays from .10 microseconds through 2 microseconds in increments of .05 misroseconds except at the extreme ends of this range. The lines may be used repeatedly without deterioration as they are hermetically sealed, the smaller lines in glase tubes, the 1 micro.econd line io a metal container.

    Actual delar as measured by phase shift method are marked on each delay line. The lahoratory calibration of each delay line is accurate to $\neq 0.002$ microseconds on all of the .10 microzeeond .25 microsecond and .03 microsecond lines and $\pm 0.01$ microsecond on the 1 microsecond line. Combination of delay lines supplied makes possible the following delays:

    | $0.10 \mu s$. | $0.55 \mu s$. | $1.10 \mu s$, | $1.55 \mu s$, |
    | :--- | :--- | :--- | :--- |
    | 0.20 | 0.60 | 1.20 | 1.60 |
    | 0.25 | 0.65 | 1.25 | 1.65 |
    | 0.30 | 0.70 | 1.35 | 1.70 |
    | 0.35 | 0.85 | 1.40 | 1.150 |
    | 0.40 | 0.90 | 1.45 | 7.90 |
    | 0.45 | 1.00 | 1.50 | 2.00 |
    | 0.50 |  |  |  |

    Characteristic impedance - 1350 ohms $\pm 20 \%$.

    Each set consists of:

    ## nomimal

    ## oflat rol.

    $2-0.10 \mu \mathrm{~s} . \pm 0.01 \mu \mathrm{~s}$.
    $2-0.25 \mu \mathrm{~s} . \pm 0.025 \mu \mathrm{~s}$.
    $1-0.30 \mu \mathrm{~s} .=0.03 \mu \mathrm{~s}$.
    $1-1.00 \mu \mathrm{~s} . \pm 0.05 \mu \mathrm{~s}$

    ## CARIBRATION IORERANCM

    $\pm 0.002 \mu \mathrm{~s}$.
    $\pm 0.002 \mu \mathrm{~s}$.
    $\pm 0.002 \mu \mathrm{~s}$.
    $\pm 0.01 \mu \mathrm{~s}$.

    ## PHYSICAL DIMENSIOWS

    0.1 $\mu \mathrm{s}$. ${ }^{13 / h^{\prime \prime}}$ dia. $\times 41 /{ }^{\prime \prime \prime}$ ong
    $0.25 \mu \mathrm{~s}$. 一 $13 / \mathrm{s}^{\prime \prime}$ ", dia. $\times 75 \%^{\prime \prime}$ long $0.30 \mu \mathrm{~s} .{ }^{15} \mathrm{~s}^{\prime \prime}$ dio. $\times 7 \mathrm{~m}^{\prime \prime}$ long
    

    All seven lines are mounted in a metal ease $91 / 2^{\prime \prime} \times 5^{\prime \prime} \times 13^{\prime \prime}$ for convenience in storing and safety in handling.
    
    

    ## "Ilesigned for Application"

    ## Delay Lines and Networlis

    The James Millen Mfg. Co., Inc. has been producing continuous delay lines and lump constant delay networks since the origination of the demand for these components in pulse formation and other circuits requiring time delay. The most modern of these is the distributed constam delay line designed to comply with the most stringent electrical and mechanical refuirements for military, commercial and latoratory equipment.

    Millen distributed constant line is available as bulh line for laboratory use and in cither flesille or metallic hermetically sealed units adjusted to exaet time delay for use in production equipment. Lump constant delay networks mas be preferred for some specialized applications and can be furnished in open or hermetically scaled construction. The above illustrates several topical lines of both types. Our engineers are arailable to assist you in your delay line problems.
    ~AS MAN
    

    ## Inesigned for Application

    ## Mu Metal Shields

    The James Millen Mfg. Co. Inc* has for many war = speciadizerl in the production of magnetie metal cathode ray tube shields for the entire electronics indastry. supplying magnetic metal shielats to manufarluring companies, laborawries and research organizations. Stock shields are immediately available for all of the more pornalar sizes and types of cathome rar tuhes as well as hezels fror $\underline{2}^{\prime \prime}, 3^{\prime \prime}$ and $5^{\prime \prime}$ size tutes.

    Many produrion problems, twover, make desirable special shields designerf in conjunction with the specialized requirement of the basie apparatus. Iterewith. are illustrated a momber of such eustom buile shixids. Our eustom darign and fabrieation department is at the serviee of our customers for the development and mamfacture of magnetie metal shiflds of either nieoloi or mumetal for such sperialised applieations.

    #  

    

    ## Brid IIip Meters

    Millen Gerit Din Wra-r arr availatle to meet all various labora-
    
    
     features hosirn for besth industrial and laboratory applieation. indoding thros wire zrommding ty pe power cord and suitable carring cance
     evopt for a molured rathan of 1.7 ta $30 f$ me. It likewise incorporate the thro wire grounding type ord and metal carrying ease.
    'Ilor Mmisl standard (irid lijp Mater is a somewhat lees expensine version of the prith dipe meter. The calitratixon while adequate feor wornall usage is not a- complete at in the case of the industrial mondel. It in supplifd whhomt aromoding le ad and withoat carrying
     rasye twor 2 he
     mil with a meter tor read srid enrmit. 'The frequency detormining roil is phoned intor the unt sot that it mas loe used as a probe.
    "There instrumento are comblaty with a lmition transformer to pe 1.6. powar supgly and innmminal terminal hoard to provide conn
    
    
     formance or convenionee of nsaye. The incerporation of the power supply, nseillator and probe into a single unit provides a convenient device for cheching all ivees of circuits. The indiating intrument is a standard 2 inch erneral Electric instrumbut with an easy to read scale. The calitrated diai in a large $205^{\circ}$ drum dial which provides seven hirect reading seales, plus an additional uriversal scale, all with the same length and readability. Earh range has its individual plug-in prohe toncpletely enclosed in a contour fitting polystyrene case for asmarace of permanence of ralibration as well as to prevent any monibility of mechamial damaze or of unintentional contact with the components of the circuit being tested.

    The Grid Dip Metors mav be usod as:

    1. A Grid Wip Oscillator
    2. In Oscillating [ etcetor
    3. A Signal Gencrator
    4. An Indicating Ahsomtion Wareneter
     ing indueney moter to deteranor the remant frequeneies of dr-encraized tuned circuits.
    

    # JAMESGMMLLEN <br> MALDEN, MASSSACHUSETXS 

    

    ## Midget Absorption Frequency Meters

    Many amateurs and experimenters da not realize that ane oi the most useful "tools" of the commercial transmitter designer is a series of very small absorption type frequency meters. These handy instruments can be poked into small shield campartments, coil cans, corners of chassis, etc., to check harmonics; parasitics; oscillator-doubler, etc., tank tuning; and a host of other such applications. Quickiy enables the design engineer to find out what is really "going on" in a circuit.

    Types 90605 thru 90609 ore extremely small and de signed primarily for engineering labaratary use where they
    will be handled with reasanable care. The most useful cambination being the group of four under code No. 90300 and cavering the tatal range of from 3.0 to 140 megacycles. When purchased in sets of four under cade No. 90600 o convenient carrying and storage case is included. Series 90601 are slightly larger and very much more rugged. They are further protected by a contour fitting transparent polystyrene case to protect against damage and dirt. This latter series is designed primarily for field use and are not quite as convenient for laboratory use as the 90605 thru 90608 types. All iypes have dials directly calibrated in frequency.

    | Code | Desrription | Net Price |
    | :---: | :---: | :---: |
    | 90604 | Rong $=160$ to 210 me . | \$ |
    | 90605 | Rong e 3.0 to 10 mc . |  |
    | 90606 | Rong = 9.0 to 23 mc , |  |
    | 90607 | Pange 23 to 60 mc . |  |
    | 90608 | Fange 50 to 140 mc . |  |
    | 90609 | Fange 130 to 170 mc . |  |
    | 90610 | Ronge 105 to 150 mc . |  |
    | 90619 | Kange 350 to 1000 kc .-Nean Indicotor |  |
    | 90620 | Range 150 to 350 kc . - Neor. Indicator |  |
    | 90625 | Rance 2 to 6 mc . - Neon Indisator |  |
    | 90626 | tonge 5.5 to 15 mc . - Neon incicotor |  |
    | 90600 | Complete set of 90605 thru 90808 , in case |  |
    | 90601 | Complete set Field type Frequency Meters in metol corrying case 1.5 to 40 mc . |  |

    NEW YORK
    Cooper-DiBlasi 259 W. 14th Street

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    maln Office

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    AND FACTORY

    150 EXCHANGE ST., MALDEN, MASSACHUSETTS, U.S.A.
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    ## only

    

    S-53A The finest small communications receiver built and ideal where maximum performance is required in small space. Several steps better than the $\mathrm{s}-38 \mathrm{C}$, but not quite up to larger S-40B. Covers Broadcast Band $540-1630$ kc plus four short-wave bands covering $2.5-31$ and 48 54.5 Mc.

    Electrical bandspread for easy funing. Two i.i stages. Switches for automatic noise limiter, code reception and high-low tone. Phono jack for records. Headfone tip jacks on rear and built-in PM speaker. Temp. compensated to reduce fading due to irequency shift. for 105/ 125 V. 50/60 cycle AC.
    

    Brand New and very much wantedModel HT-30 Single Sideband AM and CW Transmitter/Exciter

    - Highly stable VFO with full 100:1 ratio gear drive system built-in, calilbrated in kc.
    - Stability comparable 10 most crys. tals $.009 \%$. Ifuil band switching.
    - Ample gain for 55 db microphone. Hum and noise 40 db down.
    - Full 50 watt peak power cutput. - Complete built-in metering.
    - Unwanted sideband at least 40 db down. AM-CW-SSB.
    - Undesired beat frequency down 60 db or more. T. V. I. suppressed.
    - Stable 50 kc filter system.
    - Provisions for coaxial output fitting.
    - Built-in voice control circuit with bias switching for final amplifier.
    

    Model $\$ \times .96$ Selectable Sideband Receiver

    - Covers Broadcast 538-1580 kc plus three S W $1720 \mathrm{kc}-34 \mathrm{Mc}$.
    - Double conversion with selectable crystal controlled second osciltators.
    - Selectable sideband reception of both sup.
    pressed carrier and full carrier transmis. sions. Highly selective 50 kc I. F. system.
    - CW operation with AVC on. Delayed AVC.
    - Calibrated bandspread- "S" meter-double superhet. Precision gear drive dial system.
    - 10 tubes, 1 rectifier and voltage regulator.
    
    S. 94 (S-95) These two new Civic Patrol receivers are over 10 times as sensitive as previous models, greater increased audio power output and built•in relay squelch system. Perfect for monitoring, police, fire, taxicab, telephone-mobile, forestry, Civil Defense. The S. 94 covers $30-50 \mathrm{Mc}$ and the S .95 150-173 Mc. Built-in speaker and provisions for headphones. Eight tubes plus rectifier. $105 / 125$ V. 50,60 cycle AC DC.
    
    S.38D Low cost unit with high priced perform. ance over Broadcast Band 540.1650 kc plus three short-wave bands from $1650 \mathrm{kc}-32 \mathrm{Mc}$. Electrical bandspread operates over large easytoread dial. Headphone tip jacks on rear and powerful buitt-in PM speaker. Oscillator for reception of code signals. Four tubes plus rectifier. $105 / 125$ V. $50 / 60$ cycle AC, DC.

    Write for complete specifications.

    # THE ALAEN D. GARDMELL ELECTRONICS PRODUCTIONS CORP 

    PRECISION CAPACITOR
    TYPE PL-24,050
    Thesigned tor fraduene meters remaring havimum thechanical the elentrimal mecision. True Sa. b.one gear amd worm driven :aparitar incorparates spectial le-lyn faturen representing Far- of reearch athl usage. ('apable oil onerating in a temperature range of minus 30 Hegreew ( $\left.(-8 i)^{\prime}\right)$ to phus $8: 5$ deigees $\left.\left({ }^{( } 1+1: 31\right)^{\circ}\right)$
    
     ift.

    - APACITY ('HARAC"TERISTIC
    traisht lime Fremuen BS(KLASil. *egligila
    IRENETMIMBIITTY': 'loo 10 parts in one million
    
     WIMENSIONS: ison long (over drum dath x.
    RO"OHR ('ON"IAC"I: silver plated phosphor bronze spring with 2 silver contarts bearing on silver platell disc
    MOHNIJNe: 3 point. to bottom of matin cateting
    
     alumimuma, hlack thonlizerl amal precision engraved.
     stratight late cabanitance or sumbial andir reduction on request.

    MIDGETS FOR V.H.F.
    

    1'1.-6076
    Amety draree rapamor with haterfla rome plate- law detributed
    
    
     SPECIFICATIONS
    
    
    
    
    

    | Part <br> Number | Max. Cap. | Min. Cap. | No. Plates Rotor | No. <br> Plates <br> Stator | Air Gop | Length Overall | List Pree |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PL-6076 | 5 | 1.5 | 3 | 2 | . 030 " | $1^{31} 32^{\prime \prime}$ |  |
    | PL-6077 | 7 | 2.0 | 4 | 3 | . 1330 " | 13132 |  |
    | PL-6078 | 13 | 3.0 | 7 | 6 | . 1130 " | 23/8" |  |
    | PL-6079 | 20.4 | 3.4 | 8 | 7 | . $12200^{-}$ | $2^{5} 32^{\prime \prime}$ |  |
    | PL-6080 | 27 | 4.0 | 10 | 9 | . 920 " | 23/8. |  |
    | *PL-6081 | 38 | 6.0 | 14 | 13 | .120" | $2^{31}$ 32". |  |

    ## TRIM-AIR MIDGET CAPACITORS

     alue :
    
    

    SPECIFICATIONS
    
     PLATES: Duminum, (020 ineh thick, rommed edges (Note: l3razs sumplion on spertal (opeler.) SHAFI: ${ }^{\prime}$ ' ind diameter larase nickel mated
    
    
     NOTE: Dual sertion mits have rear shaft extension far monding and
     shied het ween sertions which is remowable.

    | TRIM-AIR (SINGLE) (LONG SHAFT) |  |  |  |  |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Part <br> Number | Max. Cap. | Min. Cop. | No. Plates | Air Gap | Length | List Price |
    | PL-6016 | 75 | 2.7 | 15 | . 020 | 13/8 |  |
    | P L-6017 | 100 | 3 | 19 | . 020 | $11 / 2$ |  |
    | PL-6018 | 140 | 5 | 27 | . 020 | 123 |  |
    | PL-6000 | 10 | 1.2 | 3 | . 030 | 7/8 |  |
    | PL-6001 | 15 | 1.5 | 5 | . 030 | 31 |  |
    | PL-6002 | 25 | 2 | 7 | . 030 | 1116 |  |
    | PL-6003 | 35 | 2.5 | 11 | . 030 | 1932 |  |
    | PL-6004 | 50 | 2.8 | 13 | . 030 | $13 / 8$ |  |
    | PL-6055 | 108 | 6.6 | 29 | . 030 | 29 *, 4 |  |
    | PL-6024 ** | 5 | 1.5 | 3 | . 060 | 7/8 |  |
    | PL-6044 | 5 | 2 | 3 | . 070 | 313 : |  |
    | PL-6010 | 11 | 3.6 | 6 | . 070 | 11/46 |  |
    | P L-6011 | 15 | 3 | 9 | . 070 | $11 / 2$ |  |
    | PL-6012 | 30 | 4 | 17 | . 070 | 2176 |  |
    | PL-6022 | 4 | 1.5 | 5 | . 140 | 11/2 |  |
    | PL-6023 | $t$ | 4 | 7 | . 140 | 127 a: |  |

    
    Extra plate also supplied, making 3 , flates as listed

    | Part <br> Number | Per Section | Min. Cap. | No. Plates | Air Gap | Length | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PL-6041 | 75 | 2.7 | 15 | . 020 | $3^{1} 32$ |  |
    | PL-6042 | 100 | 3 | 19 | . 020 | $3^{1} 32$ |  |
    | PL-6043 | 140 | 5 | 27 | . 020 | 3111. |  |
    | PL-6028 | 10 | 1.2 | 3 | . 030 | $2^{3} 16$ |  |
    | PL-6029 | 15 | 1.5 | 5 | . 030 | $2^{3} 16$ |  |
    | PL-6030 | 25 | 2 | 7 | . 030 | $23_{16}$ |  |
    | PL-6031 | 35 | 2.5 | 11 | . 030 | $3{ }^{1 / 32}$ |  |
    | PL-6032 | 50 | 2.8 | 13 | . 030 | $3^{1} 32$ |  |
    | PL-6065 | 100 | 6.9 | 25 | . 030 | 31116 |  |
    | PL-6037 | 15 | 3 | 9 | . 070 | $3^{1} 32$ |  |
    | PL-6039 | 30 | 4 | 17 | . 070 | 41532 |  |
    | PL-6033 | 4 | 1.5 | 5 | . 140 | 3132 |  |
    | PL-6035 | 7 | 4 | 7 | . 140 | $311 \%$ |  |

    ## GARDUELL MAIM OFFICE: <br> PLAIMVILLE, COMM.

    ## GAPACITORS

    PLAMTS: PLAIMYILLE, cOMM.

    # THE ALLEN D. GARDWELL 

    ## ELECTRONICS PRODUCTIONS CORP.

    MIDWAY TRANSMITTING CAPACITORS

    

    ## H1-7030 with Pl-5051 Mtg. Brackets

    The Midway is ideal for low and netdum power transmiters: for port able mobile and aireraft equipment, due to its light weright. compact gize and extremely sturdy construction. Incorporates original patented features of the larger " X " type standard transmitting r"apartor.

    GENERAL SPECIFICATIONS:
    CAPACITY CHARACTERISTIS:S: S.L.C
    FRAME: All aluminum end plates and tod.
    PLATES: . $025^{n^{\prime \prime}}$ aluminum. On sizes having airgap of .150" or wer, plates have rounded edges, butfed 10 minimiza "uronat lose BEARINGS: brass, nickel plated shoulder type front bearing with ball insul, thion: Mycalex.
    MOUNTING: "3 point front panel mounting by means of 3 serews and hex posts. Two aluminum mounting feet with s.rews. (ardwell part List No. 5052 for regular chassis mounting, providect instead, if so ordered. Type "M" special brackets (l'art List No. 50.1) permit inverted mounting.

    MIDWAY SINGLE CONDENSERS

    | Parts List No. |  | Min. Cap. | $\begin{aligned} & \text { No. } \\ & \text { Plates } \end{aligned}$ | Air Gap |  | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PL-7000 | 25 | 6 | 3 | . 030 | 13/4 |  |
    | PL-7001 | 50 | 6 | 5 | . 030 | 13/4 |  |
    | PL-7002 | 70 | 7 | 7 | . 030 | $13 / 4$ |  |
    | PL-7003 | 112 | 9 | 11 | . 030 | $13 / 4$ |  |
    | PL-7004 | 150 | 10 | 15 | . 030 | $13 / 4$ |  |
    | PL-7005 | 260 | 13 | 25 | . 030 | $23 / 4$ |  |
    | PL-7006 | 365 | 16 | 35 | . 030 | 23/4 |  |
    | PL-7015 | 25 | 8 | 5 | . 070 | $13 / 4$ |  |
    | PL-7016 | 35 | 6 | 7 | . 070 | 13/4 |  |
    | PL-7017 | 50 | 10 | 11 | . 070 | $13 / 4$ |  |
    | PL-7018 | 70 | 10 | 15 | . 070 | $23 / 4$ |  |
    | PL-7019 | 100 | 14 | 21 | . 070 | 23/4 |  |
    | PL-7020 | 150 | 18 | 31 | . 070 | 311/16 |  |
    | PL-7021 | 35 | 14 | 15 | . 171 | 311/16 |  |
    | PL-7024 | 165 | 15 | 25 | . 050 | $23 / 4$ |  |
    | MIDWAY DUAL CONDENSERS |  |  |  |  |  |  |
    |  | Per Section |  |  | $\begin{aligned} & \text { Air } \\ & \text { Gap } \end{aligned}$ | LengthOverEndPlates | List Price |
    | Parts <br> List No. | Max. <br> Cap. | Min. Cap. | No. Plates |  |  |  |
    | PL-7007 | 25 | 5 | 3 | . 030 | 13/4 |  |
    | PL-7008 | 47 | 7 | 5 | . 030 | 23/4 |  |
    | PL-7009 | 70 | 8 | 7 | . 030 | 23/4 |  |
    | PL-7010 | 112 | 9 | 11 | . 030 | 23/4 |  |
    | PL-7011 | 150 | 10 | 15 | . 030 | 23/4 |  |
    | PL-7013 | 260 | 13 | 25 | . 030 | 311/16 |  |
    | PL-7026 | 20 | 6 | 5 | . 070 | 23/4 |  |
    | PL-7027 | 35 | 8 | 7 | . 070 | 23/4 |  |
    | PL-7028 | 50 | 9 | 11 | . 070 | 215/16 |  |
    | PL-7029 | 70 | 11 | 15 | . 070 | 311/16 |  |
    | PL-7030 | 100 | 13 | 21 | . 070 | 511/32 |  |
    | PL-7031 | 190 | 15 | 29 | . 050 | 511/32 |  |

    ## "N" TYPE TRANSMITTING CAPACITORS

    Designed for medium power high freuuency transmitters and short wave quency transmitters and short wave" theries mapintains the customary high series maintains the customary high yet eliminates closed circuit loops yot eliming
    

    ## GENERAL SPECIFICATIONS:

    CAPACITY ('HARAC'TERISTIC: S.I.C.
    FRAME: Improved aluminum end plates support heavy lateral ceramie insulating bars which carry the stators.
    SHAF'I: $1 / 4^{\prime \prime}$ diameter cadmiun plated steel.
    PLA'IEs: Aluminum, . $040^{\prime \prime}$ thick, with rounded edgos. Pla-7105 has $.025^{\prime \prime}$ thiek plates, buffed and polished *dges.
    HDABINGS: Cardwall shoulder type front bearing, with ball thrust roar bearings.
    MoliN'ING: Can be single hole nounted, or by thres mounting posts and screws, to front pancl. (hassis mounting on feet which form part of end plates. or use Cardwelf " M " brackfts, Cardwell part No. 301, for inverted nounting. for lowest stator-to-grosumd vapacity.

    ULTRA-HIGH FREOUENCY SINGLE CONDENSERS

    | Parts List No. | Max. Cap. | Min. Cap. | No. Plates | Air <br> Gap | Length Back of Panel | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PL-7100 | 50 | 9 | 13 | . 084 | 33/8 |  |
    | PL-7101 | 75 | 11 | 19 | . 084 | 45/32 |  |
    | PL-7102 | 100 | 13 | 25 | . 084 | 57/32 |  |
    | PL-7103 | 150 | 19 | 39 | . 084 | $611 / 16$ |  |
    | PL-7104 | 35 | 11 | 15 | . 171 | $57 / 32$ |  |

    ULTRA.HIGH FREOUENCY DUAL CONDENSERS

    | Parts List No. | Per Section |  |  | Air Gap | Length Back of Panel | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Max. Cap. | Min. Cap. | No. Plates |  |  |  |
    | PL-7105 | 50 | 7 | 11 | . 070 | 45/32 |  |
    | PL-7116 | 17 | 4 | 5 | . 084 | 45/32 |  |
    | PL-7106 | 35 | 5 | 9 | . 084 | 45/32 |  |
    | PL-7108 | 50 | 9 | 13 | . 084 | 57/32 |  |
    | PL-7109 | 75 | 11 | 19 | . 084 | 611/16 |  |
    | PL-7115 | 13 | 6 | 7 | . 218 | $5^{15 / 16}$ |  |

    lual Sentralizemembor sometions insulaterl
    "NA" NEUTRALIZING CAPACITORS
    The "NA" group offers $180^{\circ}$ neutralizing capacitors of restricted range, for dial or serew driver adjustment. Shaft lock for permanent setting. Single rotor bearing with beryllium tension washer and sperial bushing for rigidity. Ilates are $.040^{\circ}$ thick aluminum, rounded and buffed edges. Three point panel mounting or foot mounting.
    

    | Parts <br> List No. | Max. Cap. | Min. Cap. | No. Plates | $\begin{aligned} & \text { Air } \\ & \text { Gap } \end{aligned}$ | Length Back of Panel | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PL-7111 | 4 | 3.25 | 2 | . 218 | $119 / 32$ |  |
    | PL-7112 | 6 | 4 | 3 | . 218 | $1^{19 / 32}$ |  |
    | PL-7113 | 12 | 6 | 6 | . 218 | $2^{19 / 32}$ |  |
    | PL-7114 | 16 | 7 | 8 | . 218 | $33 / 32$ |  |

    CARDWELL
    maim office: PLAINVILLE, CONK

    CAPACITORS
    PLAMTS: PLAIMYILLE, CONM.

    ## THE ALLEN D. GARDWELL

    ## ELECTRONICS PRODUCTIONS CORP.

    ## INSULATED COUPLINGS

    Forisolating R.F. controls. Ceramicinsulation (Alsimag No. 196). All flexible types have N.P. phosphor bronze springs, and heavy N.P. brasi hubs, permanently swaged or spun riveted into the springs. T'aro fillister head, cup point, case hardened, steel set screws in each hub insure positive lock to shaft.

    All ripid types have improved three-point-spider construction. carefully machined solid brass castings, and are absulutely rigid. Flexible types C, D, E and F fit both ${ }^{1}$ " " diameter shaft or a ". " zhaft by removing bushing supplied.
    

    PL-inO
    INSULATED COUPLINGS-Flexible

    | Parts List No. | Type | DIMENSIONS |  | Peak Flashover | To Fit Shaft Diameter | List <br> Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  | (Width) | (Length) |  |  |  |
    | 5000 | A | $19 / 32^{\prime \prime}$ | $3 / 4{ }^{\prime \prime}$ | $3,700 \mathrm{~V}$. | $1 / 4 "$ |  |
    | 5002 | B | 19/32" | $13 / 32^{\prime \prime}$ | $7,000 \mathrm{~V}$. | 1/4" |  |
    | 5202 | AB | $19 / 32^{\prime \prime}$ | $29 / 32^{\prime \prime}$ | 5.000 V . | 1/4" |  |
    | 5004 | C | 25/8" | 23/32" | 13,500 V. | 1/4 \& 3/8" |  |
    | 5006 | D | 25/8" | $13 /{ }^{\prime \prime}$ | 9,000 V. | 1/4 \& 3/8" |  |
    | 5008 | E | 21/16" | 13/4" | $10,000 \mathrm{~V}$. | 1/4 \& 3/8" |  |
    | 5010 | F | 21/16" | 11/16" | $5,000 \mathrm{~V}$. | 1/4 8 3/8" |  |

    INSULATED COUPLINGS-Rigid

    | 5014 | CNF | 21/4" | 21/16" | 12,000 V. | 3/8" |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 5201 | ENF | 13/8" | $113 / 32^{\prime \prime}$ | 10,000 V. | 1/4" |
    | 5013 | FNF | $13 / 3^{\prime \prime}$ | 15/18" | 7,500 V. | 1/4" |

    "X" TYPE STANDARD TRANSMITTING CAPACITOR The Original grounded rotor, metas frame parifor
    Frimes, tie rockls, bearing bushinss, spacers and stator blocks. ni-keled hrass. ('adnium plated 34 . steel shaft supports securely loeked rotor assembly. Mycale. $x$
     brass mounting feat provided on special order, for chassis mounting.
    " $X$ " TYPE STANDARD SINGLES

    | Parts <br> List No. | Max. Cap | Min. Cap | No. Plates | $\underset{\text { Gap }}{\text { Gir }}$ | $\begin{aligned} & \text { Length } \\ & \text { Over } \\ & \text { End } \\ & \text { Plates } \end{aligned}$ | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PL-8000 | 50 | 11 | 3 | . 030 | $11 / 2$ |  |
    | PL-8001 | 100 | 12 | 5 | . 030 | $11 / 2$ |  |
    | PL-8002 | 150 | 12.5 | 7 | . 030 | $11 / 2$ |  |
    | PL-8003 | 250 | 13 | 11 | . 030 | $11 / 2$ |  |
    | PL-8004 | 375 | 16 | 17 | . 030 | 21/16 |  |
    | PL-8005 | 475 | 18 | 21 | . 030 | 21/16 |  |
    | PL-8007 | 950 | 30 | 41 | . 030 | 33/16 |  |
    | PL-8013 | 1500 | 50 | 65 | . 030 | 5 |  |
    | PL-8048 | 220 | 20 | 21 | . 070 | 33/16 |  |
    | PL-8050 |  | 40 | 43 | . 070 | 5 |  |
    | PL-8040 | 90 | 16 | 11 | . 084 | 21/16 |  |
    | PL-8041 | 165 | 22 | 19 | . 084 | 33/16 |  |
    | PL-8043 | 290 | 35 | 33 | . 084 | 5 |  |
    | PL-8044 | 330 | 37 | 37 | . 084 | 55/8 |  |
    | PL-8029 | 120 | 19 | 17 | . 100 | 33/16 |  |
    | PL-8031 | 240 | 30 | 33 | . 100 | 55/8 |  |
    | PL-8025 | 160 | 28 | 27 | . 125 | 55/8 |  |
    | PL-8032 | 25 | 8 | 5 | . 171 | 21/16 |  |
    | PL-8033 | 50 | 15 | 11 | . 171 | 33/16 |  |
    | PL-8034 | 110 | 26 | 23 | . 171 | 55/8 |  |
    | PL-8020 | 19 | 8 | 5 | . 200 | 21/16 |  |
    | PL-8021 | 40 | 15 | 11 | . 200 | $3^{3 / 16}$ |  |
    | PL-8022 | 65 | 20 | 17 | . 200 | 5 |  |
    | PL-8023 | 100 | 28 | 25 | . 200 | 65/8 |  |
    | PL-8037 | 55 | 20 | 15 | . 230 | 5 |  |
    |  | " ${ }^{\text {" }}$ | YPE STA | ANDARD | DOU | LES |  |
    |  | P | Section |  |  | Length Over |  |
    | Parts List No. | Max. Cap. | Min. Cap. | No. Plates | Air Gap | End Plates | List Price |
    | PL-8018 | 475 | 18 | 21 | . 030 | 33/16 |  |
    | PL-8068 | 80 | 11 | 9 | . 070 | 33/16 |  |
    | PL-8070 | 210 | 22. | 21 | . 070 | 5 |  |
    | PL-8065 | 95 | 15 | 11 | . 084 | 323/32 |  |
    | PL-8066 | 165 | 23 | 19 | . 084 | 55/8 |  |
    | PL-8067 | 325 | 38 | 37 | . 084 | 103/16 |  |
    | PL-8061 | 120 | 19 | 17 | . 100 | 55/8 |  |
    | PL-8062 | 240 | 32 | 33 | . 100 | 103/16 |  |
    | PL-8060 | 160 | 28 | 27 | . 125 | 103/16 |  |
    | PL-8063 | 50 | 14 | 11 | . 171 | 55/8 |  |
    | PL-8064 | 110 | 27 | 21 | . 171 | 103/16 |  |
    | PL-8056 | 40 | 14 | 11 | . 200 | 65/8 |  |
    | PL-8057 | 75 | 21 | 19 | . 200 | 103/16 |  |
    | PL-8081 | Multi-Band |  |  | . 100 | 103/6 |  |

    CARDWELL MaIN OFFICE:

    PLAIMVILLE, cown.

    GAPACITORS
    PLANTS: PLAIMVILLE, COMN.

    ## (H) HAMMADLUND

    DATA TRANSMISSION - SELECTIVECALLING AND SUPERVISORYCONTROLEQUIPMENT for Centralized Operations Control

    TONE SIGNALING UNITS

    

    The new design Hammarlund Duplex Signaling Unit consists of a tone generator and receiver, designed to transmit and receive signaling, dial. ing, telemetering, teleprinting, supervisory controls and other information over wire lines, telephone or power line carrier, and radio or microwave communications circuits. Up to 48 separate functions can be controlled over a single communications channel by multiple use of these units.

    Because of their design, including plug-in attachment of components, single basic units may be applied in various combinations to constitute a system, or may be added to other systems to perform specific operations.

    ## REMOTE CONTROL AND SUPERVISORY SYSTEM

    The Hammarlund Multi-Gate System is the integral part of the new concept of controlling operations of a far-flung system from a central point. Multi-Gate provides complete "on-off" or "raise-lower" control and report-back indication of practically an unlimited number of remote switches for valves, pumps, lights, power transfer and other functions, as well as alarm indication. Pipelines, refineries, chemical plants, railroads, public utilities and many other industries are finding Multi-Gate an efficient, money saving tool. All the control operations can be performed over a single communications circuit.

    ## SELECTIVE CALLING OR SIGNALING

    Hammarlund Selective Calling equipment, added to 2 -way radio systems used to control large fleets of vehicles, or distant fixed stations, adds privacy, speed, safety, quietness and convenience to day-in-day-out operations. By the push of a button the dispatcher within 0.8 of a second selects the station which he wants to contact. Only the selected operator or group of operators can receive the call. If the operator of the car or station being calfed doesn't answer, an indicator lamp remains lighted to show he was called. This simple equipment can be added to any present installation, or incorporated in any type of installation now projected.
    THE HAMMARLUND MANUFACTURING COMPANY, INC.


    ## (1H HAMMARLUND

    ## COMMUNICATIONS RECEIVERS

    ## the New "PRO-310"

    From the modern, custom-built, professional look of its new design cabinet, to the modern etched and plated circuits in the RF section, the Pro.310 is all new. It's the communications receiver of tomorrow -here today. For either professional or amateur use.
    

    ## Here are its features:

    All frequencies can be read to 1 part in 5000. Bandspread is can. tinuausly calibrated aver the entire range fram 540 Ke t 035.5 Me . nat iust over a couple of selected bands as in mast ardinary receivers. Single Sideband Operation is yaurs because exalted BFO and sharp selectivity are built.in.

    Exceptional Stability resulting fram the use of the mast madern campanents and circuitry.

    High Image Rejection on all 6 bands. Dauble conversion on the tap 4 bands.

    Choice of calors. Either black with gold 'rim, or grey with s'iver trim.
    Rugged turret, sectianalized canstructiar, restful wrist-high cantrals, and many athers.

    ## THE "SP.600.JX"

    

    The "SP-600-JX" communications receiver, now also available to hams, is a masterpiece of receiver design and already is world-known for its oustanding construction and performance. This professional receiver, with its six bands covering the frequency spectrum from 540 Kc to 54 Mc , is being used in large quantities by the military and governmental agencies, as well as by commercial services, for both single and diversity reception.
    This magnificent receiver is a 20 tube dual conversion superheterodyne. The power supply is an integral part of the receiver chassis. Operation on any of six crystal controlled fixed frequency channels within the range of the receiver is immediately available. This designates it as the perfect receiver for point-to-point and network operations. Prearranged day and night fixed frequencies. With crystal control you can select your desired channels immediately.
    Stability is .001 to .01 percent depending on frequency to which receiver is tuned, image rejection is 80 db to 120 db down, and spurious responses are af least 100 db down. Sensitivity is 1 microvolt CW and 2 microvolts AM, while selectivity for the three calibrated crystal and three non-crystal ranges is from 200 cycles to 13 kc . Radiation is negligible with no cross-talk in multi-receiver installations.
    

    The "HQ-140-X" is a superheterodyne type receiver that provides amateurs and other short wave listeners with alt the advantages of modern professional design and circuitry. In addition, it incorporates those outstanding features that have made Hammarlund " HQ 's" famous for quality and performance. This receiver retains the high degree of sensitivity and selectivity of the "HQ-129-X," and in addition features notably improved frequency stability and image ratio. It covers a continuous range of frequencies from 540 Kc to 31 Mc , or from 555 meters to 9.7 meters, in six bands.
    Band spread tuning is supplied on the four higher frequency bands, with actual calibration in the $80,40,20,15$, and 10 meter amateur bands. Many types of noise and other interference have been substantially reduced by the outstanding noise limiter and the special Hammarlund patented crystal filter.

    ## FEATURES

    TUNING RANGES: $.54-1.32 \mathrm{mc}, 1.32-3.2 \mathrm{mc}, 3.2-5.7 \mathrm{mc}, 5.7-10 \mathrm{mc}$, 10-18 me, and 18-31 me.
    CAIIBRATED BAND SPREAD: $3.5-4 \mathrm{mc}, 7-7.3 \mathrm{mc}, 14-144 \mathrm{mc}, 20.9-$ 21.6 mc , and $28-30 \mathrm{me}$.

    TUBE IINE-UP: 6CA Osciltotor, 6BAS RF Amplifier, 6BES Mixer, 6BA ist IF Amplifier, 6BAS 2nd IF Amplifier, 6BA6 3re IF Anmplifier, 6AL5 cambination defectar. AVC and naise timiter, 12AU7 ist AF Amplifirer and BFO, $6 \mathrm{~V} 6 \mathrm{GT} / \mathrm{G}$ Audio Power Output, OC/VR105 Voltage Regulator and 5U4G Full Wave Rectifier.

    ## Write HAMMARLUND for detailed information

    ## (41) HAMMARLUND

    

    ## "BFC" CAPACITORS

    FEATURES—The "BFC" "butterfly" type capacitar has very law minimum capacity, law inductance and isalated ratar far use in VHF applicatians as a series capacitar with na ratar cantact. Mechanical and electrical symmetry and statar terminal lacatians minimize circuit inductance.
    CONSTRUCTION—Brass ratars and statars are saldered and nickel-plated. The cantact wiper is heavily silver-plated beryllium-capper. Tapped studs an the silicane treated steatite frant panel permit maunting the capacitar withat graunding the ratar. The sleeve type bearing is nickel-plated brass.
    SPECIFICATIONS—Straight line capacity. $90^{\circ}$ ratation fram minimum ta maximum capacity pasitian. Air gap is $0.030^{\prime \prime}$ naminal. Tested at 1200 V. R.M.S., 60 cycles between ratar and each statar.

    High Speed Ball-Bearing Madels Alsa Are Available

    | CODE | CAPACITY/SECTION |  | SERIES CAPACITY |  | Plates |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Max. | Min. | Max. | Min. | Rator | Ea. Statar |
    | BFC-12 | 14.5 | 3.4 | 7.6 | 2.2 | 4 | 3 |
    | BFC-25 | 27.3 | 4.8 | 14.1 | 2.9 | 7 | 6 |
    | BFC-38 | 40.1 | 6.2 | 20.6 | 3.6 | 10 | 9 |

    

    ## "MAC" CAPACITORS

    FEATURES-The "MAC" pravides the law minimum capacity essential far use as a trimmer in the VHF range. It was engineered ta achieve the smallest dimensions practical ta meet the requirements of a miniaturized campanent.
    CONSTRUCTION—Its silicane treated steatite base is anly $3 / 4^{\prime \prime} \times 5 / \mathbf{s}^{\prime \prime}$. Ratar and statar are saldered assemblies and are af brass, silver-plated. Ratar and statar terminals are pasitioned ta permit single hale maunting.
    SPECIFICATIONS—Straight line capacity. Screwdriver adjustment. Air gap is $0.017^{\prime \prime}$ nominal. Tested at 750 V. R.M.S., 60 cycles.

    | CODE | CAPACITY |  | Plates | CODE | CAPACITY |  | PLATES |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Max. | Min. |  |  | Max. | Min. |  |
    | MAC-5 | 5.0 | 1.4 | 5 | MAC. 15 | 14.2 | 2.2 | 15 |
    | MAC-10 | 8.7 | 1.7 | 9 | MAC-20 | 19.6 | 2.7 | 21 |

    ## "FC" and "FNC" COUPLINGS

    

    FEATURES-The "FC-46-S" is an insulated flexible caupling designed to pravide far mechanical ganging af shafts even thaugh angularly misaligned. The smallest dimensians have been incorparated cansistent with the rugged construction necessary far general service. A high degree af electrical isalatian is achieved thraugh the use af silicone treoted steatite insulation. Flash-aver valtage is appraximately 5000 V . R.M.S. Brass hubs and spring temper phosphar branze fexible arms are nickel plated. An exclusive and impartant feature af this caupling is its characteristic af uniform side-thrust thraugh $360^{\circ}$ af ratation. This eliminates tendency ta vibrate at high speeds, minimizes bearing wear and assures accurate tracking.
    The "FNC-46-S" is a nan-insulated caupling far use where electrical continuity between shafts is required. The flexible arms are held securely to a nickel plated brass ring instead of an insulatar.

    ## STANDARD STOCK TYPES

    CODE FC-46-5
    CODE FNC-46-S
    Insulated flexible coupling
    Non-insulated flexible caupling


    ## (H) HAMMARLDND

    ## "APC" CAPACITORS

    FEATURES—The "APC" trimmer capacitor originated by Hammarlund over twenty years ago is still widely recagnized as the standard capacitor af its type. Its use is indicated in all classes of equipment where a compact. high quality air dielectric trimmer is required. It was designed to resist effects of temperature, moisture and vibration. silicone treated steatite insulation is used to insure high leakage resistance.

    CONSTRUCTION-8rass rotor and stator plates are soldered to brass supports. Nickelplated phosphar branze wiper assures positive rotor contact. All metal parts are nickelplated. Terminals are hot-tin dipped. Tapped brass mounting studs fastened to silicone treated steatite base permit mounting capacitor without grounding the rotor.
    

    |  | CAPACITY |  | PLATES |
    | :---: | :---: | :---: | :---: |
    |  | Max. | Min. |  |
    | APC-25 | 25. | 3.0 | 7 |
    | APC-50 | 50. | 3.9 | 14 |
    | APC-75 | 75. | 4.6 | 20 |
    | APC-100 | 100. | 5.5 | 27 |
    | APC-140 | 140. | 6.7 | 37 |

    SPECIFICATIONS—Straight line capacity characteristic. Avail able either with hexagonal collar on soted shaft (APC-A Type) to permit rator adjustments to be mace with wrench or screw. driver or with $1 / 2^{\prime \prime}$ extended shaft for knob contral or shaft coupling (APC-B Type). "APC.C" Lock Type now also available through distributors. Air Gap is $0.015^{\prime \prime}$ nominal. Tested at 600 V.R.M.S., 60 cycles.

    ## "MAPC" CAPACITORS

    FEATURES-The "MAPC" capacitor is representative of Hammarlund's efforts ta meet the demand for smaller dependable components. It is a scaled-down version of the popular "APC" with everything reduced except the quality and performance characteristics. For example, an "MAPC" is about half the size and weight of an "APC." Lower minimum capacities and low inductance make the "MAPC" suitable for VHF use.

    CONSTRUCTION-The standard "APC" construction is used in this capacitor. Rotors and stators are fabricated by soldering brass plates to supporting members and nickelplating the assemblies. Nickel-ploted phosphor bronze wiper assures positive rotor cantact. Topped brass mounting studs fastened to silicone treated steatite base permil mounting capacitor without grounding rotor.
    

    | CODE | CAPACITY |  | PLATES |
    | :---: | :---: | :---: | :---: |
    |  | Max. | Min. |  |
    | MAPC-15 | 15. | 2.3 | 6 |
    | MAPC-25 | 25. | 2.6 | 10 |
    | MAPC-35 | 35. | 2.9 | 14 |
    | MAPC-50 | 50. | 3.2 | 19 |
    | MAPC-75 | 75. | 3.9 | 29 |
    | MAPC-100 | 100. | 4.5 | 38 |

    SPECIFICATIONS—Straight line capaçany. Available either with screwdriver or socket wrerch adiustment (MAPC.A Type) or with $7 / 16^{\prime \prime}$ extended shaft for linob control or shaft coupling (MAPC-B Type). "MAPC.C" Lock Type now alsa available trough distributors. Air Gap is $0.0135^{\prime \prime}$ noninal Tested at 6CO V.R.M.S., 60 cycles.

    ## "NZ-10" CAPACITORS

    FEATURES_-The "NZ-IO" is a compact transmitter neutralizing capacitor designed for easy and accurote adjustment. The rotor is attached to a finethread lead screw which may be adjusted with smooth and precise action by a screwdriver and locked securely by a readily accessible clamping screw. A stop prevents shorting of plates at maximum capacity. Long leakoge paths to ground from both rotor and stator ore provided. Glazed sleatite insulators and smoothly rounded aluminum plates minimize flashover.
    SPECIFICATIONS—Capacity is adjustable from 2.3 to 10 mmf . Peak voltage rating is 3000 V . at maximum capacity (minimum gap) position.
    

    Write for the new HAMMARLUND Capacitor Catalog

    # (H1) HAMMADUND 

    

    SPECIFICATIONS-Straight line capacity. Single spaced types (HE and HFD) have $0.015^{\prime \prime}$ air gap and are tested at 600 V. R.M.S., 60 cycles. Wide spaced types (HF.X and HFD. X) have $0.045^{\prime \prime}$ air gap and are tested at 1400 V. R.M.S., 60 cycies.
    

    SPECIFICATIONS-Straight line capacity. Air gaps ant test voltages are as indicated in table. Howeve: "HF8D" breakdown voltages are doubled and capacitance valjes approximately halved when stator sections are connected in series.
    

    ## "HF" and "HFD" CAPACITORS

    SINGLE SECTION CAPACITOR-The "HF" is o single section tuning copocitor employing "APC" rotor ond stotor design. Extro long sleeve bearing and positive contoct nickel-ploted phosphor-bronze wiper moke this unit ideolly suited to high frequency opplicotions. Silicone treoted steotite insulotion. Single hole or bose mounting.
    DOUBLE SECTION CAPACITOR—The "HFD" duol copocitor, like the "HF" singles, incorporote odvonced feotures providing for moximum efficiency of high frequency. Aluminum front ond reor end ponels ore mounted on o heovy silicone treoted steatite base. Wide frant ond rear bearings with individual silver-ploted beryllium-copper wipers for eoch section ossure long life ond moximum contoct efficiency. Single hole ponel mount or bose mounting.

    | CODE | CAPACITY |  |
    | :--- | :---: | :---: | :---: |
    |  | Mox. | PLATES/ |
    | SECTION |  |  |

    D-Split stotor
    X—Wide-Spoced

    ## "HFA" and "HFBD" CAPACITORS

    SINGLE SECTION CAPACITOR-The "HFA" is o single section tuning copocitor similor to "HF" except thot lorger plotes permit wider oir-gops for the some copocitonce volues. Resultont higher breok-down rotings extend the use of the copocitor into the high frequency low-power tronsmitter field. A threoded sleeve beoring permits single hole mounting ond the brocket supplied moy be used for bose mounting. A lug type terminol soldered to the beoring provides on efficient rotor connection.
    DOUBLE SECTION CAPACITOR—The "'HFBD" is o dual, bolonced rotor tronsmitting copocitor employing front ond reor ponels plus o boll-thrust reor beoring, but otherwise incorporating constructional feotures identical to the smoller "HFA." An insuloted shoft extension sofeguords operoting personnel from the high voltoges which moy be opplied to the rotor. The smoll size, rugged construction, bolonced rotor ond ronge of copocitonce volues ond breokdown voltoges moke this copocitor ideolly suited to mony opplicotions.

    | CODE | CAPACITY |  | SPACING | PLATES/ SECTION |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Mox. | Min. |  |  |
    | HFA-100-A | 102. | 4.5 | 0.020 | 19 |
    | HFA-140-A | 145. | 6.0 | 0.020 | 27 |
    | HFA-10-B | 9. | 2.3 | 0.030 | 3 |
    | HFA-15-B | 16. | 2.8 | 0.030 | 5 |
    | HFA-2 5-B | 25. | 3.0 | 0.030 | 7 |
    | HFA-50-B | 50. | 4.3 | 0.030 | 14 |
    | HFA-100-B $\dagger$ | 100. | 7.5 | 0.030 | 27 |
    | HFA-15-E | 16. | 4.0 | 0.070 | 9 |
    | HFBD-50-C | 50. | 9.0 | 0.050 | 11 |
    | HFBD-100-C | 105. | 14.0 | 0.050 | 23 |
    | HFBD-35-E* | 37. | 9.5 | 0.070 | 11 |
    | HFBD-65-E* | 63. | 12.5 | 0.070 | 19 |

    60 Cycle Test Voltoge:
    'HFA" - ' 'A" 800 V. R.M.S. "B" 1200 V. R.M.S. "E" 1750 V. R.M.S. "HFBD" - "C" 1500 V. R.M.S. "E"' 3000 V. R.M.S.; plotes hove rounded edges.
    tHos front ond reor supporting ponels.

    THE HAMMARLUND MANUFACTURING COMPANY, INC.

    ## (H) HAMMABLUND

    ## "MC" and "MCD" CAPACITORS

    FEATURES-The "MC" is a versatile single section luning capacitor designed ta give - choice of mountings, connections and capacity characteristics. "MC-S" capacitors have - straight line capacity characteristic. "MC-M" units have offset plates resulting in a "Midline" characteristic which more equally spaces frequencies. "MC-X" units are widespaced for high voltages. The "MCD" is a split-stator panel-mounted capacitor.

    SPECIFICATIONS-Straight line or "Midline" capacity characteristic. Single-spaced types have $0.0245^{\prime \prime}$ nominal air gap and are tested at 1000 V. R.M.S., 80 cycles. Wide-spaced ("X') types have $0.0715^{\prime \prime}$ nominal air gap and are lested at 1750 V. R.M.S., 60 cycles.
    

    | CODE | CAPACITY |  | PLATES/ SECTION | CODE | CAPACITY |  | PLATES/ SECTION |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Max. | Min. |  |  | Max. | Min. |  |
    | MC-20-5 | 20. | 5.5 | 3 | MC.20-5X | 20. | 6.8 7.8 | $1{ }^{7}$ |
    | MC.35-S | 35. | 6.0 | 5 | MC.35-MX | 32. | 8.8 | 11 |
    | MC.50-M | 50. | 6.3 | 7 |  |  |  |  |
    | MC-50-5 | 50. | 6.5 | 7 | MC.50.MX MC.50.5X | 53. | 10.5 | 19 |
    | MC.75-M | 80. | 7.3 | 11 | MC.100.5 X | 100. | 16.5 | 35 |
    | MC.75-S | 80. | 8.0 | 11 | MCD.50.M |  |  | 7 |
    | MC.100-M | 100. | 7.7 | 14 | MCD-100-M | 100. | 6.3 | 14 |
    | MC-100-S | 100. | 8.3 | 14 | MCD-100-S | 100. | 7.0 | 14 |
    | MC-140-M | 140. | 9.0 | 19 | MCD-140-M | 140. | 7.8 | 19 |
    | MC.140.5 | 140. | 10.0 | 19 | MCD-35-MX | 31. | 6.0 | 11 |
    | MC-200-M | 200. | 10.3 | 27 | MCD-35-5X | 31. | 6.8 | 11 |
    | MC-250-M | 250. | 12.0 | 34 | M-Midline plates X-Wide-Spaced |  | s-Straightline plates |  |
    | MC-325-M | 320. | 13.5 | 43 |  |  |  |  |  |

    

    ## "RMC" CAPACITORS

    FEATURES—The "RMC" wos designed specifically for opplications requiring an "MC' type tuning capacitor with very rigid construction. Its sturdy frame cansists af heavy gauge aluminum end panels held together by three aluminum tie rods. It has a brass sleeve front bearing and a single ball thrust rear bearing for smooth funing and a high degree of resetability. The rotor contact is a forked silver-plated beryllium-copper spring wiping against a wide disc on the rator.
    SPECIFICATIONS—Straight line capacity. Air gap is $0.0245^{\prime \prime}$ nominal.

    | CODE | CAPACITY |  |  |
    | :---: | :---: | :---: | :---: |
    |  | Max. | Min. | PLATES |
    | RMC-50-S | 50. | 7.3 | 7 |
    | RMC-100-S | 105. | 9.5 | 14 |
    | RMC-140-S | 143.5 | 11.0 | 19 |
    | RMC-325-S | 327. | 17.5 | 43 |

    ## "VU" CAPACITORS

    FEATURES-The "VU" is a uniquely designed UHF tuning capacitor using completely original concepts. With it, canventional "lumped constant" circuits, rather than tuned cavity techniques, can be efficiently used up to 500 megacycles. In addition to employing the capacitor sections in series to eliminate the rotar wiper, the design also utilizes Pyrex balls ta farm precision bearings and to completely isolate the rotor. Thus, noise generated by rubbing metal-to-metal contacts and variable resistance paths in the bearings have been totally eliminated. Circuit connections are made to threaded studs on each stator. This permits vacuum tube and inductor to be mounted adjacent to and on opposite sides af the capacitor to minimize circuit inductance.

    | CODE | SERIES CAPACITY |  | PLATES/ |
    | :---: | :---: | :---: | :---: |
    |  | EF. | Min. | SECTION |
    | VU-20 | 22.5 | 3.35 | 11 |
    | VU-30 | 31.5 | 3.5 | 15 |
    | VU-45 | 45.0 | 3.8 | 21 |

    

    SPECIFICATIONS-The capacity characteris. tic approdches a straight line frequency curve as indicated by nominal values in table at left. Air gap is .6168' nominal. Tested at 7CC V. R.M.S., 60 cycles, between rotor and each stator.

    ## Special Capacitors Built to Your Specifications

    # TSE F.JOHNSON COMPANY 

    

    The MASTER - 20th Edition

    #  <br> W A S E C A. <br> M I N 

    TYPE "C" AND "D" CAPACITORS
    Functional favorites buitt to exacting standards for medium power RF equipment. Heavy .051" aluminum plates and $5 / 16$ tie rods. Laminated phosphor bronze contacts. Dual types have center rotor connection for balance. End frames tapped for panel mounting. Brackets furnished for chassis mounting.
    

    TYPE C SINGLE SECTION
    Cap./Sec. Air Plates

    | Cot. No. | Type No. |  | ec. Min. | Air Gap | Plates per Sec. | M | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 152-1 | 250C70 | 259 | 34 | .175" | 2 | " |  |
    | 152-2 | $500 C 70$ | 496 | 56 | . $175{ }^{\prime \prime}$ | 47 | 110\% | 17.40 |
    | 152-6 | 100C110 | 103 | 30 | . 350 " | 17 |  | 10.60 |
    | 158-8 | $50<130$ | 51 | 24 | . $500^{\prime \prime}$ | 10 |  | 9.75 |
    | 152.9 | 100C130 | $109$ | 42 | 500" | $21$ | $14^{7}$ | 12.20 |
    | 152-501 | 200CD 45 | 204 | 21 | . 12 | 15 | 915 " | 4.90 |
    | 152.502 | 300CD45 | 290 | 26 | .125** | 21 | $11^{3}$ | 17.70 |
    | 152-503 | 200CD 70 | 198 | 27 | .175" | 19 |  | 17.20 |
    | 152-504 | 300CD70 | 305 | 37 | .175" | 29 |  | 22.80 |
    | 152-505 | 150CD90 | 147 | 30 | . $250{ }^{\prime \prime}$ | 19 |  | 18.00 |
    | 152.507 | 50CD110 | 50 | 18 | . 350 " | 8 | $11^{3}$ | 12.35 |
    | 152.509 | $100 \mathrm{CD110}$ | $\begin{aligned} & 0 \quad 103 \\ & \text { TYPE D } \end{aligned}$ | SIN | $350$ | $17$ | 172 | 18.40 |
    | 153-6 | 500D35 | 496 | 36 | . $080{ }^{\prime \prime}$ | 39 |  | 3.50 |
    | 153.8 | 150 D 45 | 146 | 23 | .125" | 17 | 52 | 8.35 |
    | 153-11 | 100070 | 98 | 23 | .175" | 15 |  | 8.10 |
    | 153.12 | 150070 | 151 | 31 | .175" | 23 | 711 | 9.65 |
    | 153-13 | 250070 | 244 | 45 | .175" | 37 | $11^{3}$ | 2.00 |
    | 153-15 | 50D90 | 53 | 20 | .250" | 10 |  | 7.40 |
    | $153-16$ | 70090 | 73 | 25 | .250" | 14 |  | 8.80 |
    | 153-17 | 100090 | 99 | 30 | . $250{ }^{\prime \prime}$ | 19 |  | 9.15 |
    | 153-18 | 150090 | $149$ <br> TYPE D | $43$ DU | $.250^{\prime \prime}$ | $99$ | $11^{3}{ }^{16}$ | 11.00 |
    | 153.501 | 1000D35 | 595 | 13 | .080" | 8 |  | 30 |
    | 153-502 | 150DD35 | 147 | 15 | .080 ${ }^{\prime \prime}$ | 12 |  | 10.70 |
    | $153-503$ | 2000D35 | 202 | 19 | .080" | 16 |  | 13.00 |
    | 153.504 | 300DD35 | -291 | 24 | .080" | 23 |  | 14.90 |
    | 153-505 | 500DD35 | 496 | 38 | .080" | 39 |  | 20.70 |
    | 153.506 | 1500 L 45 | 155 | 24 | .125** | 17 | $10^{11^{12}}$ | 13.30 |
    | 153.507 | 2000D45 | 198 | 27 | .125" | 23 | $13^{1}{ }_{15}{ }^{\text {7 }}$ | 15.00 |
    | 153.508 | 50DD70 | 52 | 15 | .175* | 8 | $6^{11^{16}}{ }^{\prime \prime}$ | 9.50 |
    | $153-509$ | 70DD 70 | 72 | 17 | . $175^{\prime \prime}$ | 11 | $8^{9}{ }_{16}$ | 11.00 |
    | $153-510$ | 1000D70 | - 97 | 29 | . $175^{\prime \prime}$ | 15 | $10^{11}$ T3: | 12.40 |
    | 153-511 | 1500 D 70 | 151 | 31 | . $175^{\prime \prime}$ | 23 | $14^{7}{ }^{3 \prime \prime}$ | 16.00 |
    | $153-513$ | 50DD90 | 52 | 19 | . 250 " | 10 | $10^{14}{ }^{3}$ \% | 11.00 |
    | 153-514 | 100DD90 | - 97 | 30 | .250" | 19 | $15^{23}$ | 14.55 |

    ## TYPE "E" AND "F" CAPACITORS

    Rugoed units providing a large amount of capacity per cubic inch and extremely low capacity to chassis. Panel or chassis mounting. Aluminum plates $.032^{\prime \prime}$ thick with rounded edges-stainless seel shafts-heavy, phosphor bronze contact springs-center contact on duals-large $1 /{ }^{6}$ tie rods. Extra mounting brackets furnished.

    TYPE E SINGLE SECTION

    Cot. No. Type No. Map./Sec. Ain. Gap plates Sec.

    | M | Net Price |
    | :---: | :---: |
    | 376 | \$ 5.35 |
    | $3^{31} 32^{\prime \prime}$ | 6.10 |
    | $4^{29}{ }^{29} z^{\prime \prime}$ | 7.05 |
    | $3^{\prime \prime}$ | 4.95 |
    | 3 「品 | 5.55 |
    | $53 \%$ | 6.55 |
    | $6^{7 / 4}$ | 7.70 |
    | $23 / 4{ }^{\prime \prime}$ | 4.40 |
    | $3^{13} 32^{\prime \prime}$ | 4.75 |
    | $413{ }_{3}{ }^{\text {n }}$ | 5.05 |
    | $4^{312} 1_{3} 3^{\prime \prime}$ | 5.45 |
    | $6^{17} 3$ s: | 6.30 |
    | $10^{\prime \prime}$ | 8.05 |
    | $7{ }^{3}$ in" | 9.90 |
    | $4^{17}{ }^{\prime \prime} z^{\prime \prime}$ | 6.80 |
    | $4^{3!}{ }^{3}{ }^{3}$ | 7.15 |
    | $5^{13} 1{ }^{10}$ | 7.85 |
    | $71 /{ }^{\prime \prime}$ | 9.20 |
    | $8^{13} \mathrm{~m}{ }^{\prime \prime}$ | 10.80 |
    | 613 | 7.20 |
    | 7 , | 8.05 |
    | 9:3/3 | 9.45 |
    | $1^{293}$ | 4.50 |
    | $2^{1} 16^{\prime \prime}$ | 4.70 |
    | $2^{7 \prime \prime}$ | 4.85 |
    | $2{ }^{11} 16^{\prime \prime}$ | 5.30 |
    | $3^{5}{ }^{5}$ | 5.90 |
    | 417 "\% | 6.95 |
    | $23 / 4$ | 5.00 |
    | 3 | 5.35 |
    | $4^{1 / 2}$ | 5.90 |
    | $5^{3} 16{ }^{\prime \prime}$ | 6.75 |
    | $3^{15}$ is ${ }^{\prime \prime}$ | 6.40 |
    | $4^{1 / 4}$ | 6.80 |
    | $5^{5} 1 \mathrm{~m}^{\prime \prime}$ | 7.80 |
    | $6^{12} \times$ | 8.80 |
    | $7{ }^{\circ}$ | 9.85 |
    | 514 | 6.90 |
    | 6 | 7.70 |
    | 7 | 8.90 |

    
    
    


    

    ## JOHNSON KNOBS AND DIALS

    A distinctive line of matching knobs and dials suitable for the finest electronic equipment. All types are derived from a new basic knob design, the first in years. Knobs have twelve wel defined flutes and present an essentially round appearance.
    Tough, scratch resistant black phenolic is used for all molded paris (meets MIL-P-14). Mefal dial scales have an erched satin chrome finish. This contrasts areatly with deeply etched and filled engraving, provides maximum legribility under poor lighting conditions. All types have accurately centered brass inserts for !" shafts
    In addition to the items listed, JOHNSON is prepared to supply variations (in production auantities) such as, special shaft sizes, scales, set screws or indicators.

    | Cat. No. | Illus. | A | B | C | $E$ | Nel Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | KNOBS |  |  |  |  |  |  |
    | 116.220 | 1 | $11 /$ | $55^{5}$ | 1. 10 | 1/2" | \$0.29 |
    | 116.260 | 1 | 15:" | $3 / 4$ " | $1{ }^{1 \prime \prime}$ | 17.1 | . 39 |
    | 116.280 | 1 | $2^{3} 8^{\prime \prime}$ | is. ${ }_{30}$ " | $13 \times 1$ | $11 / 16^{\prime \prime}$ | . 59 |

    ## SPINNER KNOBS

    For multi-turn dovices such as variable inductors, potentiometers etc. Spinner handle is machined aluminum and proiects "ib" from knob surface.
     116.986

    ## INSTRUMENT KNOBS

    Unique black phenolic knob may be finger operated or mounted soas to proiect thru panel and serewdriver actuated. The 116.214.1 is for $1 / 4$ " shafts. The 116.214 .2 fits " m " shofts.
    

    ## SKIRTED KNOBS

    
    Skirls are black phenolic and hove clearly defined indicator mark
    

    ## DIALS

    Beveled solin chrome skirls with markings cleorly visible, even in dim light.
    Cal. No. Illus. Calibration A B C E Nel Price
    
    
    
    
    Knobs have black phenolic skirts and flat satin chrome calibraied dial scales.
    

    ## VERNIER DIALS

    Friction vernier diols with calibroted salin chrome diol scoles. Vernier knobs same as 116-220 above except hove friction driving wheel and beoring to mount on panels up to $1 / 4^{\prime \prime}$ thick. The 116.265 has 3 to 1
    vernier, $116-285$ hos 5 to 1 ratio.
    Car. No. Calibration A B C E Net Prices
    

    ## COUNTER DIAL

    A positively colibrated drive for rotory varioble inductors and other multi-furn devices. Counter records up to 99 turns. Vernier diol calibrated $100-0$ over 360 degrees, moting possible accurate return to any pre-determined setting. Buils-in diol lock, "spinner knob" and attractivg block phenolic escuicheon. Furnished with mounting templote for cosy instollation.
    110-208-1 Counter dial with dial lock, escutcheon and $2^{3} y^{\prime \prime}$ spinner knob
    116-208-4 Same as above without dial lock

    ## ESCUTCHEON PLATE

    Aftroctive black phenolic escutcheon shown on 116-208-1 counter dial. Provides neat "window" for back-of-panel diol plate mounting. One edge of escutcheon suitable for attoching stondord $3 / i^{\prime \prime}$ wide etched name plate. Opening $11 / 4^{\prime \prime}$ wide $\times 7 / 8^{\prime \prime}$ high. Overall size $21 / 4^{\prime \prime} \times 1^{11 / 1 i^{\prime \prime}}$. Furnished with No. 2 screws.
    Net Price
    Escutcheon plate
    $\$ 0.65$

    Cot No
    116-201
    

    ## HEAVY DUTY MEDIUM 4 PIN BAYONET

    A rugged bayonet socket for medium 4 pin boyonet bosed tubes such as the 866A or 811A with RETMA Bose No. A4-10. Designed with extra heovy, side wiping contocts ond extended creepage paths to resist high voltoge breokdown. Four mounting holes in bose.

    | Cał. No. | Type | Net Price |
    | :--- | :--- | ---: |
    | $123-209-1$ | Stondord | $\$ 1.15$ |
    | $123-209-100$ | Industriol | 2.80 |
    | $123-209-200$ | Militory | 3.25 |

    

    ## MEDIUM 4 PIN BAYONET

    A compact, economicol socket for medium 4 pin bayoner based tubes (RETMA Bose No. A4-10). Two mounting holes. Avoilable with porceloin base only; for new militory equipment the 123-209-200 (obove) is recommended.
    Cat. No.
    123-210-1
    123-210-100
    123-210-200

    ## Type

    Standord
    Industrial
    Militory

    Net Price
    $\$ 1.10$
    1.40
    1.80
    

    Net

    ## SUPER JUMBO 4 PIN SOCKET

    A heavy duty industrioi type socket designed for high voltages ond/or heovy current. Accommodotes tubes such os the 8008, 5C22, FG104, GL146, ond others with RETMA Bose No. A4-18. Speciol high current, insertion type spring conlocts. Two mounting holes are recessed to prevent floshover. Three heovy retoining springs in shell hold tube securely. Furnished with screw rerminals.

    | Cat. No. | Type | Nel Price |
    | :--- | :---: | :---: |
    | 123-806-1 | Stondord or Industrial | $\$ 2.25$ |
    | $123-206-200$ | Militory | 2.55 |

    

    A popular " 50 wott" socket for medium power bayonet based fubes such os the 872A, 211 and others with RETMA Bose No. A4-29. Double wiDing filoment contocts will hondle heavy current. Terminals are designed for solder or screw connections. Two mounting holes.
    

    | Coi. No. | Type | Net Price |
    | :--- | :--- | :---: |
    | $123-211-1$ | Srondord | $\$ 1.40$ |
    | $123-211-100$ | Industrial | 2.90 |
    | $123-211-200$ | Militory | 3.25 |

    

    Cat. No
    Stondord or Industrial
    $\$ 2.25$
    123-206-200

    ## अु E. F.JOINSON COMPANY

    W A S E C A, M I N N E S O T A

    ## WAFER SOCKETS—GENERAL SPECIFICATIONS

    Standard (desianated -1) A commorcial arado sockor suilablo for ganoral roaniremonts, Glazed steatile base is DC. 200 treated- Contacts are of plated brass with steel springs. Eiched aluminum shialds on shielded types.
    Industrial (designaled -100) Suporior in quality to Standard tynes, Industrial types have alazed steatite boses, DC 900 treated. Contacts are nhosphor bronze with heryllum copper springs .000 s silver plated. Shields on shield typos are itidite No. 11 treated aluminum. Fungus resistant cushion washers under conlacts.
    Military (dasignated -200) Ton auality for all military renuraments (slazed stealite bases, DC-200 impregnatad. Phasphor bronze contack and boryllium covper inrines silver plated .001- hot tin-dipped soider tarminals lunaus resistant alass base mela mine cushion washers iridite No 14 treatod aluminum shields on shioldad lyness. Entre socket protected for 200 hour sali spray tesi

    ## VHF SEPTAR SOCKETS

    

    A 7 nin wafer socket desianed for tubres with medium malded flare Sontar baso. RETMA Base No. 17-2. I auinped with a ventilated shiesld, five lube retainer springs Provision for mounting hution mico capacitors dirsenty to sncket Destaned or Vintuso with tubes such as the 826, 832, 4D32, 4D22. PL6,49, and ML-5569, orc. Snecia terminals permit diroct mountina of arid cails wo holes prov ded for mounting of bus bar noulralizina leadi standard madel has
    plated phosphor bronzo conlacis for minvimum VHF afficiancy

    | Cal. No. | Type | Ne1 Price |
    | :--- | :---: | :---: |
    | 122.101 .1 | Standary | $\$ 2.00$ |
    | 122.101 .100 | Industral | 2.20 |
    | $122.101-200$ | Millory | 2.40 |

    Special Notize: A naw, smaller shielded Sontar enclel for tubes such as the $5894,6524,62^{\prime}, 9$, will be announced sonn.

    ## SEPTAR SOCKETS

    Sockets 122.247 and 192.248 are dostuned inr 7 nin mbos, RFTMA Base No. [7-2. Each sncket is furnished with a snmbrate aluminum shield ring
    

    | Cal. No. | Trde | A | B | L | Net Pris |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 129-247-1 | Standard | 3:" | '1' | 2 | \$0.90 |
    | 122-247-100 | Indusirial | 17 | 11" |  | 1.07 |
    | 122-247-200 | Military | 17. | ', ' |  | 1.24 |
    | 129-248-1 | Standard | 17 | 1 | $2^{3}{ }^{\prime \prime}$ | 1.10 |
    | 122-248-100 | Industrial | 17 | 1 | 2's" | 1.25 |
    | 122-248-200 | Military | 17 |  |  | 1.40 |

    ## SUPER JUMBO 4 PIN SOCKETS

    A haavy duty, slealite insulated, a min wnier. Accommodaise sura iumbo base tubes such as tho 8008 and many rectifer and thyiatron pynes RETMA Base No. A4 15, 16, and 18. Lona, porallel contact ore designed to withstand hiah current. B Lis

    | Col. No. | Trpe | $\wedge$ | B | L | Nel Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 122-244.1 | Standard | "11*" | " | 2*" | \$1.35 |
    | 122-244-100 | Industrial | "115" | $\cdots \times$ |  | 1.45 |
    | 122-944-200 | Milsary | "If" | $\therefore$ | 2 | 1.65 |

    GIANT 7 PIN SOCKET
    A rugged wafer socket for tubes with a (Giant 1 nin bava, RTTMA Base No. A7.1) such as the 4E27. HK257 and 813 Contacts are desianed with maximum surface areanuainst tibo pronas. Ventilating hole in base " "m diameler nrovides tube seal conlina.

    | Cat. No. | Type | A | B | L | Nel P |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 122-237-1 | Standard | ' ${ }^{\prime \prime}$ | $1{ }^{1}$ |  | \$0.72 |
    | 129.237-100 | Industrial |  | $1{ }^{\prime \prime}$ |  | . 84 |
    | 122.237-200 |  |  |  |  |  |

    Iandard
    $\$ 0.72$ 122-237-200

    ## GIANT 5 PIN SOCKET

    A large stoatite water socket for thbes with a Giant 5 nin hase RETMA Baso No. A'). 19 such as tha 1.125 A. 4.950 A and RK 18 Tubo seal ventilation is provided by one central and five ventilating holer located between contacts. Conlacta are designed to with stand heavy curront.

    | Cor. No. | Type | Net Priee |
    | :--- | :---: | ---: |
    | $\mathbf{1 2 2 - 2 7 5 - 1}$ | Slandard | $\$ 1.31$ |
    | 122.275 .100 | Induatrint | 1.56 |
    | $129-275-200$ | Miliary | 1.92 |

    STANDARD WAFER SOCKETS
    
    
    
    Designed for Western Electric tubes 5D21, 705 A and 715 A \& B. Heavy, top and sides glazed,
    grade L4 steatite base and special locking device for retaining iube in socket Contacts 0003 grade L4 steatite base and special locking device for retaining tube in socket Contacis. O003
    silver plated on Standard, . 001 on Military. Long post single lock . 0003 nickel flated on both types.

    | Cat. No. | Type | Net Price |
    | :--- | :---: | :---: |
    | $122-234-1$ | Standard or Industrial | $\$ 2.00$ |
    | $122-234-200$ | Military | 2.40 |

    ## SOCKET ${ }^{\circ}$ FOR EIMAC 152 TL AND 304TL

    Base is glazed parcelain-contacts, nickel plated. Siandard has .0001 nickel plating, Military has .0005 silver. Note: Not subiect to military inspection due to porcelain base.

    | Cat. No. | Troe | Nel Price |
    | :--- | :---: | :---: |
    | $124-213-1$ | Standard or Industrial | Militory |
    | $124-213-200$ | $\$ 1.45$ |  |
    |  | 1.72 |  |

    ## 250 WATT SOCKET

    A twa unit sacket far "250 watl" tubes such as the 204A and 849. Anode cap RETMA Nas. C1-8, C1-9, and C1-10, cathode mounting RETMA Base Nas. A3-20, A3-21, A 3.23. Bases are of glazed porcelain-cantacisare phosphor bronze, nickel plated.
    Cat. No.
    Nel Price
    124-215
    $\$ 4.10$

    ## SOCKET FOR 833 AND 833A

    A special socket assembly for the 833 and 833 A consisting of a steatite bose which supports the tube and a pair of 119.843 tube cap connectors. Kurnled thumb nuts permit easy tube instailation Base is designed to minimize strain on the tube envelape and prevent breakoge. Heat rodioting aluminum plate terminals have $4^{3}$ " flexible laminated leads.
    

    ## MINIATURE SOCKETS

    Wafer type, all steatite socket for mimature 7 pin tubes RETMA Base No. E7-1. Silver plated phasphor bronze contacts. Shield base for mounting TS102 shields available, see 133.277 below.
    Cat. No.
    Nei Price
    $\$ 0.33$
    Standard shield base iype 7 pin miniature, RETMA Base No. E7.1, of two piece stealite construction with silver plated phosphar bronze two piece stealite construction with silver plated phospho
    coniccts, hot tin-dipped. Shield base is brass, nickel plated.
    Cat. No. Pins L M A B Nel Price 120-277 $71^{\circ}{ }^{\prime \prime} 1^{\prime \prime} \mathrm{s}^{\prime \prime} .375^{\prime \prime} .625^{\prime \prime} .770^{\prime \prime} \quad \$ 0.49$
    

    ## MILITARY TYPE MINIATURE SOCKETS

    Top mounting, saddle lype sockets per JAN spec. S.28A1. One piece ceramic insulator, grade L-4B or better, top glazed. DC200 piece ceramic insulator, grade L.4B or better, lop glozed, DC200 salt spray test. Contacts beryllium copper, silver plated. Terminals hoi salt spray iest. Contacts berylium "ooper, sitver plated. Mounting centers 7 "on 7 pin type, 11 " on 9 pin iype. -177 is for tubes with 7 pin bases RETMA Base No. E7.1,-199 for lubes with 9 pin RETMA Bose No. E9-1.
    Cal. No. Military Pins L M C A B Net Price
    

    ## MINIATURE TUBE SHIELDS

    
    Brass, nickel plated to meet JAN specifications. Twist to lock type 120-277, -177, $\mathbf{- 1 9 9}$ construction with internal fube retaining spring. Both spring and shield are non ferrous, non-magnetic material.

    | Cat. No. | Military Des. | Fits Socket | L | D | Net Price |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 133-278-6 | TS102U01 | 177.277 | 13:" | 930" | \$0.15 | -xticet |
    | 133-278.7 | TS102U02 | 177, 277 | $134 *$ | 930" | . 19 | - |
    | 133-278-8 | TS102U03 | 177,277 | $21^{\prime \prime}$ | .930" | . 22 | - |
    | 133-278-9 | TS103U01 | 199 | $11 /{ }^{\prime \prime}$ | $1.065^{\prime \prime}$ | . 22 |  |
    | 133-278-10 | TS103U02 | 199 | $1{ }^{15}{ }^{\text {in }}$ | 1.065" | 24 |  |
    | 133-278-11 | TS103U03 | 199 | 2*"* | $1.065^{\prime \prime}$ | 29 |  |
    | 133.277 | Miniapure $120-26750$ | eld base et. | aly for | use w | . 12 | - $\mathrm{C}-$ |

    The MAS7ER - 2 )th Edition
    Net
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    W A S E C A, M I N N E S O T A

    ## SHAFT COUPLINGS

     104.250 and -251 sertes steatite insulated cauplings will adiust to both axial and angular shaft misalignment Spring material is plated phasphar branze
    104.252 is a rigid couping with glazed porcelain insulation
    104.258 is an all-metal figid coupling with locking nuts for friction fit to shafis.
    104.259 . 262 and 254 will adiust to minor angular shaft misalignment, -259 and -252 have stealite insulation the 264 has bakellte.

    | Cat. No. | DC Breakdown | Type | Overall Length | Maximum Diameter | Couples Shafts | Nel Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 104.250 | 4000 | Flexible | $1{ }^{1}$ " | $111:$ | $1,{ }^{\prime \prime} 10^{1} 1$. | \$0.70 |
    | 104-250-3 | 4000 | Flexible | 1 "..." | 111. | 1, "10 ${ }^{\text {a }}$ " | . 90 |
    | 104.251 | 8000 | Flexible | 11/2" | $2^{7}{ }^{3 \prime \prime}$ | $3.150{ }^{\text {a }}$ | 1.00 |
    | 104.951.2 | 8000 | Flexible | $11 / 2^{\prime \prime}$ | $2^{7}: 3$ | $1: " 10{ }^{\prime \prime}$ | 1.00 |
    | 104.251-3 | 8000 | Flexible | $1^{1} 1^{\prime \prime}{ }^{\prime \prime}$ | $2^{7} \mathrm{mz}^{\prime \prime}$ | $1: 10$ +0 | 1.00 |
    | 104-252 | 7000 | Rigid | 11." | "17i" | $11^{\prime \prime} 101: /$ | . 65 |
    | 104-258 |  | Rigid | $3: /$ | "13," | $1: 101$ " | . 29 |
    | 104-259 | 8000 | Semi-Flex. | 3", | 11 | $1{ }^{\prime \prime} 101^{\prime \prime}$ | 1.30 |
    | 104.262 | 5000 | Semi-Flex. | 「"' | 2" | $1 \%^{\prime \prime} 100^{\prime \prime}$ | . 90 |
    | 104-264 | 750 | Semi-Flex. | 3" | 1! ${ }^{\prime \prime \prime}$ | ! "10 ! $0^{\prime \prime}$ | . 52 |

    ## FLEXIBLE SHAFTS

    Phosphor bronze. non-rusting flexible shafts with ${ }^{1}$ " nickel plated brass hubs. Permit out of line or uo to 70 degrees angular control. Will withstand torque in either direction with minirum backlash
    

    PANEL BEARINGS
    

    MULTIPLE CRYSTAL SELECTOR
    Designed to accommodate up to ten FT-243 crystals (.093" diameter pins spaced . $486^{\prime \prime}$ ). Base is mica filled phenolic. $2^{5} n^{\prime \prime} \times 3^{4} 3^{\prime \prime}$; switch has 11 positions and includes index plate anc univeräal bracket.

    ## Cot. No.

    126-220-1 Crystal Selectar Assembly
    126-1 20-1 Crystal Board Only (na switch or bracket)

    ## CRYSTAL SOCKETS

    

    Designed far HC-6/U crystal holders. Conforms is JAN-1-10. Glazed steatite L4 or better, DC. 200 im . preanated. Contacts spaced .486" accept pins . $050^{\prime \prime}$ diameter, $.248^{\prime \prime}$ long, and are silver plated with hot tindipped solder terminals. Single 's" mounting hole.

    | Cat. No. | Nel Price |  |
    | :--- | :--- | ---: |
    | 126-105 | Crystal socket, phosphor <br> bronze contacts | $\mathbf{\$ 0 . 1 2}$ |
    | 126-105-2 | Crystal socket, beryllium <br> copper contacts | .15 |

    ## RADIO FREQUENCY CHOKES

    Have high reactance over the range for which they are designed. Coils are of enamelled silkcovered wire impregnated with high grade RF lacquer and wound on steatite cores. Current ratings may be increased for intermittent use

    | Cat. No. | Frequency | Current | Induct. (1 mc.) | Ohms DC | Length | Net Price |
    | :--- | :---: | :---: | :---: | :---: | :---: | ---: |
    | 102.750 | 1.7 to 30 mc | 150 ma | .83 mh | 15 | $132^{\prime \prime}$ | $\$ 4.15$ |
    | 102.752 | 1.7 to 30 mc | 500 ma | 1.0 mh | 5.2 | 275 m | 1.80 |
    | 102.754 | 1.7 to 30 mc | 750 ma | 1.9 mh | 4 | $45 / \mathrm{m}^{\prime \prime}$ | 2.50 |
    | 101.760 | VHF | 250 ma | 6.8 uh | .33 | $112^{\prime \prime}$ | .49 |

    
    

    NEW NYLON JACK AND SLEEVE ASSEMBLY
    Nylon tin iack os described above except without mounting nut but equipped with an inside thraded, molded nylon insulatina sleeve. Ideal for potch cords or where rear connection of ponel ihraded, molded nyion insulatina
    mounted rack must be intulated.
    

    ## PLASTIC HEAD TIP JACKS

    Fonular uenerol rurpose iock for a wide variety of applications. Specially formed beryllium copper contoci, cadmium plated, arios tip plug olona almost entire length-has large, easy wiring terminal Sunpled whexruded shoulder bushing and nirkel ploted hex nut, Mounts in "3" hole Moximum nonel thickness. $s$ " where insulatina wathers are used, ${ }^{\prime \prime}$ " where omitled.
    $\begin{array}{llll}\text { Cot, No. Color Net Price } & \text { Cat. No. Color } & \text { Net Price } \\ 105.520 & \text { Red } & \$ 0.14 & 105.526 \\ \text { Orange } & \$ 0.14\end{array}$

    | 105.520 | Red | $\$ 0.14$ | 105.526 | Orange |
    | :--- | :--- | :--- | :--- | :--- |
    | 105.521 | Black | .14 | 105.527 | Yellow |
    |  | .14 |  |  |  |

    105.529 Dark Green $\quad 14 \quad 105.528$ Light Green $\quad 14$
    $\begin{array}{lllll}105.524 & \text { Brown } & .14 & 105-529 & \text { Dark Blue } \\ 105.525 & \text { ligh Blue } & .14 & 105.530 & \text { lvory }\end{array}$
    HEAVY DUTY TIP JACKS
    Plostic head molded integral with rugged nickel ploted brass body. Popu'ar for military and heavy duty industral acolications. Contacis, herylium copper, cadmium plated Furnished with extruded shoulder washer, extro phenolic washer and nickel plated hex nut. " m " -40 thread. Red and Black only.
    Cot. No.
    $105-418$ Red
    Net Price 105-419 Black
    $\$ 0.22$
    
    

    ## HEADLESS TIP JACK

    Economicol headless ack for molded plastic instrument cases or insulaled iack strip panels where iack body con be screwed inta tanped nanel. Body has hex shoulder for tightening-is threaded is"-32. Contaci, beryllium copner, cadmium plated.
    Col. No.
    Net Price
    

    105-1
    $\$ 0.10$
    

    HEX HEAD TIP JACK
    All metal construction, hrass nickel plated body with beryllium copper conlact, cadmium plated. Threaded ' ${ }^{\prime \prime}$ ".32, supplied with one extruded washer, one ${ }^{\prime}$ lat washer, and nickel plated nut. Mounts in " ${ }^{\prime \prime}$ " hole.
    Cat. No.
    Not Price

    ## SHORTING TYPE TWIN TIP JACK

    Circuin closes automatically when tips are removed. Jacks spaced ${ }^{2} x^{\prime \prime}$. Single hole mounting. Molded black body.
    Cat. No.
    Net Price
    105-432
    $\$ 0.39$

    ## NEW NYLON INSULATED SOLDERLESS TIP PLUG

    Companion unit for the famous JOHNSON nylon tip jack. Durable molded nylan insulating sleeve designed so no metal surfaces are exposed when plug is inserted in iack. Quick, sure, solderless connection of up to 16 gauge stranded wire. Withstands high voltages and a wide temperature range. Standard .081" diameter pin fits all standard tio iacks.
    

    ## SOLDERLESS PHONE TIP PLUGS

    105.15 has a ${ }^{18} 1 i^{\prime \prime}$ pin with the last $1 / 2^{\prime \prime}$ of tip $.081^{\prime \prime}$ diameler. Knurled body and sleeve permit leads to be lirmly secured without soldering. Body and sleeve brass, nickel plated. May be used with all standard tip jacks.
    104-415 is the sameas 105-15 above except tio is ", /r" long and. $081^{\prime \prime}$ diameter throughout its lenoth. For all standord tip iacks.
    
    

    JOHNSON banana plugs can be furnished with beryllium copper springs and are available plated nickel, cadmium or silver when required. A selection of miniature solder type plugs is available also. Orders for special plugs should be of sufficient quantity for economical production runs.

    ## INSULATED BANANA PLUGS

    ## Nylon Insulated Solderless Plug

    

    Cat. No.
    108-301
    108-302 108-303 108-304 108-307 springs.

    Compact high voltage insulated plug for a wide variety of applisations. Easy solderless connection of up to 16 gauge stranded wire. Nylon insulating sleeve relains strength and low loss characteristics over a wide range of temperafures and withstands high voltages. Body and pin one piece nickel plated brass with high grade nickel silver springs.

    Color<br>White<br>Red<br>Black<br>Dark Green<br>Yellow

    Net Price
    $\$ 0.19$
    .19
    .19
    .19
    .19
    .19

    ## Standard and Jumbo Insulated Plugs

    The 108-758-1 is a standard size insulated plug with a black plastic handle; 108-759-2 same as above with red plastic handle. Both have brass, nickel plated bodies with nickel silver springs.

    The 108-772-1 is a iumbo size insulated plug with a black plastic handle; 108-772-2 is the same but equipped with a red plastic handle. Both have brass, nickel plated bodies with nickel silver

    | Cat. No. | Old No. | S | P | D | H | G | O | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 108-759-1 | 108-75BB | 13/8" | ${ }^{17} /{ }^{\prime \prime \prime}$ | .175" | 2!8" | $7{ }^{7}$ | 710" | \$0.28 |
    | 108-752-2 | 108-75BR | 13/8" | ${ }^{17} 82$ | . $175^{\prime \prime}$ | 21/8" | 7, ${ }^{\prime \prime}$ | 7/15" | . 28 |
    | 108-772-1 | 108-778B | $18 / 4^{\prime \prime}$ | $34^{\prime \prime}$ | . 300 " | $2{ }^{25} 5 \times 17$ | 3.0 | E" | . 39 |
    | 108.772-2 | 108-77BR | $18 / 4{ }^{\prime \prime}$ | $8 / 4$ | . 300 " | $2{ }^{25}$ ¢ ${ }^{\text {a }}$ | 381 | $5{ }^{\prime \prime}$ | . 39 |

    ## BANANA JACKS

    
    $108-740(74)$ is a quality nickel plated iack of ma chined brass. Solder ferminal and nut furnished.

    108-745-1 (7451) similar to the 108-740 with a red plastic head molded integral with body. Supplied with fibre insulating washers, terminal and nut.
    108-745-2 (7452) same as 108-745-1 but black.
    108-760 (76) for iumbo pluas. Supplied with solder terminaland nickel plated hex nut.

    | Cal. No. | Old No. | Dwg. | $F$ | D | 5 | H | Holo Dia. | Thread | Not Pric |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 108.740 | 108-74 | D | 3/8' | 1/4" | $17 / 32$ | 5/8" | .166" | $1 / 4^{\prime \prime}-28$ | \$0.10 |
    | 108.745-1 | 108.7451 | E | 3/16" | 1/4" | 1/2" | 21\%" | . $166^{\prime \prime}$ | 14"-28 | . 20 |
    | 108-745-2 | 108.7452 | E | 3/16" | $1 / 4^{\prime \prime}$ | 1/2" | $21 \leq 2^{\prime \prime}$ | .166" | $14^{\prime \prime}-28$ | . 20 |
    | 108.760 | 108.76 | F | 9/16" | $3 / 8{ }^{\prime \prime}$ | 21/5" | $1{ }^{\prime \prime}$ | . 277 " | $3 / 8{ }^{\prime \prime} .24$ | . 26 |

    
    

    # E. E. J. OHNSON COMPANY <br> W A S E C A, M I N N E S S O 

    

    ## PILOT LIGHTS - GENERAL SPECIFICATIONS

    As a result of a comprehensive survey recently conducted among Design and Development Engineers, the following listing of Pilot and Indicator lights are classified by the E.F. Johnson Company as "PREFERRED."Pilot lightss elected from this aroun may bequickly obtained from the factory or are immediately availableat parts distributors throughout the country. Specials, including those meeting military specifications are available in production quantities.
    Standard iewel colors are clear, red, green, amber, blue, and opal; green and blue not recommended for use with neon lamps. When ordering -1 indicates clear; -2 , red; 3, green; 4 amber; -5, blue: 6 opa
    For a complete listing of all available Jahnson pilot lights and jewels, write for your capy of Johnson Pilot Lighi Cataloo No. 750.

    ## 1" ENCLOSED-GLASS JEWELS

    U. L. approved. Friction type iewel holder, bright chrome plated brass. Nickel plated, brass body -porcelain insulation. Bulb repiaceable from front panel. Solder terminals. Avaitable in two lenaths for either 110 volt, S 6 candelabra screw lamp or for shorter $T 41 / 2$ lamos such as the NF 45 . 147.1000 has faceted iewel, 147-1004 has smooth iewel for maximum visability with neon lamps. 1 mounting hole required. Mounting nut and fibre washer furnished. Jewels available in clear, red, green, blue, and opal.

    | Cal. No. | Behind Panel | Bulb Shape | Lamp Base | Net Price |
    | :--- | :---: | :---: | :---: | :---: |
    | $147-1000$ | $212^{\prime \prime}$ | S-6 | Candelabra Screw | $\$ 1.09$ |
    | $147-1004$ | $2^{3} 16^{\prime \prime}$ | T 412 | Candelabra Screw | .99 | Identical to $147-1000$ listed above, except socket housing is phenolic and assembly has screw erminals to meet MIL.P14.CFG 147-1032

    47-1032 S-6 Candelabra Screw 1.25 U. L. approved. Threaded iewel holder, knurled brass, bright chrome plated. Nickel plated brass body-porcelain insulation. 147-1200 has solder terminals, 147-1209 has screw terminals. $\mathrm{N}^{\mathrm{n}}$ mounting hole required. Mounting nut and fibre washer furnished. Faceted jewels available in cleor, red, green, amber, blue and opal.
    147.1900

    | 147.1200 | $2^{3} 1 r^{\prime \prime}$ | S-6 | Candelabra Screw | 1.26 |
    | :--- | :--- | :--- | :--- | :--- |
    | 147.1209 | $2^{3}-4^{\prime \prime}$ | S-6 | Candelabra Screw | 1.37 |

    ## $1 / 2^{\prime \prime}$ ENCLOSED-FACETED GLASS JEWELS

    U. L. approved. Threaded iewel holder, knurled brass, nickel plated. Assembly is available in two different lenaths to accommodate the long, T3 $1 / 4$ minialure bayonet bulbs or the short, round G3 $1 / 2$ miniature bayonet types. Threaded jewel holdersare removable and assemblies are designed so bulbs may be replaced from front panel without using a special tool. Eauipped with solder ferminals. Mounting nut, fibre washer, and lock washer furnished. May be used in panels up to $3 / \mathrm{s}^{\text {n }}$ thick. 1116 " mounting hole required. Faceted jewels available in clear, red, green, amber, blue, and opol.

    Length
    

    ## ENCLOSED TYPES-WIDE ANGLE LUCITE LENS

    U. L. approved. Designed for economical confinuous operation utilizing neon or low power incandescent bulbs. Sockets are located so bulbs extend far forward in assemblies for maximum wide angle visibility. Tiny hemispheres on interior of lucite lens diffuse light for maximum visibility holders which may be removed tront or sides. One inch types have chrome plated, threaded lens screws out of bezel en housing forlb bubs, Mucile lens cap is threaded and with both types. Recommended with both types. Recommend
    $1^{\prime \prime}$ ENCLOSED-LUCITE LENS
    1 " mounting hole required; screw terminals.

    | Cal. No. | Behind Panel | Bulb Shape |  |  |
    | :---: | :---: | :---: | :---: | :---: |
    | 147-1217 | $1{ }^{15} \mathrm{If}^{\prime \prime}$ | T43/2 | Candelabra Screw | $\$ 1.43$ |
    | 147-1218 | $11 / 2^{\prime \prime}$ | T31/4 | Miniature Bayonet | 1.10 |
    |  |  |  | LENS |  |

    $1_{16}$ " mounting hole required; solder terminals, lock wast

    | Cat. No. | Length Behind Ponel | Bulb Shape |  |  |
    | :---: | :---: | :---: | :---: | :---: |
    | 147-1142 | $1_{17} 1 \%^{\prime \prime}$ | T31/4 | Lamp Base <br> Miniature Bayonet | Net Price $\$ 0.68$ |
    | 147-1143* | $1^{\prime} 1 \mathrm{Fr}^{\prime \prime}$ | T31/4 | Miniature Bayonet | . 89 |
    | 147-1144** | $1^{3} 16 /{ }^{\prime \prime}$ | T31/4 | Miniature Bayonet | . 89 |

    ## 1" ENCLOSED-WIDE ANGLE "BULLSEYE" LENS

    U. L. approved. Threaded iewel holder, knurled brass, chrome plated. An extremely aftractive assembly designed to provide excellent visibility from any angle. Jewel has large inside diameter permitfing bulb to set well forward for maximum illumination. Hundreds of tiny hemispheres an interior surface of glass jewel provide diffusion of light in all directions. Lens exterior surface is mooth preventing the accumulation of dirtand dust. Bulb is replaceable from front panel. Phenolic insulation-screw terminals. May be used on panels up to ${ }^{3} x^{\prime \prime}$ thick. $1^{\prime \prime}$ mounting hole required. Mounting nut and fibre washer furnished. Jewels available in clear, red, areen, amber, blue, or opal.
    47.1600 Behind Panel Bulb Shape Lamp Base Price

    Economical semi-enclosed assembly Economical semi-enclosed assembly with chrome plated iewel bezel. Friction fit iewel holder easily removable for bulb replacement from front panel. Socket portion detaches from panel bush fibre washer and nut furnished. $1^{\prime \prime}$ mounting hole required. Faceled y and brackel nickel Dlated. fore washer and nut furnished. 1 mounting hole required. Faceled jewels available in clear, red reen, amber, blue, and opal.

    | Cot. No. | Behind Ponel | Bulb Shope | Lamp Base | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | 147.800 | $1{ }^{11}$ if" | G31/2, T31/4 | Miniarure Serew | \$0.69 |
    | 147.808 | $2^{3} 11^{\prime \prime}$ | T412 | Candelabra Screw | . 71 |
    | 147.804 | 71/16" | G31/2, T31/4 | Miniature Bayonet | . 70 |

    For front panel illumination. Polished nickel plated hood, easily removable for lamp replacement rotates to any position. $1 / 2^{\prime \prime}$ mounting hole required.
    

    ## PILOT LIGHTS

    ## OPEN PILOT LIGHTS-HORIZONTAL MOUNTING

    Designed to permit bulb replacement from the panel. Heavy gauge brackets are nickel platediewel holders are finished same as enclosed assemblies of comparable size. A special bushing and mounting nut serves as a jewel receptacle and as a mounting for the bracket

    $$
    1^{\prime \prime} \text { HORIZONTAL OPEN-FACETED GLASS JEWELS }
    $$

    Friction type jewel holder chrome plated. 1" mounting hole required. Moy be used on panels up to "3 thick. Faceted iewels available in clear, red, green, amber, blue, and opal.

    | Cat. No. | Length Behind Panel | Bulb Sha | Base | et Pr |
    | :---: | :---: | :---: | :---: | :---: |
    | 147-100 | 1/1/2" | G31/2, T3 ${ }^{1}$ | Miniature Screw | \$ . 60 |
    | 147-103 | $2{ }^{1}$ |  | Candelabra Screw | . 61 |
    | 147.106 | $11 / 2{ }^{\prime \prime}$ | G31/2, T3 ${ }^{1}$ | Minıature Bayonet | . 63 | $147.106 \quad 11 / 2^{\prime \prime} \quad$ G31/2, T3 $1 / 4 \quad$ Miniature Bayonet

    Threaded iewel hat up to ${ }^{2}$ " thick. Faceted iewels ovailoble in clear, red, green, amber, blue, and opal.
    Cat. No. Length Behind Panel Bulb Shape, Nat Price
     s/2" HORIZONTAL OPEN-LUCITE LENS
    For efficient utilization of low powered light sources. Wide ongle visibility; low cost. Use with neon or incondescent lomps with 3 wolts or less dissipotion. ${ }^{14}$ "" mounting hole reauired. neon or incondescent lomps with 3 wotts or less dissipotion. "h mounting hole reauired. Cal. No. Length Behind Panel Bulb' Shape

    | Cal. No. | Length Behind Panel | Bulb Shape | Base | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | 147.406 | $111^{\prime \prime}$ | Miniature Bayonet | $\$ 0.42$ |  |
    | 147.407 | $11^{\prime \prime}$ | NE51 | Minature Boyonet | .66 |

    180,000 resistor built in
    Minioture Bayonel
    OPEN PILOT LIGHTS-VERTICAL MOUNTING
    Sturdy, heovily plated units for application where bulb is occessible from behind panel. Jewel holders are polished, nickel ploted, ond fasten with nut on rear of panel so assembly is tamper proof from front. All hove solder terminols.
    Co.
    Length

    Cot. No.
    147.200 Length
     Base
    Minioture Screw
    47.203
    $147-203$
    $147-206$
    G3 12
    $S .61 / 2$
    G3
    Condelabro Screw
    $1 / 2^{\prime \prime}$ VERTICAL OPEN-FACETED JEWELS-ALL COLORS
    Length Behind Panel Bulb Shape
    Cat. No.
    Length Behind Panel

    | Bulb Shape | Base |
    | :---: | :---: |
    | G31/2 | Miniorure Screw |
    | S. $61 / 2$ | Condelabra Screw |
    | G3 | Miniature Bayonet |

    Net Prico
    147.300
    47.303

    Condelabra Screw
    Net Price
    $\$ 0.49$
    .50
    .53

    ACETED JEWELS-ALL COLORS
    Cat. No. Length Behind Panel Bulb Shape Base
    
    147.503 G3 L' $1_{2}^{\prime \prime}$ Minioture Bayonet

    Net Price
    JEWEL-BUSHING AND JEWEL ASSEMBLIES
    (For use with brackets listed below)
    1 " JEWEL AND BUSHING ASSEMBLY
    Friction fit jewel holders. Chrome ploted bezel fits into threaded brass, nickel plated bushing. Furnished with fibre compression washer and nut. "' mounting hole required. Faceted jewels available in clear, red, green, amber, blue and opal.
    Cat. No.

    ## $1 / 2^{\prime \prime}$ JEWEL AND BUSHING ASSEMBLY

    Threaded jewel holder, knurled brass, nickel plated. Includes iewel assembly and threaded oushing with mounting nut. in mounting hole required. Faceted jeweis available in clear, ind green, amber, blue, and opal.
    147-410
    $1 / 2^{\prime \prime}$ JEWEL
    Threaded iewel assembly. Bright nickel ploted bezel. Mounting nut furnished. ${ }^{7 / 18}$ " mounting hole reauired. Faceted iewels available in clear, red, oreen, amber, blue, and apal.

    3/" MINIATURE JEWEL
    Miniature threaded iewel assembly with nut. Briaht nickel plated bezel. 9s!" mounting hole required. Faceted jewels available in clear, red, oreen, amber, and opal.
    s/s" LUCITE LENS
    Lucite lens threaded " 17 as shown on $147-406$ and -407 above. Recommended colors, clear, amber, red, or opal.
    $\$ 0.13$ 147.10

    ## DIAL LIGHT BRACKETS

    Designed with exclusive leotures for long life and dependability. Socket shells are of extra heavy material and feature seamless construction. Terminals are tin plated for easy solder connectionall other parts are heavily nickel plated. Heavy gauge contact springs on bayonet types retain tension indefinitely.
    Cal. No. Socket
    Nel Price
    147-600 Min. Screw (Brackel down) $\$ 0.10$ 147-601 Min. Screw (Bracket up) 147-630 Min. Bay. (Clip down) 147-611 Min. Bay. (Bracket up) . 12 147.640 Min. Screw (Clip down) 147-620 Cand. Screw (Bracket down) . 11 147.640 Min. Screw (Clip down
    

    Bulbs used on all pilot lights may be identified from these illustrations. (Not included in prices.)
    
    

    Superior quality steatite and porcelain insulators. Heavily glazed surfaces and heavy nickel plated biass hardware suitable for exposed applications. Types designated -2 have icck to accommadicte JOHNSON or other standard banana plugs.
    

    INSULATED THRU-PANEL BUSHINGS
    Assemt ecer: "clc zall d' denical steatite insulators, hardware, and cushion washers. The 135-5: c:rett, tios ir'ertchking insulators which are self-centering in mounting hole and may be used
    Cat. Ne.
    135-50
    135-5:
    135 -52
    135.55
    
    
    $\mathbf{A}$
    $3,{ }^{\prime \prime}$
    5
    $3 y^{\prime \prime}$
    $78^{\prime \prime}$
    $12^{\prime \prime}$

    | Hardware | Net Price |
    | :---: | :---: |
    | 6.32 | $\$ 0.94$ |
    | 10.32 | .40 |
    | 1.40 | .59 |
    | 6.32 | .23 |

    ## THRU-PANEL INSULATORS

    High volicge "secesce-perssion mounted by means of a stud throughout length. Extrusion of insulator t.c:e $\in$ - 'tr.ds ${ }^{+\prime}$ - "ounting hole increasing breakdown raling. Flat mounting surfaces with cush on, "c: ${ }^{2}$ e". TyгE: w ih iacks have terminal permitting connection above as well as below panei.

    ## STEATITE

    | Cot. No. | H | B | D | E | A | Hardware | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 135.40 | $71 / 4$ | 1: $11 "$ | 7/10" | $12^{\prime \prime}$ | $19.52^{\prime \prime}$ | 10-32 | \$0.25 |
    | 135-40.2 | 714 " | $13_{10 \prime \prime}$ | 7/16" | 1/2" | ${ }^{19} 99_{52}{ }^{\prime \prime}$ | 108-740 Jack | 33 |
    | 135-42 | Is" | $3_{4}{ }^{\prime \prime}$ | ${ }^{13} 3517$ | $38 \%$ | 1/9" | 10.32 | . 27 |
    | 135-42-2 | $78^{\prime \prime}$ | 3" | 13/62" | 3/8/ | 12" | 108-740 Jack | . 35 |
    | 135.44 | $8 / 87$ | " ${ }^{\text {\% }}$ | $8 / 16^{\prime \prime}$ | 3/10" | $3 / 8{ }^{\prime \prime}$ | 6-32 | . 18 |
    | PORCELAIN |  |  |  |  |  |  |  |
    | Cat. No. | H | B | D | E | A | Heidware | Net Price |
    | 135.45 | 13/8" | 11/" | $32^{\prime \prime}$ | ${ }^{18,1610}$ | 8/8" | 10-32 | \$0.35 |
    | 135-45-2 | $13 / 8{ }^{\prime \prime}$ | $11 / 7$ | $13^{\prime \prime}$ | $11 / 16$ | $5{ }^{\prime \prime}$ | 108.740 Jack | . 43 |
    | 135-46 | 23.41 | 13 mm | $11 / 16^{\prime \prime}$ | $1{ }^{\prime \prime}$ | 15 /16" | $1 / 4$ " 20 | . 95 |
    | 135-46-2 | 23/3" | $13 / s^{\prime \prime}$ | $11 / 16$ | $1 "$ | 15/6" | 108-760 Jack | 1.17 |
    | 135-47 | $41 / 2^{\prime \prime}$ | 2 年" | $31 / 62^{\prime \prime}$ | $132^{\prime \prime}$ | 11/16" | $14^{\prime \prime}$-20 | 1.35 |
    | 135.47-2 | $413^{\prime \prime}$ | 21/8" | ${ }^{31} / 22^{\prime \prime}$ | 136" | 11/15" | 108-760 Jack | 1.57 |
    | 135-48 | $2^{\prime \prime}$ | $15 / 8^{\prime \prime}$ | ${ }^{11} 66^{\prime \prime}$ | $7 \%$ | $3{ }^{\text {3 }}$ " | 10.32 | . 48 |
    | 135-48-2 | $\mathbf{2}^{\prime \prime}$ | $15 / 8{ }^{\prime \prime}$ | ${ }^{11} 680$ | 78 | $3{ }^{3 \prime \prime}$ | 108-740 Jack | . 60 |

    ## ANTENNA STRAIN INSULATORS

    The 136-151, 136-159, and 136-153 are heavy duty $11 / 2^{\prime \prime}$ diameter wet process porcelain with specially sealed end bells of non-corrosive aluminum alloy. Porcelain glazed to prevent moisture absorption.
    Numbers 136-107 and 136-112 are wet process, glazed porcelain $1^{\prime \prime}$ diameter round. Number 136-104 is dry process, olazed 'ss" square.
    The 136-32 is a compression type strain insulator for aircraft or guy wire applications. Dry process, olazed porcelain.

    |  |  |  | Length |  |
    | :---: | :---: | :---: | :---: | :---: |
    | Cat. No. | Breaking Strength | Net | Overall | Net Price |
    | 136.151 | 5000 lbs. | $8{ }^{\prime \prime}$ | $1512^{\prime \prime}$ | \$ 7.70 |
    | 136-152 | 5000 lbs. | $12^{\prime \prime}$ | 19\%" | 8.25 |
    | 136.153 | 5000 lbs. | $20^{3}$ | 25 \% ${ }^{\prime \prime}$ | 13.25 |
    | 136-104 | 400 lbs . | -• | $4^{\prime \prime}$ | . 15 |
    | 136-107 | 800 lbs . | . | $7{ }^{\circ}$ | . 75 |
    | 136-112 | 800 lbs. | $\bullet$ | $12^{\prime \prime}$ | . 85 |
    | 136-32 | ...... | - | $11 / 2^{\prime \prime}$ | . 10 |

    ## FEEDER INSULATORS

    Numbers 136-122, 136-124, and 136-126 are conventional feeder spreaders for constructing open-wire antenna feeders and ransmission lines. Made of high grade, low absorption porcelain, they are silicone impregnated for moisture resistance. Number 136-122 has extra notches for $1 \frac{1}{2} /{ }^{\prime \prime}$ line spacing. All have $3 / s^{\prime \prime} \times 3^{\prime \prime}$ " cross section.
    Cat. No.
    136.122
    $136-124$
    136.126

    | Length | Net Price |
    | :---: | :---: |
    | $2^{\prime \prime}$ | $\$ 0.12$ |
    | $4^{\prime \prime}$ | .17 |
    | $6^{\prime \prime}$ | .22 |

    - 

    INSULATORS
    

    ## STEATITE CONE INSULATORS

    Aaterigl, gradol_- 4 or ballor, steatite Deep, clean threads are tapped directly into the ceramic furnished complate with two nickel plated machine screws, nickel plated brass washers, and cark cushion washer
    Car. No $\quad \mathrm{H}$
    135.500

    135-501
    35-502
    $135-503$
    

    8
    $56^{\prime \prime}$
    $31^{\prime \prime}$
    $11^{\prime \prime \prime}$
    $116^{\prime \prime \prime}$

    | A | Hardware |
    | :---: | :---: |
    | ${ }^{1} 1{ }^{\prime \prime}$ | 6-32 |
    | 12 " | 8.32 |
    | ${ }^{\prime \prime}$ | 8.32 |
    | ' | 10.32 |
    | $3{ }^{\prime \prime}$ | 10-32 |

    Net Price
    $\$ 0.20$
    .24
    .43
    .49
    .85

    ## STE ATITE STAND.OFF INSUL ATORS

    Glazed steatite insulators combining excellent strength with economy Relafively large mounting surface combined with iwo hole mounting permit subsiantial lateral loads. Hardware includes crew, flat washer, and two nuts
    Parts designated -2 have a slandard banana lack and a solder luag mounted an the top of the nsulatar. Jacks, 106 inside diameter, tit standard banana plugs.

    | Car. No. | H | 8 | M | A | Hardware | Nel Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 135-20 | 1"年", | $13^{\prime \prime}$ | $1{ }^{1} 14$ " | A | 10.32 | \$0.15 |
    | 135-20-2 | 1 1/4" | 13 " | $1{ }^{5}{ }^{3}{ }_{1 /} /$ | 1 | 108.740 Jack | . 20 |
    | $135-29$ | $1 "$ | 1 "nt" | 13.10 | 13.8 | 8-32 | .13 |
    | 135-29-2 | $1 "$ | $1{ }^{\text {5 }}{ }^{\prime \prime}$ | 1316 " | $13^{*}$ " | 108-740 Jack | . 16 |
    | 135.24 | $8{ }^{3}$ | 1 " | $11{ }^{10}{ }^{\prime \prime}$ | $5{ }^{5}$ | 6-32 | 10 |

    ## PORCELAIN STAND.OFF INSULATORS

    Ribbed porcelain insulatars with square mounting bases and four mounting holes. Parcelain dense molded and glazed except on mounting surfaces.
    Col No.
    H
    $41 / 2^{\prime \prime}$
    8
    $21 / 2^{\prime \prime}$
    
    Hardware
    Net Price $\$ 0.68$
    

    Surface mounting porcelain insulators with drawn and etched aluminum bases. Numters 135-65 $135.65 .2,135.68$ and $135-68-2$ are ribbed, $135-66,135-66-2$ and $135-67$ and 135-67-2 are smooth surfaced. Types $135.65-2$ and $135-68.2$ have standard, $166^{\prime \prime}$ inside diameter banana iacks; types 135-66-2 and 135-67.2 have . $277^{\prime \prime}$ inside diameter iacks to fit iumbo banana plugs.

    | Car. No. | H | 8 | M | A | Hardware | Nel Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 135.65 | 1." | 17/8" | 11/2" | - ${ }^{\prime \prime}$ | 10.32 | \$0.21 |
    | 135.65-2 | 1\%" | 17\%' | $11 / 2^{\prime \prime}$ | $5{ }^{5 \prime \prime}$ | 108.740 Jack | . 29 |
    | 135.66 | $23 /{ }^{\prime \prime}$ | 13.1 | $1^{3}{ }^{\prime \prime}$ | $15.16^{\prime \prime}$ | 14"-20 | 60 |
    | 135-66-2 | 231" | 13 " | $1{ }^{3}{ }^{\text {R }}$ " | 1518 | 108.760 Jack | 89 |
    | 135-67 | $41 / 2$ " | 21/" | 13, | $1^{\prime \prime}$ | ${ }^{1.60 \%}$ | 78 |
    | 135-67-2 | $412{ }^{\prime \prime}$ | 21:" | $13 \%$ | $1{ }^{11}{ }^{\prime \prime}$ | 108-760 Jack | 1.00 |
    | 135-68 | $2^{\prime \prime}$ | $13 *$ | $1{ }^{3} \times$ | 23 " | 10.32 | . 34 |
    | 135.68-2 | 2" | 13 " | $1^{3} 8$ " | $23^{28}$ | 108.740 Jack | . 42 |

    ## LEAD-IN BUSHINGS

    single porcelain insulators less all hardware except cushion washer. Mounting "langes and

    | Car. No. | $H$ | 8 | A | Net Price |
    | :--- | :--- | :--- | :--- | ---: |
    | $135-53$ | $133^{\prime \prime}$ | $21 / 2^{\prime \prime}$ | $11_{11 \prime}^{\prime \prime}$ | $\$ 0.96$ |
    | $135-54$ | $4^{\prime \prime}$ | $312^{\prime \prime}$ | $1^{\prime \prime}$ | .62 |

    Threaded rod for use with lead-in bushings 135.53 and $135-54$. Rod threaded overall $1 / 4$ ". 20 .
    

    Complete assembly includes rod, 4 brass washers and 4 nuts, all parts heavily nickel plated.

    | Cal. No, | Length | Net Price |
    | :--- | :---: | ---: |
    | $\mathbf{1 1 5 - 2 4 0}$ | $8^{\prime \prime \prime}$ | $\$ 0.40$ |
    | $115-241$ | $10^{\prime \prime}$ | .50 |
    | $115-242$ | $15^{\prime \prime}$ | .70 |

    Stamped aluminum mountina flanges for lead-in bushings 135-53 and 135.54. Three mounting Stamped aluminum mountina flang
    holes spaced 120 degrees apart.

    | holes spaced 120 degrees apart. |  |  |
    | :--- | ---: | ---: |
    | Cor. No. | For Bushing No. | 135.53 |
    | $\mathbf{1 3 5 - 9 0}$ | 135.54 | $\$ 0.25$ |
    | $\mathbf{1 3 5 - 9 1}$ |  | 55 |

    ## FEED-THRU BOWL ASSEMBLIES

    Bowts, electrical glass, $6^{1,14}$ " maximum diameter $4^{3}{ }^{4}$ "high. Steel mounting flange $7^{3}$," dia. Stud threaded $1 / 2^{\prime \prime}$-13. Cork gastets and spun aluminum corona shields included in fitting". 135-15-1 consists of single bowi with fitings, 101/" stud. 135-15-3 two bowls and fitings with $16^{\prime \prime}$ stud for walls up to $4^{\prime \prime} .135-13.7$ with $24^{\prime \prime}$ stud for walls up to $12^{\prime \prime}$. Can also be furnished with special hallow sluds.
    
    Swinging link inductors for omoteur bonds 160 thru 6 meters; 150,500 ond 1000 wotl sizes, polystyrene insulotion, steotite bases and heovy wire sizes. HCS-Inductors motch high volioge, includes Inductors for bonds desired, Jock Bor, Link Arm Assembly ond Plug-in Links required for motching to line or ontenno coupler. 000 watts

    | Cat. No. | Type No. |  | walts |  |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | $\begin{aligned} & \text { Cal. No. } \\ & 238.106 \end{aligned}$ | Type No. $1000 \mathrm{HCS} 160$ | Wire Size 10 | Cap. ${ }_{90} \mathrm{mmf}$. | Height <br> 511 " | Width <br> $4^{13}{ }^{17}$ | Nel Price $\$ 7.50$ |
    | 238.107 | 1000 LCS1 60 | 10 | 140 | 51416 | $4^{13} 8{ }^{12}$ | 7.50 |
    | 238-101 | 1000HCS80 | 10 | 46 | $5^{\prime \prime}$ | $3^{23} \times 2{ }^{\prime \prime}$ | 6.70 |
    | 238-102 | 1000LCS80 | 10 | 73 | 5" | $3^{23}{ }^{23}{ }^{\prime \prime}$ | 6.70 |
    | 238-103 | 1000HCS40 | 10 | 24 | 5" | $3^{23}{ }^{1 / 1}$ | 6.05 |
    | 238-104 | 1000LCS40 | 8 | 55 | 5" | $3^{3} 1^{\prime \prime}$ | 6.05 |
    | 238-105 | 1000 HCS20 | 8 | 19 | $4{ }^{\circ} / 10$ | $3^{3} 4^{\prime \prime}$ | 5.55 |
    | 238-111 | 1000LCS20 | .250" | 26 | 5', | $4^{\prime \prime}$ | 5.55 |
    | 238-112 | $1000 H^{\text {LCS } 14}$ | . 250 " | 19 | $4{ }^{\circ}$ | 312" | 5.20 |
    | 238-113 | 1000H/LCS10 | $\begin{array}{r} 250^{\prime \prime} \\ 50 \end{array}$ | vatts 18 | $4^{\circ}{ }^{\prime \prime}$ | 31/2" | 4.90 |
    | 238-125 | 500HCS160 | 14 | 100 | $4^{3}$ 价" | $31 /$ | 3.75 |
    | 238-126 | $500 \mathrm{LCS160}$ | 14 | 148 | $4^{\circ} \mathrm{m} \mathrm{ra}^{\prime \prime}$ | 31. | 3.75 |
    | 238-121 | 500HC580 | 14 | 45 | $3^{23} 82^{\prime \prime}$ | 25" | 3.45 |
    | 238-122 | 500LCS80 | 12 | 76 | $3^{3} 1^{\prime \prime \prime}$ | $2^{21} \times 1{ }^{\prime \prime}$ | 3.45 |
    | 238-123 | 500HCS40 | 12 | 27 | $3^{3 \prime \prime}$ | $22^{11}{ }^{\prime \prime}$ | 3.15 |
    | 238-124 | 500LCS40 | 10 | 50 | $3^{\prime \prime 5} \times 2$ | $2^{23} 32^{\prime \prime}$ | 3.15 |
    | 238-131 | 500HCS20 | 6 | 25 | $3^{13} 126^{\prime \prime \prime}$ | $223^{13110}$ | 2.70 |
    | 238-132 | 500 LCS 20 | 6 | 37 | $3^{13} 16^{\prime \prime}$ | $2^{13} 1161^{\prime \prime}$ | 2.70 |
    | $238-133$ | 500H/LCS14 | 6 | 19 | $3{ }^{16 \prime \prime}$ | $2{ }^{3,1 m}$ | 2.25 |
    | 238-134 | $500 \mathrm{H} /$ LCS10 | 6 | 19 | $3^{31} \times$ " | $2^{5}{ }^{\prime \prime \prime}$ | 2.10 |
    | 238-135 | 500H/LCS6 | 6 | 18 | $3^{\prime \prime} 15$ " | $2^{5} 1 \mathrm{~m}^{\prime \prime}$ | 2.10 |
    |  |  |  | walis |  |  |  |
    | 238-147 | 150HCS160 | 18 | 102 | $4^{3} \mathrm{~min}^{\prime \prime}$ | $3^{14} 3^{\prime \prime}$ | 3.30 |
    | 238-148 | 150LCS160 | 16 | 151 | $4^{7}$ \%" | $3^{3} \mathrm{xz}{ }^{\prime \prime}$ | 3.30 |
    | 238-141 | 150 HCS 80 | 16 | 51 | $4^{-102}$ | $219{ }^{12}$ | 3.00 |
    | 238-142 | $150 \mathrm{LCS80}$ | 16 | 68 | $4^{7}$ | $2^{193}{ }^{\prime \prime \prime}$ | 3.00 |
    | 238-143 | 150 HCS 40 | 14 | 28 | $3^{* 3} 3^{2 \prime}$ | 2:" | 2.70 |
    | 238-144 | $150 \mathrm{LCS40}$ | 12 | 57 | 3:\% | $2^{21}{ }^{\prime \prime}$ | 2.70 |
    | 238-145 | 150 HCS 20 | 12 | 21 | $33^{\prime \prime}$ | $2^{13}{ }^{3 / 19}$ | 2.40 |
    | 238-146 | 150 LCS 20 | 12 | 32 | $31.2^{\prime \prime}$ | $213{ }^{12}$ | 2.40 |
    | $238 \cdot 151$ | 150H/LCS14 | 8 | 19 | 3*1和" | $21 / 2^{\prime \prime}$ | 2.10 |
    | 238-152 | $150 \mathrm{H} / \mathrm{LCS10}$ | 8 | 19 | 3*1 $3^{\prime \prime}$ " | 21/2' | 1.95 |
    | 238-153 | $150 H / L C S 6$ | 8 | 16 | $3^{13}$ | 2" | 1.95 |

    To determine split-stator capactior, subtroct tube output ond wiring capocity (usuolly 5 io 20 mm .) from totol capacity in chart, then dauble result for capacity per section needed.

    ## PLUG-IN SWINGING LINKS

    | Cat. No. Type No. | No. Turns Nel Price | Cat. No | Type No. | No. Turns | Ne |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 238.181150 500SL12 | 12 \$1.80 | 238-191 | 1000SL10 | 10 | \$1.90 |
    | 238-182 150/500SL5 | $5 \quad 1.15$ | $238-192$ | 1000SL5 | 5 | 1.45 |
    | 238-183 150/500SL2 | 21.00 | 238-193 | 1000SL2 | 2 | 1.10 | SWINGING LINK ARM ASSEMBLIES

    238-179 150'500SLA-for $150 / 500$ woll induclors ............... $\$ 1.15$
    
    
    . . . . . . 1.80

    ## INDUCTORS

    '229'' SERIES WIRE WOUND VARIABLE INDUCTORS—3 AMPS.
    Efficient, all steatite insulated variable inductors for amateur transmifters or low power com
     mercial equipment Variable pitch, tinned copper wire windings on grooved steatite forms. [4" shafts extend $1 / 2$ " on both ends. Length dimension is over mounting feel.
    Cat. No. Inductance Mounting Lerall Dimensions L ( Wire Size Net Price

    | 229.201 | 10 uh | $3{ }^{15}$ | 4. | $21 /{ }^{\prime \prime}$ | 231 ${ }^{\prime \prime}$ | No. 14 | Pr |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 229.202 | 15 uh | 51 O | 5\%"' | 21/2" | 2,3" | No. 12 | 9.75 |
    | 229-203 | 25 uh | $6^{2 .}$ | $7{ }^{5}$ :" | 21/2" | $2^{313} 3 z^{\prime \prime}$ | No. 12 | 11.50 |

    "232" SERIES "HI-Q" COILS-1/4" x .054" RIBBON-5 AMPS. Fixed coils wound with $1 / 6^{\prime \prime}$ copper strip, codmum plated. Glass bonded mica support bars.

    | 239-610 | 31 uh | $31, " \times 6$ " | 7:1.." | $35^{\prime \prime}$ | $45 \%$ | \$8.90 |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 232.680 | 84 uh | $3^{3} 1^{\prime \prime} \times 7{ }^{\prime \prime \prime}$ |  | 41/2" |  | 11.40 |
    | 232.629 | 41 uh | $31^{\prime \prime \prime} \times 4{ }^{\prime \prime}{ }^{\prime \prime \prime \prime \prime \prime \prime}$ | $66^{\prime \prime}$ | $3^{3 \prime \prime}$ | $5{ }^{3}$ ", | 8.90 |

    
    " 222 " SERIES VARIABLE INDUCTORS- $1 / 2^{\prime \prime} \times .090$ " RIBBON-15 AMPS. Excellent for medium power RF equipment where high current operation is reavired in minimum space Heavy siver pared copper nibbon windings and berylium copper confacts with solid reor Length dimension is over mounting feet-does not include shoft shits exiond it front and reor Leng

    | Cat. No. | Type No. | Inductance | Mounting |  | ${ }_{W}^{\text {Dim }}$ |  | Nel Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 222-1 | 4224MS4 | 27 uh |  | $11^{1}$ | $6^{1 / 2 \prime \prime}$ | 6\%", | \$42.00 |
    | 222.2 | 4275MS4 | 50 uh | $0^{3} 4^{\prime} \times 11^{\prime \prime}{ }^{\prime \prime}$ | 12: | $7{ }^{19}$ | 73: | 51.00 |
    | 222-3 | 4084MS6 | 5 uh | 54"* $7^{\text {¹ }}$ | 8: | $61{ }^{12}$ | 6:8 | 36.00 |
    | 292.5 | 4134MS6 | 10 uh | $53^{\prime \prime} \times 934$ | $10^{1}$ | $6{ }^{12}$ | $6 \%$ | 39.00 |
    | 229-7 | 4325MS4 | 62.5 uh | x 127/8" | 13\%/8 | 712 | 758 | 51.50 |

    $226^{\circ}$ SERIES VARIABLE INDUCTORS—1/4" $\times 1 / s^{\prime \prime}$ RIBBON—10AMPS Poputar for commercial and amateur use, these moving cail rype inductors easily handle well over a kilowatt of plate modulated RF energy to 30 mc . Heavy silver plated conductors and silver extend "3"fiont and rear. Length dimension is over mounting feel, does not include shaft extensions.

    | 226.1 | 22.5 uh | $3^{\prime \prime} \times 12^{3} 1^{\prime \prime}$ | $131 / 2{ }^{\prime \prime}$ | 4 " | $61 / 2$ | \$57.00 |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 226.3 | 13.5 uh | $3^{\prime \prime} \times 10^{3} 8^{\prime \prime}$ | $111 / z^{\prime \prime}$ | 4" | 61/2" | 53.00 |
    | 296-5 | 8 uh | $3^{\prime \prime} \times 91 /{ }^{\prime \prime}$ | $10^{\prime \prime}$ | $4^{\prime \prime}$ | $61 / 2^{\prime \prime}$ | 44.75 |


    ## INDUCTORS

    ＂ 200 ＂SERIES FIXED COILS
    Economical－compact－edgewise copper windings．Airwound with slotted，glass banded mica supporis．Construction orovides exceptional current carrying copacity for sIze．
    ＂ $200^{\circ}$ FIXED COILS－1＂

    | Cat．No． | Type No． | Inductance | Mounting Dimensions | Over | Dime W | ions H | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 200．101 | $2924 \mathrm{N4}$ | 26 uh | $2^{\prime \prime} \times 81{ }^{\text {¢ }}$ | 83／4＂ | 5916＂ | 53 | \＄10．50 |
    | 200.107 | $2105 N 4$ | 10 uh | $2^{\prime \prime} \times 5^{1}$ | $53 / 4$ | 6\％ | $6^{1}$ | 8.50 |
    | 200.114 | 2984 N 3 | 45 uh | $2^{\prime \prime} \times 7{ }^{\prime \prime}$ | $8^{1}{ }^{\prime \prime}$ | $5 \%$ 倁 |  | 13.50 |
    | 200.401 | 2455 N5 | 70 uh | $2^{\prime \prime} \times 11^{\prime \prime \prime}$ | $\left.11^{\prime}\right)^{\prime \prime}$ | 59\％＂ | $5{ }^{9} 16$ | 23.00 |
    | 200.407 | 2497 N4 | 200 uh | $3^{\prime \prime} \times 14^{1} 16^{\prime \prime}$ | 15 亿6＂ | 71／2＂ | 712 | 29.50 |
    |  | 200＂ | FIXED COILS－ $3 /{ }^{\prime \prime} \times .072^{\prime \prime}$ RIBBON－15 AMPERES |  |  |  |  |  |
    | 200－205 | $3164 \mathrm{N5}$ | 15 uh | $2^{\prime \prime} \times 7^{\prime \prime} \times$ | $8^{1} 0^{\prime \prime}$ | $5^{11}{ }^{1014}$ | $5^{*}{ }^{1+1]^{\prime \prime}}$ | \＄10．50 |
    | 200．206 | 3275 N4 | 50 uth | $2^{\prime \prime} \times 9^{-\prime \prime}$ | 10＂ | $6^{7}$ | $6^{11}{ }^{1 \mathrm{~m}^{\prime \prime}}$ | 17.00 |
    | 200.211 | $3336 \mathrm{N5}$ | 73 uh | $21 /{ }^{\prime \prime} \times 12^{\prime}$ | $12^{1 . t} 16^{\prime \prime}$ | $7{ }^{11}{ }^{1 \mathrm{~m}^{\prime \prime}}$ | $711{ }^{10}{ }^{\prime \prime}$ | 21.25 |
    | 200－213 | 3376 N 4 | 102 uh | $21 / \frac{\prime \prime}{} \times 11$ | $121 / 2^{\prime \prime}$ | $7110 "$ | 7110 | 23.00 |
    |  | ＂200＂FIXED COILS— $1 / 2$＂$\times .090$＂RIBBON－20 AMPERES | FIXED COILS－ $1 / 2^{\prime \prime} \times .090^{\prime \prime}$ RIBBON－20 AMPERES |  |  |  |  |  |
    | 200－301 | 4205N6 | 25 uh | $2 \prime 2 \times 10$ | 11． $\mathrm{V}^{\prime \prime}$ | $7{ }^{\prime \prime} 3^{\prime \prime}$ | $7^{\prime \prime}$ | \＄19．50 |
    | 200－302 | 4346 NS | 78 uh | 21／2＂$\times 13:$ | $141 /{ }^{\prime \prime}$ | $8^{\prime \prime}$ | $8^{\prime \prime}$ | 30.00 |
    | 200．303 | 4275 N4 | 50 uh | $2^{\prime \prime} \times 9^{7}$ | 10＂＊ | $7{ }^{1 \prime \prime}$ | $7^{\prime \prime}$ | 23.75 |
    | 200.306 | 4164 Ns | 15 uh | $2^{\prime \prime} \times 8^{1}$＂ | 87 | $6^{5145}$ | 6＂ | 18.50 |
    | 200.308 | 4366 N 4 | 100 uh | $21 / 2^{\prime \prime} \times 12$ | 12\％＂ | 8 | 8＂ | 30.50 |

    ## ＇202＂SERIES FIXED COILS

    Large surface area ${ }^{1} z^{\prime \prime}, 3,^{\prime \prime}$ and $1 / 2^{\prime \prime}$ copper fubing wound cosls provide low resistivity and working temperatures for continuous high current applications．Simple，rugged＂arwound design with glass bonded mica support bars．Conductors are silver plated
    ＂ 202 ＂FIXED COILS－ $1 / 4$＂TUBING－20 AMPERES

    | Cat．No． | Type No． | Inductance | Mounting Dimensions | Overa L | Dimen W | H | Net Pr |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 202－101 | 2166NT8 | 21 uh | 21／2＂x $\times 14$ ， |  | $61 / 2^{\prime \prime}$ | 6 \％ | \＄24．75 |
    | 202－401 | 2308 NT8 | 76 uh | $211^{\prime \prime} \times 21$ |  | 81 | 81／2＂ | 53.00 |
    | 202.402 | 2328 NT6 | 102 uh | $21^{\prime \prime} \times 18^{\prime}$ | 18＊＂ | 81 | 81／2＂ | 48.50 |
    | ＂202＂FIXED COILS－3／8＂TUBING－30 AMPERES |  |  |  |  |  |  |  |
    | 202－201 | 3106 NT12 | 10 uh | 21／2＇ |  |  |  | \＄28．50 |
    | 202.502 | 32410 NT12 | 64 uh | $212^{\prime \prime} \times 24^{1}$ | $24^{13} 19.0$ | $10^{3} t^{\prime \prime}$ | $10^{3 \prime}$ | 48.50 |
    | 202－507 | 3148 NT12 | 24 uh | $21^{\prime \prime} \times 16^{\prime \prime}$ | $17^{\circ} \mathrm{bj}$ | 1 | 8＊ | 42.00 |
    | ＂202＂FIXED COILS－1／2＂TU8ING－40 AMPERES |  |  |  |  |  |  |  |
    | 202－601 | 4127 NT14 | 12 uh | $11 / 2^{\prime \prime} \times 16^{17}$ | 174＂…＂ | $8{ }^{\prime \prime}$ |  | \＄32．75 |
    | 202.602 | 41410 NT14 | 30 uh | $21^{\prime \prime \prime} \times 18^{\prime \prime}$ | 191 | 11＊＊ | 11＂ | 44.50 |
    | 202－604 | 4147 NT 14 | 18 uh | $11 /{ }^{\prime \prime \prime} \times 18^{\prime \prime}$＂！ | $19^{1 .: 3}$ | 8 ＂ | $8{ }^{\prime \prime}$ | 38.50 |

    ## CLIPS FOR TAPPING＂ 200 ＂AND＂ 202 ＂SERIES INDUCTORS

    | Cat．No． | Type No． | Fits Winding | Net Price |
    | :---: | :---: | :---: | :---: |
    | 235.804 | LC4 | $14^{\prime \prime} \times .054^{\prime \prime}$ | \＄0．20 |
    | 235.807 | LC7 | $3^{3 \prime \prime} \times .072^{\prime \prime}$ | ． 45 |
    | 235.808 | LC8 | $1 / 2^{\prime \prime} \times .090^{\prime \prime}$ | ． 65 |
    | 235.824 | RC4 | 1 1＂ 1 tubing | 1.50 |
    | 235.826 | RC6 | 3 ＂rubing | 1.65 |
    | 235.828 | RC8 | $1 / 2$＂tubing | 1.75 |
    | $235-860$ |  | No． 14 Wire | ． 11 |

    ## ＂224＂SERIES VARIABLE INDUCTORS

    For high power RF applications，the 224 series copper fubing wound inductors are especially designed to handle heavy current in continuous duty．Conductors and contact wheel are heavily siver plated and terminations are siver soldered 10 withstand hearing．Induciors have cast aluminum end frames and glass bonded mica suppori bars．＂＂shafts exiend 21＂＂from end frames at each end．Length dimension includes mounting feet．

    $$
    \text { ' } 224^{\prime \prime} \text { VARIABLE INDUCTORS- } 3 /{ }^{\prime \prime} \text { TUBING-30 AMPERES }
    $$

    Cat．No．Type No．Inductance Mounting $\quad \mathrm{L} \quad$ W
    

    | 294.4 | $3108 M S T 12$ | 14.5 uh | $81 / 2^{\prime \prime} \times$ | ＊ | 12＂ |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | 294－6 | $32111 \mathrm{MST12}$ | 75 uh | $81 / 2^{\prime \prime} \times 24^{7}$ | 26＊＊ | $12^{\prime \prime}$ |

    ＂ 224 ＂VARIABLE INDUCTORS— $1 / 2$＂TUBING— 40 AMPERES

    224－1 $41410 \mathrm{MST14} 30$ uh $81^{\prime \prime} \times 21^{3 \prime \prime}{ }^{\prime \prime} \quad 22^{7} \mathrm{~s}^{\prime \prime} \quad 12^{\prime \prime} \quad 12^{1} \mathrm{~s}^{\prime \prime} \quad \$ 145.00$
    

    ## R．F．CONTACIORS

    Contactors for switching high voltage，high current RF or DC．Operated by momentarily energized 220 VAC solenoids（may also be connected for 110 VAC ），toggle action contacts snap into position；no holding current is required．Exiremely compact for voltage ratings；overall dimensions $6^{0} 145-100$ series 7 ＂illong，Two auxilliary micro snap switches（ 10 amp．at 220 VAC ），actuated by contact $6^{\circ} 1 \mathrm{~m}^{\prime \prime}$ high．Two auxiliary micro snap switches（ 10 amp．at 220 vac），actuat
    

    DPDT

    ## koltag 17000 17000 <br> 17000 <br> 22000

    Current
    25 amp.
    25 amp.
    25 amp.
    路
    

    ## world famous

    Pohmson $V$ i $k i n n$ amateur radio equipment
    The products briefly described below are from JOHNSON'S complete line of transmitting equipment and accessories for amateur and commercial use. For detailed information on these and other popular JOHNSON products, write for your copy of Catalog 955 . . . yours on request.
    

    VIKING "RANGER" TRANSMITTER EXCITER
    75 watts CW input . . . 65 watts phone. All amateur bands from 10 to 160 me ters. TVI suppressed-builtin VFO-timed sequence (break-in) keying system. Available as a kit or wired and tested.
    

    VIKING II
    TRANSMITTER
    180 watts CW input... 130 watts phone. Band-switching-all amateur bands from 10 to 160 meters-effectively TVI suppressed. Available as a kit or wired and lested.

    ## VIKING MOBILE TRANSMITTER

    

    A power packed mobile transmitter roted 60 watts maximum PA input. Instant bandswitching 75, $40,20,15$ and $11-10$ meters. Under-dash mounting-all controls readily accessible. Available as a kit or wired and tested.

    ## VIKING VFO KIT

    

    Variable frequency oscillator with 160 and 40 meter output for frequency multiplying transmitters. Accurately calibrated 160 through 10 meters. Available as a kit or wired and tested.

    VIKING KILOWATT POWER AMPLIFIER 1000 watts AM, CW or SSB. Boldly styled . . . contains every conceivable feature for safety, operat. ing convenience and peak performance.
    

    VIKING "ADVENTURER"

    ## CW KIT

    A compoct 50 watt CW transmitter kit. Completely self-contained -single knob bandswitching-effectively TVI suppressed. Easily assembled by novice or experienced amateur. 80, 40, 20, 15 and 11-10 meters.
    

    ## VIKING "MATCHBOX" ANTENNA COUPLER

    Performs all loading and switching functions required in medium power amateur stations. Covers amateur bands from 3.5 to 30 mc . Fully
     shielded.

    LOW PASS RF FILTER
    Handles more than 1000 watts RF-provides 75 db or more attenuation above 54 megacycles. SWR BRIDGE

    Provides accurate measurement of standing wave ratios for effective use of a low pass RF filter and antenna coupler.
    

    # TELEVISION REPLACEMENT COMPONENTS FOR MOTOROLA, TELEKING, MAGNAVOX, EMERSON, HALLICRAFTER, AND OTHER TELEVISION RECEIVERS NEW ABOVE CHASSIS TYPE TUNED 455 K.C. I.F. COILS 

    The lates in IF coils featuring his complete abose chassis type tuned IF coils that are permeability tuned rewulting in high $Q$, no drift for stable long life operation. supplied wih -nap spring clip for mounting through suitable holes in chassis.
    
     S-1607 Mmiature size 1F with excentionally high $Q$ and gain in many cases this if will outperform thandard if transfirmots. Size ${ }^{34} \times 2^{\prime \prime}$ Shicilled List Price, $\$ 1.90$

    ## 4.5 mc IF COMPONENTS

    Featuring the latest all above chassis type tuning using internal type bex wrenching elimmating core breakage. They are of the permeability tuned type using fixed silver mica conden-cr: insuring high $Q$ no driit long life operation supplied wih snap spring clip for mounting through suitable holes in chassis
    
    
     S-974 +.5 nie s. und trai jo chassis hole mount. L'mshielded List Price, 1.10

    ## TELEVISION REPLACEMENT COMPONENTS FOR RCA REPLACEMENT

    | RCA Stanwyck |  |  | List Price | RCA Stanwyck |  |  | List Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 20.31 .1 | $=4+3$ | Viden peaking 180 uh. 39 K | \$0.50 | 203. ${ }^{\text {K }} 1$ | S.954 | Sound discriminator | \$2.55 |
    | 21131. | 0.944 | Vithe beakang 250 uh .10 meg . | 50 | 202-K1 | S.955 | Converter Trans. | 2.65 |
    | 21.3-L. | -4t5 | Viteo making 1211 uh-22k | 50 | 20) C - 1 | S. 956 | Fil. Choke | . 70 |
    | $20.31 .+$ | 5. 446 | Vinter peaking 9.3 uh. 10 meg. | . 50 | 201.R1 | S. 957 | Hor. width control | . 95 |
    | 202 K | -4.49 | 1:t pix 1F | 3.00 | 201 R3 | S. 958 | linearity control | . 95 |
    | 210203 | - 5ı |  | 2.75 | $208 . \mathrm{T} 8$ | \$-959 | Syncrolock | 2.75 |
    | $212 \mathrm{k}+$ | -05? | Catzode tray | 2.55 | 203-R1 | S-966 | Syncroguide | 2.00 |
    | 241 K 1 | -.9.3 | Sound IF | 2.10 | $205-\mathrm{R}$ ] | S97\% | Hor. Freq. \& Phase coil | 2.75 |

    

    ## HIGH VOLTAGE COILS

    S-999 High viltage flyhack. This transtormer is similar to the GE No. 77J and delivers approximately $1+$ k' for ample width and picture brilliancy up to 21 " picture tubes. List Price, $\$ 11.00$ S. 980 GE List Price, \$1.75 S-981 GE lipe width coil with IGC winding List Price, \$1.75 S-930 10 KJ R , F. power transiormer designed for coronaless performance at full rated output. S-918 R.F. Filament ransformer will deliver 30 KV when used with one S.930 and two S-918 in a voltage tripler circuit.

    ## NEW ABOVE CHASSIS 10.7 PERMEABILITY TYPE TUNED MIDGET FM COILS

    S-626 Ninget ratio detector to meet the critical demands for a sensitive and unusually stable FM detector, A peak to peak band width of 325 Kc with linearity exceeding plus or minus 125 Kc results in a high A bulit audio reproduction. Permeability tuned plus silver mica condensers offers long life low drift for the
     S-625 Nidget FA IF lligh performance in gain and band width with symmetrical wave shape is a result of correct $L / C$ raio. High $Q$ iron cores and low drift silver mica capicators make this a much desired IF ior net set or replacement. S-627 Midget FM Discriminator. The electrically centered secondary resulis in perect symmetry betweent negative and positive peaks. High output and excellent discrimination are obtained, List Prce, $\$ 3.30$ S-609 FM Choke. An excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ma. $M F$ Choke. In excellent parasitic suppressor in the oscillator plate and filament circuits. 200 ina. List Price, $\$ 0.45$

    ## CUSTOM HIGH PERFORMANCE FERRITE LOOPSTICKS

    S-537 Adjustable design for small midget sets will outperform standard loop. List Price, $\$ 0.90$ S-538 Adjustable design for average table size set has exceptionally high gain and low drift, has outsiole int, connection. List Price, $\$ 1.25$ S-540 This antenna coil has twice the gain of the $S .538$ with a $Q$ of over 300 over the entire broalcast and eliminating an outside antenna.

    List Price, $\$ 1.50$
    
    

    TYPE UCSL 7.1000 mmid .

    VACUUM
    VARIABLE CAPACITDRS
    TYPE UCSL 7.1000 mmfd ,
    $\qquad$ combine extreme high ratio of capacitance change with small physical size.

    ## VACUUM

    FIXED CAPACITORS
    TYPE MC 1.1000 mmfd The all copper construction of righ current ratings, long life and stability of operation

    ## VACUUM SWITCHES AND RELAYS

    
    

    TYPE R5

    TYPE RBG
    VACUUM SWITCH TYPE R5 Mounted as SPDT with 24 V. DC actuating coil and Phenolic Lamı. hate
    VACUUM SWITCH TYPE R8G Mounted as SPDT with 115 V. AC actuating

    ## VACUUM TRANSFER RELAYS

    - ANTENNA TRANSFER SWITCHING - PULSE FORMING NETWORKS
    - DC TRANSFER SWITCHING
    

    RD1
    SPST Relay
    

    RE2 SPDT Relay

    | Hinimas |  |  | EST YOLTAGE BEt.LEAOS PEAKMy |  | continuous GMS CURAEMT MPS. (TEMT. | oc actuating coil (IN BASE OF UNIT) |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  |  |  |  |  | volis | watis |  |
    | R01 | no | 10 | 15 | 12 | 10 | 6. 12, 24 | 5 | 2\% |
    | RE2 | Spot | 10 | 15 | 15 | 10 | 6. 12, 24 | 5 | 31/4 |
    | RE3 | SPOR-mo. | 2.5 | 3 | 3 | 10 | 6. 12.24 | 5 | 3\% |
    | RM2 | 2 POT | 12 | 18 | 18 | 10 | 24 | 10 | 41/2 |
    | RM4 | 4 Pat | 12 | 18 | 18 | 10 | 24 | 10 | 41/2 |

    JENNINGS RADIO MANUFACTURING CORPORATION
    

    ## Telegraph \& Wireless

    Transmitting Machines

    Your name engraved on base, $\$ 1.50$ Additional engraving, 1 bic per letter

    ## New SUPER DE LUXE "PRESENTATION" VIBROPLEX

    The Finest Bug Ever Built! 24 K Gold-Plated Base Top,
    Patented Jewel Movement and Super-Speed Control!
    Cew patented adjustahle main spring athous whew ranze of speed than ever ohtained briore in semi-aumatic transmbing hey. Buatimlldedenced with polished chromium pre. knob, finter and thumb piece. This new supr-fleLuxe "presentation" Vibroplex zey at \$29.95 afforls a lifertime of sendine onjowment. Hateder than metal, the jewels in this bey reduce frietion. maintain smonher, wasier opration and probong life.
    Amateur Net Price

    THE Improved "ORIGINAL" VIBROPLEX
    Suitable for All Classes of Transmitting work Where Speed and Perfect Morse Are Prime Essentials
    This great new Vibmpiex is a smooth and casy working Blat, it has won fame on hani and sea for its clarity, precision atm ease of maniphation. (ian be slowed down to $] 0$ warte per minute or less or geared to as hirh rate of sped as desired. Maintains the same hiat quality sisnal at whatever sped, insuriner easy recplion under all condinions.
    lieight, 3 lhs .8 oz . Complete with cord and wedge.
    Standard—Chromium top parts, grey base. Amateur Net Price..................................................... 95
    DeLuxe-Chromium base and top parts, with jeweled movement. Amateur Net Price 23.95
    

    THE''LIGHTNINGBUG''VIBROPLEX High Quality Signals at All Speeds

    | Standard-Polished Chromium top parts, grey base. Amateur Net Price | \$18.95 |
    | :---: | :---: |
    | DeLuxe-Polished Chromium base and top parts, with jeweled movement. Amateur Net Price | 22.95 |

    THE ''ZEPHYR'' VIBROPLEX
    
    

    Amateur Net Price
    $\$ 16.95$
    

    THE ''CHAMPION'' VIBROPLEX
    
    

    Amateur Net Price
    $\$ 15.95$

    ## THE ''BLUERACER''VIBROPLEX

     Standard—Finish Chromium top parts, grey base . . . Amateur Net Price $\$ 19.95$
    DeLuxe-Polished Chromium base and top parts, with jeweled movement. Amateur Net Price
    \$23.95
    NOTE: All Machines Above Available in Leff Hand Models $\$ 1.00$ Extra.

    ## VIBROPLEX CARRYING CASE

    Keeps the Machine Free From
    

    Dust. Dirt \& Moisture Insures Safekeeping when Not in Use. a clotl-lined case, finished in handsome simulatod black moroceo. lias lock amb PRICE $\$ 6.95$

    Announcing the new edition of the PHILLIPS CODE SPECIAL EDITION Including:

    - Radio Code Signals
    - International Morse
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    - Russian, Greek, Arabic, Turkish
    - and Japanese Morse Codes
    - World Time Chort
    - United States Time Chart
    - Commercial "Z" Code
    - Aeronautical "Q"' Code
    

    BHD GOHD PRECTICF GOCHICATOK ANI MOVITOR （PD－12は
    

    The BUD CODFMASTER is a real money－saver．No longer do you have to consider your code practice oscillator useless after you hase learned the code．A flip of the switch and you have a good CW monitur．This is a really versatile instrument．It has a 4 built－in permanent magnetic dsnamic speaker and will operate ub，to twenty earphones． 2 tubes－50C5 and s5W4

    A volume control，and piteh control permit adjustments to suit individual requirements．

    Any tumber of keys ran be contrected in marallel to the gacol lator for group practies

    This unit will operate on 110 volts AC or D．C．An external speaker masy he pluggea in without ther use of an output transtormer All controls are pliced on the front of the unt wide and 3 k．deep．It is thished ill Grey Hammertome thamel with de detiering

    ## Cataleg No

    CPO－128A
    Naler Cost
    
     UUD GIANT TIGANSMPTVER CON DENSEAS are l，uat with a sturdy Hame consisting of $3 / 16^{\prime \prime}$ thick alhan
    num end plates connented hum end plates connerted by bracktes at top and bottom of end plates provie ming arse inductantes directly an fir condensa Rotor and stitor phites are ase ＂urately stamped from 0．064＂thick bithty polished thembum with all adges rounded to minimize coromar loss and danger of peak－voltagh Hashoover．The plates are strgarated ly accurately machined duraluminum syacers that insure a constant air－gap throughout the entire length of the rondenser
    The large two－finger rotor－contact spring，made from plated spring brass，assures rositive contact with hoise－frew operation steatite hars insulate the stator，and are flaced well outside the elictrostatic field to keep dielectric lossus at a minimum．

    | $\begin{aligned} & \text { Catalog } \\ & \text { Numbir } \end{aligned}$ | $\begin{gathered} \text { Max. } \\ \text { Cappis. } \\ \text { Mal } \end{gathered}$ | $\begin{gathered} \text { Min } \\ \text { CaIt } \\ \text { MMFD. } \end{gathered}$ | No．of Plates | $\begin{aligned} & \text { Air } \\ & \text { Gap } \end{aligned}$ | $\begin{aligned} & \text { Mtg. } \\ & \text { Hole } \\ & \text { specg. } \end{aligned}$ | $\begin{aligned} & \text { Uver } \\ & \text { All } \\ & \text { Lerggth } \end{aligned}$ | Deales Cust |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | （ic－18in） | 195 | 24 | 15 | $250^{\prime \prime}$ | $81 / 2$ | $12 \%$＂ | \＄26．13 |
    | Cic－180］ | 345 | 32 | 27 | 250 ＂ | 121／\％＂ | $161 /{ }^{\prime \prime}$ | 37．0\％ |
    | （ic＇－1803 | 530 | 48 | $4]$ | 250 ＂ | 16 \％${ }^{\text {c }}$ | $201 / 2^{\prime \prime}$ | 49.68 |
    | 6ic－1803 | 5 | 19 | 7 | $500^{\prime \prime}$ | 71／2＂ | 11 \％／ | 20． 85 |
    | （iC－1804 | 95 | 25 | 15 | 500 ＂ | $12^{\prime \prime}$ | $15 \%$＂ | 29.19 |
    | （ic－1803 | $1 \pm 0$ | 33 | 21 | ．500＂ | 15 㐌＂ | $191 /{ }^{\prime \prime}$ | 84.98 |
    | （ic－1806 | 255 | 52 | 35 | ．500＂ | $231 /{ }^{\prime \prime}$ | $2711 / 8$ | 49．0\％ |
    | 1：－1807 | 50 | 22 | y | ．750＂ | $10^{\prime \prime}$ 4／ | $141 / 2{ }^{\prime \prime}$ | 24．21 |
    | （it－1808 | 75 | 87 | 13 | ． 750 ＂ | $13 \% /{ }^{\text {\％}}$ | 17 \％ | \％9．34 |
    | （ic－1809 | 110 | 40 | 19 | ． 75010 | 18\％＂ | $22 \%{ }^{\text {\％}}$ | 32.67 |
    | （19－181） | 160 | 50 | 29 | 750 ＂ | 26\％${ }^{\text {a }}$ | $30 \%$＂ | 46.86 |
    | （ic＇－181） | 55 | 30 | 11 | 1． $000^{\prime \prime}$ | $143 \%$ | 16，${ }^{\text {\％}}$ | 28．11 |
    | （ic－1813 | 45 | 40 | 17 | 1．000＂ | 21\％＂ | $25^{\prime \prime}$ | 36.03 |
    | （iC－1813 | 105 | 45 | 23 | $1.000^{\prime \prime}$ | 27 疾＂ | 31 \％／8 | 44.43 |

    
     All tie－rods in this series arw insulated by glazed stoatite pillars，thins cornplelely the condenstr frame．A sperial outstand． irg featurt．developenl hy BITl）anginerrs． is that of placing ith positive douth： wiping rotor contact hetween thi．two sur tions at the center of the rotor These fra－ tures contribut，to perfect circuit batance and wininate the
    
    

    | Catatos | $\begin{gathered} \text { Cab. } \\ \text { Pr- } \end{gathered}$ |  | No. Nites | Air | $\begin{aligned} & \mathrm{Mtg}, \\ & \text { Hont. } \\ & \text { Sick } \end{aligned}$ |  | 13 ankurCust |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Numlier | Max． | Mnn． | lersic． |  |  |  |  |
    | 130－1635． | 25 | 9 | 5 | 200 | 6．13／32＂ | －－1／32＂ | \＄13．41 |
    | 130－1636． | 35 | 12 | ${ }^{7}$ | $200^{\prime \prime}$ | 7－13／3 3 | 9－1／39＂ | 14．70 |
    | 130－1635． | 50 | 13 | 11 | 200 ＂ | 4－13／32＂ | 11－1／32＂ | 15.96 |
    | 13C－1638． | 75 | 16 | 15 | ．2010＂ | 11－13／32＂ | 13－1／32＂ | 17．\％8 |
    | 13C－1633 | 100 | 20 | 21 | ．200＂ | 14－13／32＂ | 16－1／32＂ | 19．3． |
    | 136－1634 | 50 | 1： | 13 | ． $300{ }^{\circ}$ | 12－13／16＂ |  | 17.13 |

    EARPII

    This unit is similar to the CJO－12×A The difference is that the $4^{\text {＂}}$ speaker is not included．The monitor feature． thowever，is included．A phone jack is prosided for the outmut arul is many as 20 pairs of phones and keys can be operated at oft timu for class－ room operation This morlel will also oporate a permanetut rabgetic dy－ namie speaker
    Plug the voice eonl leads anto the phont jeck bo output
     fidd $3^{1} y^{-}$deep
    CHO－130A
    1H：iler Cost －

    ## 

    To combly with federal reroulations， somae means of accurately checking transmitter freguency must be avail－ athe at eviry＂ham＂stathon．The
    bUD FCC－90A cumsiats af a 100 ks BtJ FCE－MA comsists of a 100 kc ． crysial wseillatior that is Completely Self－Powered and has ？eubes．It will give 100 kr ．check points on all bands up to 30 megneycles．This enables the operatur to determine exact band adpes．
    No extrat wiring is rentured to install this unit．Plug the $\mathrm{F}^{2} \mathrm{CC}-90 \mathrm{~A}$ into at 110 volt rereptacle，connect the pick－un lead to the antenma binding post of the receis ar and the frovidel．Dealer Cost Catalog
    FCC－901
    \＄17．25
    

    ## 

    Stllall sizr．，sturdy construction and high
     the whtstanding features．Insulition used is stuatite kutor and stalor plates aro respertize rods．All motal bitra arm respertive rods．All motal mits art botn front and rear bearings and are furnished in either mid－line type platus （straight lane whte Jength）．or semilecircular plates（atraight

    ## 

    | Citalog | C＇ap | in MMFJ． | Alr | Number | Dealer |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Number | Mitx | Mıи． | （1a1） | Plates | Cost |
    | M1－1850 | 15 | 3 | ． $024^{\prime \prime}$ | 3 | \＄1．65 |
    | A1－185\％ | 33 | 4 | ．024＊ | 5 | 1.65 |
    | MC－183\％ | 60 | 5 | ．024＂ | 7 | 1.92 |
    | ， 1 C－185\％ | 100 | 7 | ．024＂ | 14 | 2.10 |
    | M（＇－1836 | 140 | 7 | ．024＂ | 1 y | 2.43 |
    | H（＇－185\％ | 190 | 9 | ．024＂ | 27 | 2.58 |
    | M（＇－1859 | 235 | 10 | ．024＂ | 33 | 2.97 |
    | H（＇－1860 | 300 | 12 | ．024＂ | 43 | 3.18 |
    | MC＇－1861 | 18 | 4 | ．060＂ | 5 | 1.86 |
    | M（＇－186\％ | 35 | 5 | ．0f6＂ | 11 | 2.10 |
    | MC－186\％ | 50 | 7 | ． $01600^{\prime \prime}$ | 15 | 2.31 |
    | MC－1864 | 75 | 9 | ． 06010 | 23 | 2.70 |
    | MC－1865 | 100 | 12 | ． 0 ¢0＂ | 31 | 2.94 |
    | M（＇－1866 | 35 | \％ | ．045＂ | 15 | 2.43 |
    | \1 ${ }^{\text {² }} 1867$ | 50 | 10 | ． $0455^{\prime \prime}$ | 23 | 2.76 |
    | M（＇－1868 | ： 5 | 13 | ． 0458 | 33 | 3.18 |

    

    | （＇1tatog | Cas | 111 M MF゙い， | A 1 i | Number | Dealer |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Numbrir | Mir | Mı川 | （ial ${ }^{\text {，}}$ | Platte．${ }^{\text {a }}$ | Cost |
    | ． $\mathbf{H C O}^{\text {－9010 }}$ | 25 | $t$ | ．124＂ | 4 | \＄1．87 |
    | A（ -90 ） | 3. | 5 | ．0®4＂ | \％ | 1.92 |
    | ． 16 ＇－80；${ }^{\text {a }}$ | At | ti | ．102＂ | 8 | 2.01 |
    | ．11（－901 | I： | 8 | ．110 1＂ | 11 | 2.10 |
    | ．110－905 | 106 | 7 | ．03＋＂ | 15 | $2.2 \%$ |
    | ． 11 （ - － 406 | 1410 | 7 | ．021＂ | $2{ }^{10}$ | 2.61 |
    | M（－90） | 1919 | 3 | ．024＂ | 27 | 2.73 |
    | M（－94） | 2：3 | 11 | ．094＂ | 31 ） | 2.97 |
    | MC－ 910 | 804 | 13 | ．023＂ | 43 | 3.33 |
    | 110－56\％ | 17 | 4 | ．060＂ | 5 | 2.10 |
    | 116－89\％ | \％． | ${ }_{6}$ | ． 0800 | 11 | 2.40 |
    | MC．${ }^{\text {（1）}}$ | 50 | 7 | ． 066010 | 16 | 2.74 |
    | M（＇899 | ？ | 8 | ．060＂ | 23 | 3.15 |
    | H（－6）${ }^{\text {（1）}}$ | 100 | 11 | ．050＇ | 31 | 3.60 |
    | MC－965 | 3. | ＊ | ． $095 \%$ | 15 | 2.49 |
    | W（－966 | 51 | 12 | ．095＂ | 23 | 2.70 |
    | ．${ }^{\text {c－967 }}$ | 75 | 14 | ． 0950 | 33 | 3.18 |

    1＇rices ablejed th ehange whithous notice．
    I＇rices on alowe lighty higher weat of the Misasaippi thiver．
    Only if few of many Hill）Product are wown．Wrize for complete catalok．
    

    BUD＂CE＂MIDGET CONDENSERS These Nidget Condensurs were designed to meet the rigid requirements in design of efficient high frequency electronic devices and prreision laboratory equip－ ment．Brass rotor ind stator plate stacks are assembled into permanent units by meins of efectro－soldering， Which assures long life and accurate plat＂spacing．End－plates of Steatite insulate the mounting bushings and angles trom the rotor and stittor ansemblies．A large ront sheere bearimg proxides for smooth rotation．Special Wipur eontat proxides moisefree tuning．All metal parts are cadminm mated．lootor phat or base s．mini－circu

    | Catalog | $\begin{aligned} & \text { Max. } \\ & \text { Cap. } \end{aligned}$ | Min． Cap． | Air | No． of | Over－ all | Dealer |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Number | Mapb． | M12F． | Gap | Plates | Length | Cost |
    | （ $\mathrm{E}-2060$ | 15 | 4 | ．030＂ | 3 | $21 / 20$ | \＄2．19 |
    | （ $\mathrm{E}-2001$ | 35 | 6 | ． 030 ＂ | 7 | 2－23／39＂ | 2.43 |
    | （16－3002 | 50 | 7 | ． $030^{\prime \prime}$ | 9 | 2－27／32＂ | 2.76 |
    | （15－2003 | 35 | 8 | ．030＂ | 11 | 3－5／32＂ | 3.03 |
    | （ $\mathrm{E}-2004$ | 100 | 9 | ．030＂ | 18 | 3－11／32＊＊ | 3.30 |
    | （ $\mathrm{C}^{\text {c－2005 }}$ | 150 | 10 | ． 030 ＂ | 27 | 3－13／1 $\mathrm{i}^{\prime \prime}$ | 3.53 |
    | （16－8006 | 200 | 11 | ．030＂ | 35 | $4{ }^{\prime \prime}$ | 4.20 |
    | （1i－200\％ | 250 | 12 | ． 030 ＂ | 44 | $4{ }^{\prime \prime}$ | 4.44 |
    | （10゙－2008 | 300 | 15 | ．030＂ | 53 | 5，3／16＂ | 4.65 |
    | （12－3011 | 15 | 5 | ． $0160{ }^{\prime \prime}$ | 5 | $23 /{ }^{\prime \prime}$ | 2.28 |
    | （12－311\％ | 35 | 7 | ． 060 ＂ | 11 | $3{ }^{\prime \prime}$ | 2.55 |
    | （12－2013 | 50 | 8 | ． $040^{\prime \prime}$ | 15 | 3－9／16＂ | 2.97 |
    | （1E－2014 | 75 | 10 | ．060＂ | 23 | $31 /{ }^{\prime \prime}$ | 3.45 |
    | （ $\mathrm{CL}^{\text {－}} \mathbf{3} 015$ | 100 | 13 | 06010 | 31 | $4-2932{ }^{\prime \prime}$ | 3.99 |
    | （1：－2016 | 35 | 9 | ．095＂ | 15 | 4－1／16＂ | 3.09 |
    | （ $\mathrm{C}-201$ \％ | 50 | 10 | ．095＂ | 23 | 5－1／39＂ | 3.42 |
    | （1゙－3018 | 75 | 14 | ．095＂ | 33 | $6-7 / 32^{\prime \prime}$ | 4.02 |

    
     This bine of eondensers will fill every neutraliz－ ing and high frequency tuning requirement that modern circuits pose．The two－pillar con－ eliminates any possihility of eapacity variation due to vibration．The mownle plate is adjusted by means of the threadnd shaft to which it is attached，and it is pormanmently locked in any position by the lock－mut provided．Any loose thread is tak＋！n up by a special nut and locked insulation is used．

    | Catalog | Plate | MmFD．Capacity | Dealer |  |
    | :--- | :---: | :---: | :---: | :---: |
    | Number | Diameter | Max． | Min． | Cost |
    | NC－1000 | $1-27 / 32^{\prime \prime}$ | 11 | 1 | $\$ 2.58$ |
    | NC－1001 | $2-13 / 16^{\prime \prime}$ | 24 | 2 | 3.75 |
    | NC－1002 | $4811^{\prime \prime}$ | 27 | 6 | 5.25 |

    

    BUD FEED－THIROUGH AND HANE MOUNTED NEUTRAEIZING CON1）ENSERS
    In circuits utilizing tubes with the grid lead termi－ nated in the base a feed－through tybe of meutraliz－ ing condenser is particularly sulted．One hole is required for mounting of feed－through condensers． Neutrilizing condens＂r illustratod is fepd－through type．Plates are nade of aluminum rounded at edges to cut down losses．After proper tuning is attained，movable plate can be locked with the No． 890 ．
    No． 890 and No． 852 are ideal noutralizers for popular low power beam tubes．No． 890 condenser
    is hased mounted only．

    | Catalog | Plate | Size Hole | MMFD．Capacity | Dealer |  |
    | :--- | :---: | :---: | :---: | :---: | ---: |
    | Number | Diamet＇r | for Mtg． | MaX． | Min． | Cost |
    | NC－852 | $1^{\prime \prime}$ | $5 / 16^{\prime \prime}$ | 6 | .5 | $\$ 1.50$ |
    | NC－853 | $1-27 / 32^{\prime \prime}$ | $13 / 32^{\prime \prime}$ | 11 | 1 | 2.73 |
    | NC－890 | $1^{\prime \prime}$ |  |  | 6 | .5 |

    

    NEW HED THIREE－GANG TINY Hans，Radio Construotors and Experi－ menters can find many uses for thasw com－ frequency use they are adopthblo for uge miticumarly for himetors and receivars covering the Amateur Television and F．M．bands．Well constructed with soldered brass plates and reramic hrackets．Thotor shaft extendud is＂ at rear．Hoight $1-5 / 16^{\prime \prime}$ ．W＂idh $1-3 / 16^{\prime \prime}$ ．Length behind panel $33 /{ }^{\prime \prime}$ ．Mounting holos 2－3／16＂apart．

    | Catalor | Cap．Per Section | No．of Plates | Dealer |  |
    | :--- | :---: | :---: | :---: | :---: |
    | Nunber | Max． | Nin． | Per Section | Cost |
    | LC－1845 | 25 | 6 | 5 | $\$ 4.38$ |
    | LC－1846 | 17 | 5 | 7 | 4.98 |
    | LC－1847 | 25 | 6 | 0 | 5.40 |

    ## BUD＂CE＂TYPE DUAL MIDGET CONDENSERS

    |  |  |  | These well constructed dual condensers are similar in design to the double－ bearing＂CE＂types．They feature a rotor wiping contact placed at center of the rotor assembly to assure maxi－ num etficiency at high fraquency Opposed rotor construction assures perfect counterbalance and provides even torque at any position of rotation． Steatite insulation eliminates closed induction loop in frame． |  |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | PLI | SE | ION |  | Distance |  |
    | Catalog | Mins． | Min． | No．of | Alr | Behind | Dealer |
    | Nurnber | Cap． | Cap． | Plates | Gap | Panel | Cost |
    | （ $\mathbf{E}^{(20) 32}$ | 35 | 6 | 7 | ．030＂ | 3－1／32＂ | S3．27 |
    | CE－2033 | 50 | $\square$ | ， | ．030＂ | $31 /{ }^{\prime \prime}$ | 3.60 |
    | （EE－20）34 | 75 |  | 14 | ．030＂ | 3－21／32＂ | 3.99 |
    | （1E－ 0 O35 | 100 | 9 | 18 | ．030＂ | 4－3／32＂ | 4.59 |
    | （12－2036 | 150 | 10 | 27 | ． 030 ＂ | 5－3／16＂ | 5.28 |
    | （1E－2039 | 15 | 5 | 5 | ． 060 ＂ | 3－1／32＂ | 3.78 |
    | （ $\mathrm{E}-20.40$ | 35 | 7 | 11 | ．060＂ | 4－1／32＊＊ | 4.35 |
    | （1）－2041 | 50 | 8 | 15 | $.060^{\prime \prime}$ | 4－23／32＂ | 4.77 |

    

    HID TINY MHTE P．DDIDEIKN or applieations requiring a constant padaler onditions under all temperature and homblidy ：nves reidily to 1 ．$b^{\prime}$ ．transformer inplinations， tixul tun＋ed circuits for exciters，ginged eon－ donser atr trimurs，and plug－in－coil matding as
    
     buit sumb than ince lright cadminumplated．Insulation is steatite．Fach unit may ln adjusted in eapacity by either a
    son－

    | Catalos | $\begin{aligned} & \text { Max. } \\ & \text { Cing. } \end{aligned}$ | $\begin{aligned} & \text { Min. } \\ & \text { Citp. } \end{aligned}$ | Air | No． of | Dealer |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Number | M M Fob． | M．1FD． | Gap | Plates | Cost |
    | 1，（ 2076 | 15 | 2 | ．017＂ | 5 | \＄1．20 |
    | L．C 2077 | 25 | 2.5 | ．017＂＇ | 7 | 1.29 |
    | L． $\mathrm{C}-2078$ | 35 | 3 | ．017＂ | 10 | 1.32 |
    | 1．C－20\％9 | 50 | 3.9 | ． $017{ }^{\prime \prime}$ | 14 | 1.35 |
    | I．C． 2080 | 75 | 4.5 | ．017＂ | 20 | 1.47 |
    | LC 2081 | 100 | 5.5 | ．017＂＇ | 27 | 1.51 |
    | I．C－－2082 | 140 | 6.5 | ．017＂ | 37 | 1.89 |

    

    BUD TIN MITE TINNG CONDFNNEHS

    ## GIVGIE SECTIO

    ＇Tlits serius of condensers has been designed for npplications where space or weight are limiting factors and for tuning of high frequency cir－ ing．nositive rotor contact and Steatite insulation ing，nositive rotor contact and Steatite insulation ollored，brass plates and rods insure high frequency efficiency．
    
    Number M
    I．C－1640
    I．C－1640
    I．$C-1641$
    I．C－1642
    $\qquad$ LC－1646 $\mathrm{C}-1649$
    $\mathrm{~L}-1650$ LC－1651
    C－1652＊ LC－1653
    ＊Denotes doulli＂bearing．
    

    HED TINY MITE DUAT．CONDENSEIRS The construction of these units is similar to the regular Tiny Alte Tuning Con－ densers．The two end pleces are held together firmly with three tie－rods．
    A separate round plate is soldered on rotor rud to shield the two stator sections． Large surface front and rear sleeve bear－ ings，provide smooth rotation．

    | Catalog | CAP．PER SECTION |  |  | No. Plates | $\begin{gathered} \text { Over } \\ \text { all } \end{gathered}$ | Draler |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Mix． | Min． | Air |  |  |  |
    | Ntmber | MMFD． | MMF゙D． | Cap | Section | Tength | Cost |
    | I．C－1659 | 8 | 2.5 | ．017＂ | 3 | 2－17／32＂＊ | \＄2．61 |
    | LC－1660 | 15 | 3 | ．017＂ | 5 | 2－21／32＂ | 2.91 |
    | LC－1661 | 25 | 1 | ．017＂ | 9 | $2-15 / 16^{\prime \prime}$ | 3.21 |
    | LC－I 662 | 50 | 6 | ．017＂ | 19 | 3－5／8＂ | 3.63 |
    | LC－1663 | 100 | 9 | ．017＂ | 37 | 4－27／32 ${ }^{\prime \prime}$ | 4.102 |
    | LC－1664 | 10 | 4 | ．037＂ | 7 | 3－1／16＂ | 2.91 |
    | LC－1665 | 15 | 5 | ．037＂ | 11 | 3－17／32＂ | 3.57 |
    | LC－1666 | 25 | 5.5 | ．037＂ | 17 | 4－5／32 ${ }^{\prime \prime}$ | 3.93 |
    | LC－1667 | 35 | 6 | .037 ＂ | 21 | 4－19／32＂ | 3.93 |

    Only a few of many $1 \mathrm{Hi}(\mathrm{i})$ produetm are whow．Write for complete catalog．

    ## LATHICE WOUNI 16．F．CHOKES

    

    For all gencral purpose applications requiring a high quality choke at a reasonable price， this line finds wide acceptance．Wach choke is wound from silk－covered enameled copper terminated with two convenient soldering lugs． Chokes can be mounted with a 6－32 screw hrough the center of the form，and each winding is thoroughly mprognated against moisture．The wide range of sizes fills princtically every choke requirement in stamdard riddo circuits． Chokt hase diam．1－1／16＂．distance betwren ends of leads 1 ＂\％＂

    | Catalog | Inductance | D．C．Kes． | Current |  | Dealer |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Number | mlı． | Ohms | M．A | Height | Cost |
    | （11－1セ12 | 2.5 | 2.8 | 125 | 11／16＂ | \＄． 44 |
    | （11－1：13 | 3.4 | 36 | 125 | 11／16＂ | ．55 |
    | （1I－I？14 | 5.5 | 46 | 125 － | $11 / 16^{\prime \prime}$ | ．5．5 |
    | （11－1915 | 8 ， | 60 | 125 | $11 / 16^{\prime \prime}$ | ． 66 |
    | C11－1216 | 10. | 65 | 125 | $11 / 16^{\prime \prime}$ | ． 22 |
    | （＇11－1217 | 16. | St | 125 | 11／16＂ | ． 85 |
    | （1I－1＊18 | 30. | 190 | 100 | 15／16＂ | ．85 |
    | （11－1219 | 60. | 279 | 90 | 15／16＂ | ． 96 |
    | CII－1：20 | 80. | 332 | 80 | $15 / 16^{\prime \prime}$ | 1.00 |

    

    ## TKANSMITTLY（ CHOIEN

    Here are two heavy duty R．Fi．Chokes that can really take it in high powered transmitter plate rircuits．Each rhoke is wound on 9／K dia．Stea－ tite rod，Ias connection lugs and a monnting foot． All whokes hate a heavy ceramie eoating which prevents moisture absorption and crablen them to
    withsiand montentars overloads without collaps－ witheland momentary
    ing the individual pies．
    ing the individual pies．
    Consists of flve graduated pies wound in con－ tinuous winding．Cirr．las bed pies wound in con－ any of the pies from heing resonant on an anniteur band and to keep the distributed capacity at a minimum．Overall height $3{ }_{1}^{\prime}{ }^{\prime \prime}$

    | Catalog |  | Current | D．C． | Dealer |
    | :---: | :---: | :---: | :---: | :---: |
    | Number | Inductance | Caparity | Resistance | Cost |
    | CH1－568 | 2.2 mli ． | 1：1mp． | 5 olints | \＄1．98 |
    | CII－564 | 4.3 mln ． | 6 antip． | 12 oh111s | 1.81 |

    

    ## IRON COISN：IR．CIIOKES

    The efficicncy of any circuit requiring an $R$ ，F choke will be deflnitely improved by utilizing one of these chokes with a finely divided mokea this＇onstruction results from the 1$)$ ．C．resistance of thess chokes being from 40 to $50 \%$ less for a given inductance thin for rectulan alifeore types． Chus，the D．C．voltage drop through the chorke is considerably less，yet the chokink inetion is equally as good． Windings are made with silk－covered cmineled wire tormi－
    

    | Crialog | Inductance | 1．C．Hesis． | Current | Dealer |
    | :---: | :---: | :---: | :---: | :---: |
    | Number | ［11． | Ohms | ma． | Cost |
    | （11－1977 | 1.5 | 11.5 | 125 | \＄． 38 |
    | C11－1ヶ78 | 2.5 | 16. | 125 | ． 96 |
    | （11－12－99 | 3.4 | 19.5 | 125 | 1.05 |
    | （11－1380） | 5.5 | 27.5 | 125 | 1.05 |
    | （11－1281 | 8. | 36. | 125 | 1.11 |
    | （11－1＂8） | 10. | 42.5 | 125 | 1.11 |
    | CII－1383 | 16. | 53. | 125 | 1．33 |
    | C $11-1884$ | 30. | 82. | 100 | 1.29 |
    | （＇11－1285 | 60. | 131. | 100 | 1.44 |
    | （1F－1286 | 80. | 163. | 90 | 1.53 |
    | （11－1287 | 125. | 221. | 30 | 1.80 |
    | C11－24）4 | Shield Can | Only | ．．． | ． 21 |

    heat radiating pinti and gRid Tlile
    CONNECTOLS
    

    Fud hoat radiating connectors fit all sizes of industrial and

    BCD INSCLATEI）FLEXIIBLE COLPLINGS Tandom opevation of two or more units is readily
    accomplished through the use of thise couplers． Uirect sliaft alignment is not essential and ail couplers are made to fit 1,1 ＂shafts．

    | Cat．No． | Diammeter | Height | 1nsulation | Lli．Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | F（＇－8！5 | 1－1／16＂ | 11／16＂ | Ceramic | \＄． 48 |
    | F（1－845） | 1－1／16＂ | $5^{\circ \prime}$ | Bakelite | ． 33 |
    | F（＇855 | $11 / 2$ | 11／16＂ | Bakelite | .39 |

    ISUI）IIGII VOLTMGE F＇I，EXXIBI，E COLIPINGS
    

    A new type spring construction in these couplings jermits a wide gap letween shaft combuctions，freedom fromback－lash，athd un klazed Steatiti dises 1,20 in diameter and $3^{\prime \prime} 16^{\prime \prime}$ thick．alld the overall diameter of the tinished coupling is $1-15 / 16^{\prime \prime}$ ．Coupling ac－ oommodites standard $1 / 4$＂shaft．Springs are ulso attilued to bakulite discs $1 \frac{1 / 2 " \text { ing diam．}}{\text { arm }}$ ．
    Catalog No．

    | Insulation | Dealer Cost |
    | ---: | ---: |
    | Steatito | $\$ .75$ |
    | Bakelite | $\mathbf{. 7 5}$ |

    
     Those chokes werc designed to meet the re－ quirements of mbildnes of lifgh frequency recrivers and transmitters．Consists of ceramic
    rod with it single layer winding terminated rod with at single layer winding terminated suitable for use or 2 or 6 meters．CH－570 is supplied with mounting foot and is sometmus used os a flambint chote in certanl ty゙ps of hifil frequency oscillator and amplifer rircuits．

    | Catalog | Inductinuce | Mix． | D |  | D |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Number | uh． | Current | Resistance | Iengths | Cost |
    | C11－4\％． | 5．un | 750 ma | 1.40 hms | $1{ }^{1 / 2}$ | \＄． 30 |
    | （11－5\％） | 1.5 uh ． | 1.7 a | 0.2 ohms | $23^{4 \prime}$ | 1.20 |

    

    ## PIE WOUND R．F．CHOKES

    Each choke has a continuous winding of silk covered enameled copper wire and the pies constituting this winding are wound on a $\frac{1 / 2}{}$ dlameter ceramic core．Chokes are made with both strap and wire leads．The CH－876 is a heavy duty choke intended for cir cuits，such as transmitter plate eires ent all chokes in this series have an en this series have an owerall length of 1 俈＂．

    ## WTH STKAL IIEADS

    Catalog Inductince

    | Catalog | Inductince | บ．C． | Current | Dealer |
    | :---: | :---: | :---: | :---: | :---: |
    | Number | Inl1． | libsistance | Rating | Cost |
    | CII－9？15 | 2.5 | 45 ohins | 125 ma | \＄． 48 |
    | （11－90．0 | 5.5 | 60 ohms | 125 maz | ． 57 |
    | （11－9？3： | 8.0 | 72 ohms | 100 ma | ．69 |
    | （11－939 | 10.0 | is ohims | 100 mit | ． 81 |
    | CHI－X ${ }^{\text {c }}$ | 2.5 | 14 ohms | 250 ma | .30 |
    | W1TH WIEEA LSEIIS |  |  |  |  |
    | （11－9\％） | 2.3 | 45 ohmes | 125 ma | ． 48 |
    | （11－9？2以 | 5.5 | fi0 ohms | 125 ma | ． 57 |
    | （11－003 ${ }^{(1)}$ | \％．0 | \％ 2 ohms | 100 ma | ． 69 |
    | （11－904 ${ }^{\text {（1）}}$ | 10.0 | is ohms | 100 ma | ． 81 |
    | （11－876W | 2.5 | 160 hms | 250 ma | ． 30 |


    | Catalog | Inductance | บ．C． | Current | Dealer |
    | :---: | :---: | :---: | :---: | :---: |
    | Number | mill | leasistance | Rating | Cost |
    | CII－9？15 | 2.5 | 45 ohms | 125 ma | \＄． 48 |
    | （11－90．0 | 5.5 | 60 ohms | 125 maz | ． 57 |
    | （11－9？3： | 8.0 | 72 ohms | 100 ma | ．69 |
    | （11－30．4） | 10.0 | is ohims | 100 miz | ． 81 |
    | Cll－x ${ }^{\text {cos }}$ | 2.5 | 14 ohms | 250 ma | ． 30 |
    | WITH WIEE L．E．Al）S |  |  |  |  |
    | （11－9\％） | 2.3 | 45 ohms | 125 ma | ． 48 |
    | （11－9？2以 | 5.5 | fi0 ohms | 125 ma | ． 57 |
    | （11－9031） | 8.0 | i2 ohms | 100 ma | ． 69 |
    | （11－904 ${ }^{\text {（1）}}$ | 10.0 | is ohms | 100 ma | ． 81 |
    | （11－876W | 2.5 | 16 ohms | 250 ma | ． 30 |

    ## WITH WIRE L．E．IIS

    | Catalog | Inductince | D．C． | Curreut | Dealer |
    | :---: | :---: | :---: | :---: | :---: |
    | Number | ． $\mathrm{m} / \mathrm{l}$ ． | libsistance | Rating | Cost |
    | C11－930 | 2.5 | 45 ohms | 125 ma | \＄． 48 |
    | （11－3030 | 5.5 | 6,0 ohms | 125 ma | ． 57 |
    | （11－9038 | 8.0 | ？ 2 ohms | 100 ma | ． 69 |
    | （11－9？ $0^{\text {a }}$ | 10.0 | is olims | 100 mit | ． 81 |
    | CH－879 | 2.5 | 14 ohms | 250 ma | ． 30 |
    | WITH WIEE LEEADS |  |  |  |  |
    | （11－920W | 2．； | 45 ohmms | 125 ma | ． 48 |
    | C11－920 | 5.5 | ${ }^{6} 60$ ohms | 125 ma | ． 57 |
    | （11－90331） | 8.0 | is ohms | 100 ma | ． 69 |
    | （11－904 | 10.0 | is ohms | 100 ma | ． 81 |
    | C11－8i6w | 2.5 | 16 ohms | 250 ma | ． 30 | transmitting vacuum tubes．These connectors serve a dual pur－ pose，not only are thry ustful to make connections to plate or grid turminals，but they provide a large heat radiating surface Eight sizes fit all grid and plate leads and also provide suff cient heat radiation for any tube operating in the range of 50 to 2000 watts．All radiators are machined from spocial alumi num rod．Edges are rounded to minimize corona loss

    Cat Table below lists conacetors to fit various Tubes
    Cat．Hole Size Heat Radiating Connertors Dealer
    No．for Lead to F゙it the Following Tubes Cost
    
    
    

    TC－1920 $0.375 \quad 4-125 \mathrm{~A} .150 \mathrm{TH}, ~ 2-150 \mathrm{D} .250 \mathrm{R}, 250 \mathrm{TH}$, ＝07， ， 162：，4032，x07W，Il33GT，GIBG6G． 1 CD 6 C
    TC－1925 $\quad 125 \quad 301 T \mathrm{TH}, 301^{\prime} \mathrm{TL}$ ， 60 TC－1921 ． 570 Z1360， $11060, H 1100,111 \mathrm{H}, ~ 211 \mathrm{H}$, HK3： C ．450TH， $454, ~ 750 \mathrm{TH}, ~ \times 05$. 406．80）＜09， $110,811,812, \times 13,828$ ， 833．K66．854，1500T，2000T， 1054 ，

    TC－1！26 ．${ }^{-10}$ WI，46\＆，WL163，WLaG0，HF゚200， HF2日 IFF300
    NOTE：TC－1923 Heat Radiating Conneetor with hole size of $.110^{\circ}$ is still in our line and ean be furnished．Dealer Cost $\$ .18$

    ## SPEED-CMASSIS

    ## SPECIFIC PRODUCTS

    

    ## CHASSIS:

    Chassis only $5^{\prime \prime}$ wide, 51/4" deep, 167/" long; 20 ga. steel heavily cad. plated: 4 insulated tie-point strips, 1 grounded. Ea. C-100 \$6.00
    Chassis Kit plus assortment of plates. Ea. Kit . . . . . . . . . . . . CK- 200
    Chassis Super-Kit: One chassis kit CK. 200 plus rack panel and dust cover. Ea. Kit. . . . . . . . . . . CK-300

    ## INDIVIDUAL PLATES FOR:

    Single, 7-pin miniature, $11 / 8^{\prime \prime}$ wide, ea..........P-17S \$ . 20
    Double, 7-pin miniature, $1 / 8^{\prime \prime}$ wide, ea........ P-170 . 25
    Single, 7 -pin Vector turret lug, $11 / s^{\prime \prime}$ wide, ea...P-17ST . 35
    Double, 7 -pin Vector turret lug, $15 / 8$ "wide, ea... P-1
    P-170T
    Triple, 7 -pin Vector turret lug, $1 / 8 \mathrm{~s}^{\prime \prime}$ wide, ea.... P-17TT . 45
    Single, 9-pin miniature, $15 / \mathrm{g}^{\prime \prime}$ wide, ea......... P-195 23
    Double, 9-pin miniature, $15 / \mathrm{s}^{\prime \prime}$ wide, ea.........P-190 . 28
    Single, 9-pin Vector turret Jug, $15 / 8^{\prime \prime}$ wide, ea...P-19ST . 35
    Double, 9-pin Vector turret lug, $1 \mathrm{~s} / \mathrm{s}^{\prime \prime}$ wide, ea... P-190T . 40
    Triple, 9-pin Vector turret lug, $15 / 8^{\prime \prime}$ wide, ea.... P-19TT 45
    Single, octal, $11 / 2^{\prime \prime}$ centers, $21 / 8^{\prime \prime}$ wide, ea...... P-28AS . 26
    Dual of preceding item, ea..........................P-28AD . 31
    Single, octal, $1 \mathrm{~T}^{5} \mathrm{~s}^{\prime \prime}$ centers, $21 / \mathrm{s}^{\prime \prime}$ wide, ea...... P-28BS . 26
    Dual of preceding item, ea..........................P-28BD . 31
    Volume control, ea........................................ilv 35
    Universal transformer (2 req'd), 11/8" wide, pr... P-11T . 35
    Blank, $11 / \mathrm{B}^{\prime \prime}$ wide, ea.................................. P-11B . 15
    Blank, $15 / 8$ " wide, ea..................................21B 18
    Blank, $21 / 8$ wide, ea...................................11B 21
    (All plates heavily cad. plated 20 ga. steel)
    11 forklet lugs, ea. side, bakelite, $21 / 8{ }^{\prime \prime}$ wide, ea.. BP-3ILA . 95
    half-size

    ## SPEED-CHA5375

    ## PANELS:

    $514^{\prime \prime} \times 19^{\prime \prime}, .024$ steel with formed edges, drilled to match tapped holes in rack brackets, gray prime coat finish, ea. . . . .

    PA-150 \$ 1.50

    ## RACK BRACKETS:

    For mounting chassis in st'd rack (2 req'd), pr....RB-200 1.00
    Same as above except for mounting two chassis
    ogether. Pr. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . RB-400

    ## DUST COVERS:

    Gray hammertone finish, with suitable bracket for
    mounting over chassis, ea....................... DC-10 5.00
    POWER SUPPLIES:
    Power supply, D.C., adjustable from 75 v. to 275 v.@ 50 ma., adequately filtered; mounting plate to fit C-100 chassis, $4^{\prime \prime}$ wide; power supply; filter $\mathbf{6 . 3}$ 3A, ea............................. APS-275A 29.95
    

    Chassis only, $5^{\prime \prime}$ wide, $51 / 4^{\prime \prime}$ deep, $87 / 6^{\prime \prime}$ long; 20 ga. cad. pi. steel, 4 insulated tie-point strips, 1 grounded, ea. . . . . . . . . . . . . . . . . . . . . . . . . . . . C-50 6.00 Chassis Kit plus assortment of plates. Ea. Kit. . . CK-75 9.95 Prices and designations for individual plates, panels, rack brackets, dust covers and power supplies are the same as shown for the full-size Speed-Chassis.
    Stacking and placing arrangements are extremely varied; either uni* or units in combination may be placed side-to-side, end-toend, or one on top another on bench or on panel to serve practically every need. Mounting holes for these arrangements are already punched. Both Chassis are preassembled; controls may be mounted on either end. A few examples of the many possible arrangements are illustrated.

    All prices and specifications subject to change. All prices net F.O.B. Los Angeles

    Mt．Carmel，Illinois
    TELEVISION AND F．M．
    I．F．Transformers

    | Type No． | List Price | Fig． | ITae | Freq．MC | Mtg． | 1 I. | ensions W. x D. |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 17－1001 | \＄2．75 | ST＇ | 1st video amplifior． | Tunc 25．3 Trap 27.25 | 15 尔 | $21 / 4$ |  |
    | 17－1002 | 2.10 | ST | 2nd video amplifior | Tune 22．3 Trap 19.75 | 15.6 | $21 / 4$ | 15，16x ${ }^{15}$ 价 |
    | 17－1003 | ． 75 | 1 F | 3rd video amplifier | Tune es．a | Stimicle | $\begin{aligned} & 21 / 4 \\ & 11 / 8 \end{aligned}$ |  |
    | 17－1004 | .75 1.50 | $\underset{\text { IF }}{\text { IF }}$ | 4th video amplifier． | Tune 23.4 | $\begin{aligned} & \text { sit hole hole } \\ & \text { sion } \end{aligned}$ | $\begin{aligned} & 11 / 8 \\ & 11 / 8 \end{aligned}$ | To Diam． <br> stram． |
    | $17-1062$ $17-1063$ | 1.50 | IF | 2nd video amplifier 3rd video amplifier． | Tune 25．7 | sis hole | $118$ | $\frac{3}{8} \text { I iam. }$ |
    | 17－1063 | 1.50 | 1 F | 3 rd video amplifier． | Tunt 23．1 | 3，hole | $11 / 2$ | s／8 I inm． |
    | 17－1064 | 1.50 | IF | 4th video arnplifier．．．．．．．．．．．．． | Tunc 23．7 | ${ }^{5}$ is hole | 1518 | 3／8 Diam． |
    | 17－1066 | 1.50 2.10 | IF | Video amplifier－I ri shunt zeri ohms | Tum 01.5 | ${ }^{5}$ ris hale | $11 / 2$ | ／8 Diam． |
    | $17-1011$ $17-1012$ | 2.10 2.10 | ${ }_{81}$ | Input sound amplifier ．．．．．．．．．．．．．．． | Tий 21.85 | 15 in | $21 / 1$ | 15／16 $\times 15 / 16$ |
    | 17－1013 | 2.75 | ST | Sound diseriminator．．． | Tunk 21.25 | 15／88 | 21／4 | $\begin{array}{r} 15,16 \times 15 \text { 后6 } \\ 11 / 8 \times 11 / 8 \end{array}$ |
    | 17－1020 | 2.75 | ST | Converter ．．． | 21.8 |  | 21／4 |  |
    | 17－1025 | 2.75 | S1 | Sound tikeoff | 4.5 | ${ }^{15}{ }^{-15}$ | $11 / 2$ | $7 / 8 \mathrm{~s} \times 7 / 8$ |
    | 17－1031 | 1.25 | S＇1 | Sound takeoff | 4.5 | ${ }^{15}{ }_{15}^{15}$ | $11 / 2$ | $\begin{aligned} & 7 / 8 \times \\ & 7 / 8, x \\ & 7 / 8 \end{aligned}$ |
    | 17－3402 | 1.25 | 1 F | Sound takeoff | 4.5 | 5 fo hole | $11 / 2$ | ${ }_{7}^{7 / 8}{ }^{3}$ ）iamm． |
    | 17－3400 | 1.25 | $1 F$ | Sound takeoff | 4.5 | 5／86 | 13 | 1／2 liam， |
    | 17－3401 | 1.25 | IF | Sound takeoff．．． | 4.5 |  | 13／8 |  |
    | 16－3445 | 1.25 | S＇ | Interstiage sound | 4.5 | 7／8 | $2^{1 / 8}$ |  |
    | 17－3412 | 1.25 | 1F | Interatage sound | 4.5 | 5 任 hata． | 111／ | $1 / 8 x$ x |
    | 17－1021 | 2.75 | ST | Input or intcratage sound | 4.5 | \％11／8 | 21／4 | $\begin{aligned} & 1 / 2 \text { Diam. } \\ & 1 / 8 \times 11 / 8 \end{aligned}$ |
    | 17－1071 | 2.75 | ST | Interatage sound．．．．．．．． | 4.5 | 15 亿保 | $11 / 2$ |  |
    | 17－1023 | 3.00 | ST | Diacrininator． | 4.5 | 11／8 |  |  |
    | 17－1033 | 3.30 | S＇1 | Ratio detector． | 4.5 | $11 / 8$ | 21／2 |  |
    | 17－1043 | 3.30 | ST | Ratio detector． | 21.25 | $11 / 8$ | 13 | $\begin{array}{ll} 11 / 8 \times 11 / 8 \\ 11 / 8 \times 118 \end{array}$ |
    | 17－3493 | 3.30 3.30 | ST | Ratio detector． | 4.5 | $13 / 8$ | 21\％ | $\begin{array}{ll} 1 / 8 \times 118 \\ 13 / 18 & \times 18 / 8 \end{array}$ |
    | 17－3497 | 3.30 | UM | Ratio detector | 4.5 | $3 \times 1 / 2$ | $21 / 2$ | $\begin{aligned} & 10 / 8 \times 18 / 8 \\ & 6 \end{aligned}$ |
    | 17－4522 | 1.25 | IF | 2nd video amplifier | Tuna 4 ： |  |  |  |
    | 17－4523 | 1.25 | IF | 3rd video amplifier－Shunt shin ohms． | Itund 45．3） | ${ }_{5} 16$ hele | $\begin{aligned} & 13 / 8 \\ & 11 / 4 \end{aligned}$ | 1／2 Ditun． 1／2 Diam． |
    | 17－4524 | 1.25 | IF | 4 th video amplifier－Shunt 56 K ohms． | Tutw 44.5 | 516 hiold | $\begin{aligned} & 114 \\ & 11 / 4 \end{aligned}$ | 12 Ditm． <br> 1／2 Diam． |
    | 17－4500 | 2.50 | IG | Converter．．．．．．．．．．．．．．．．．．． | Tume 43．1 Trap 41.6 | $5_{18}^{36} \text { hole. }$ | 1／1／2 | $\begin{aligned} & \text { 1/2 Diam. } \\ & \text { s/g Wiatn. } \end{aligned}$ |
    | 17－4501 | 2.50 | IG | 1st video amplifier．．．．．．．．．．．．．． | Itae 43．5 Trap 40 | ${ }_{5}{ }_{16} \text { hole. }$ | 29.16 | 多 Diam． |
    | 17－4502 | 2.50 | $\mathrm{IC}_{\text {S }}$ | 2nd rideo amplifior | Tunc 45．7．5 Trap 47.23 |  |  |  |
    | 17－4503 | 3.00 3.00 | ST | 3 d d video amplifier． | Tune 43.3 Trap 40 | ${ }_{16}^{15} \text { holi }$ | $\begin{aligned} & 2916 \\ & 244 \end{aligned}$ | $5 / 8 \text { Diam. }$ |
    | $\begin{aligned} & 17-4531 \\ & 17-4504 \end{aligned}$ | 3.00 3.00 | ST | 1 st video amplifier 4 th video amonlifier | Tunc 44．0 Trap 39．2． | 1516 15 | 2114 | $7 / 8 \times 7 / 8$ |
    | 17－4521 | 1.25 | ST |  |  | ${ }_{15}^{15}$ | $21 / 4$ | 15.6815 化 |

    BROADCAST

    | Type No． | List Price | Fig． | Use | Frem． <br> Rathme | Prak Fructory Setting | $\therefore 10 \mathrm{~N}$ |  | 11tg． | H．${ }^{\text {Immensions }}$ |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 16－6649 | \＄2．00 | MT | Input． | 140－209 h\％ | 175 kC | 6.0 | 17.5 |  |  |  |
    | 16－6650 | 2.00 | MT | Interstage | 140 －30） l （ | 175 KC | 8.7 | 1.5 .0 | 115 | $21 / 3$ | $11 / 1 \times 14$ $11 / 4 \times 11 / 4$ |
    | 16－6651 | 2.00 | ${ }_{\text {MT }}$ | Output．．． | $140-200 \mathrm{KC}$ | 17.5 kC |  | 29.5 | 11／4 | $21 / 2$ | 1\％4\％114 |
    | $\begin{aligned} & 16-6652 \\ & 16-6653 \end{aligned}$ | 1.75 1.75 | MT | Input．．．． | 200－310 NC （ | 262 に\％ | 9.3 10.4 | 24.7 | 1114 | 0， | $14 \times 14$ |
    | 16－6654 | 1.75 | MT | Output |  |  | 10.4 | 27.6 | 1114 | 211 | $11 / 4 \times 1 / 4$ |
    | 16－6655 | 1.50 | MT | Input． | 200－310 ${ }^{205}$ | 36：RC | 20.3 | 57.1 | 18 | 21／2 | $115 \times 11 / 4$ |
    | 16－6656 | 1.50 | MT | Interatage | $3\left(105-4 \times 0 \mathrm{~K}^{\text {co }}\right.$ | 370 Kr． | 11.3 | 380.0 | 11 | 2 |  |
    | 16－6657 | 1.50 | MT | Output | 305－400 $\mathrm{hc}^{\circ}$ |  |  |  | $11 \%$ | 2 | 11／4x |
    | 16－6658 | 1.75 | MT | Input． |  | 4.56 kc | 18.8 | 46.6 | 115 | $21 / 2$ | $\begin{array}{lllllll}14 & \times & 11 \\ 11 & \times 1\end{array}$ |
    | 16－6659 | 1.75 | MT | Interstage | 400 －50 K\％ | 456 kC |  |  |  |  |  |
    | 16－6660 | 1.75 | MT | Output．${ }^{\text {S }}$ | $40(1-5.00 \mathrm{Kr}$ | 4．0i kr | 12.8 | 30.5 | $1{ }^{1}$ | $21 / 2$ | $\begin{array}{lllll}11 & x & 11 \\ 11 & \mathrm{x} & 11\end{array}$ |
    | 16－6666 | 2.20 | MT | Input． | （ $01-609 \mathrm{lar}$ | 1.50 kC | 14.1 | 37.5 | $11 / 8$ | $21 / 2$ | $11 / 8 \times 11$ |
    | 16－6667 | 2.20 | MT | Output | $406-600 \mathrm{kr}$ | S．5 k＇ | $1 \times .0$ | 19.5 | $11 / 8$ | 21／2 |  |

    3／4＂I．F．＇S PERMEABILITY TUNED

    | Type No． | List Price | Fig． | $I^{\dagger} \mathrm{nc}$ | Frect． Range | Pank Fiatory Setting | Selectivity |  | Мtw | 1）immenions |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  |  |  |  |  |  | $10 .$ |  | 11. | W．$\times$ D． |
    | 16－6752 | \＄2．40 | UM | Input． | 315－275 KC＂ | シャッドく | 12 | 35 |  |  |  |
    | 16－6754 | 2.50 | UM | Output | 85－27 | 2が，にく， | $1 \times$ | 4.5 | it $\times 1.1 / 2$ | $\stackrel{2}{2}$ | ${ }_{3} \times 1$ |
    | 16－6758 | 2.20 | UM | Input or output | $400-50$（ H | 456 K | 28 | 6 | $3{ }_{4}^{5} \times 11 / 2$ | 2 | 34 $\times 3 / 4$ |
    | 16－6770 | 2.30 | UM | Chutput ．．．．．．． | $700-501$ | $45 \mathrm{bl}{ }^{\text {co }}$ | 30 | 6.5 | $3 \times 11 / 2$ | 2 | 34× 3 |

    

    HI Q IRON CORE＂PLASTIC＂

    | Type No． | List Price | Fig． |  | $1 \times$ | From． Range | Prak Fiactory s．tting |  | $\begin{gathered} i t y \\ 10 x \end{gathered}$ | Vtr． | 11. | 1）imemsiona $W \times D$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | $\begin{aligned} & 16-6662 \\ & 16-6663 \end{aligned}$ | \＄2．50 $\mathbf{2 . 5 0}$ | 11 T $\$ 1$ | Imput Output |  | $\begin{aligned} & 38(1-460) k( \\ & 380-400) \mathrm{KC} \end{aligned}$ | $\begin{aligned} & \text { 4.8 にく } \\ & \text { 1.4 NC } \end{aligned}$ | $\begin{aligned} & 11.2 \\ & 11.2 \end{aligned}$ | $\begin{aligned} & 30.0 \\ & 30.0 \end{aligned}$ | 1年年 | $21 / 2$ | $\begin{array}{ll} 114 \times 11 \\ 1 & \times 11 \end{array}$ |

    HI Q IRON CORE＂STANDARD＂GENERAL REPLACEMENT

    | Type No． | List Price | Fig． | Von | $\begin{aligned} & \text { Vrers } \\ & \text { Ramar } \end{aligned}$ | Prah Fintory Stittine |  | $\begin{aligned} & i t y \\ & 10 \mathrm{~N} \end{aligned}$ | M1t， | $\text { 11. Dimensions. } \begin{gathered} 11 \\ \hline \end{gathered}$ |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 16－5728 | \＄3．30 | 3 T | Inpmit | 127－206 KC\％ | $1: 5 \mathrm{l}$ | 12.5 | 30.0 | 13／3 | 3116 | $1^{3} \times \times 1^{3}$ |
    | $16-5730$ | 3.30 | $\cdots \mathrm{T}$ | Gutput | 127－2（4） liC | 1.5 ll | 16.5 | 44.0 | 138 | $31 / 2$ | $1{ }^{\frac{3}{8}} \times 1{ }^{3}$ \％ |
    | 16－6668 | 2.40 | MT | （Battery input） | $350-550$ 人C | 4.56 k゙C | 22.5 | 51.3 | 34 |  | 4 $\times$ \％${ }^{3}$ |
    | 16－6669 | 2.40 | M＇r | （Battery output） | 3550－5．30 hC | 4 iti lic | 22.5 | 58.0 | 3 | 2 | $38 \times 3$ |
    | 16－6678 | 2.40 | MT |  | 3：5－5．0）KC | $4 . \%$ l゙C | 16.6 | 41.1 | 34 | 2 |  |
    | 16－5740 | 3.00 | $\cdots \mathrm{T}$ | Tuput ． | 3f（0－8i（k） HC | 4.56 lic | 8.1 | 20.0 | $13 / 8$ | $31 / 2$ | $13 \times 13 \times$ |
    | 16－5742 | 3.00 | Mr | Output | 360－4i00 KC | 1.56 lic | 13.8 | 38．0 | $13 / 8$ | $31 / 2$ | $18.8 \times 188$ |
    | 16－5782 | 3.00 | MT | Ingut | 31（1－5．5）k゙C |  |  |  | 13\％ | $31 / 2$ | $13 / 8 \times 1{ }^{3} \times$ |
    | 16－5784 | 3.00 | vr | Output | 310－5．50 kC | 156 SC |  |  |  | $31 / 2$ | $13 / 8 \times 1^{3}=$ |
    | 16－8091 | 3.00 | Mr | limut or interstage． | 1250－200 K（ | 15m）lic | 8.5 | 35 | 13／3 | $31 / 2$ | $138 \times 1^{3 /}$ |
    | 16－8099 | 3.00 | 17 | Outıut ．．．．．．．． | 12．50－20 KC | 1：00） NC | 10 | 50 | 13／8 | $31 / 2$ | $13 / 8 \times 1^{3} \mathrm{*}$ |

    ANTENNA，R．F．AND OSCILLATOR COILS
    ＂Adjustable＂Inductance Coils

    | Type No． | $\begin{gathered} \text { List } \\ \text { Price } \end{gathered}$ | Fif． |  | $\underline{1}$ | Mtg． | 11 | Dimernsions W．x D |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 14－1026 | \＄2．20 | PC | Antemma roil |  | ${ }_{3}^{3}$ is hole | 1粦 | 1迷 $\times 118$ |
    | 14－1027 | 2.20 | PC | 12．F wol |  | ${ }_{3}^{3} 16$ holv． | $1^{1 / 4}$ | $1{ }^{1} \times 1{ }^{1} \times$ |
    | 14－1028 | 2.20 | 1＇C | Ourillatur enil |  | ${ }_{5}^{3} 16$ hole． | 134 |  |
    | 14－1076 | 2.20 | 1F | R．F．mil |  | ${ }^{5}$ is hold | 15\％ | 5 ¢ Diall． |
    | 14－1077 | 3.00 | IF | Oscillator mil |  | ${ }^{5} 16 \mathrm{ln}$ hale | 114 | ${ }^{4}$ Diatm． |
    | 14－1056 | 2.20 | Pr | Anturna coil． |  | 1，hiole | 178 | 退 Diam． |
    | 14－1057 | 2.20 | Pr | R．F．mil |  | 1，hole | 17／4 | 3 Diam． |
    | 14－1058 | 2.20 | P＇r | Gacillator coil |  | It hole | 17／8 | 3／4 Diam． |
    | 14－7413 | 3.00 | AE | Antenna roil |  | $13 / 4$ |  | $13.8 \times 13$ |
    | 14－7558 | 3.00 | AE： | 18．F゙，reil． |  |  | $21 / 8$ | $13,1 \times 131$ |
    | 14－7000 | 1.00 | if | Lemerantenna rejuacement |  | ${ }^{5} 16$ horks | 21／8 | 1／2 Diam． |
    | 14－7560 | 3.00 | AE | Oscillator coil |  | 13 年 | $21 / 2$ | $13 \mathrm{4} \times 1$＋ |

    ＂STANDARD＂GENERAL REPLACEMENT COILS
    
    ＂PPENTAGRID＂OSCILLATOR COILS
    Tapped Type for 6SA7，12SA7 and other Pentagrid Converter Tubes． 456 KC ．

    | Type No． | List Price | Fig． | Use | M19． | 11. | $\begin{array}{r} \text { Dimensions } \\ \text { W. } \times \mathrm{D} . \end{array}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | $\begin{aligned} & 14-1033 \\ & 14-1053 \end{aligned}$ | $\begin{aligned} & \$ 1.10 \\ & 1.10 \end{aligned}$ | $\mathrm{Pr}_{\mathrm{p}}$ |  | $\begin{aligned} & \frac{1}{1 /} \text { hole } \\ & 1 / 4 \text { hole } \end{aligned}$ | 1 | $3 / 4$ Diam． $3 / 4$ Diam． |

    

    Coils and components shown in MEASSNER catalog，and transformers，chokes，efe．shown in the new companion Tliolk－ DARSON catalog，are also listed in SAM＇s＂Photofacts＂and ＂Comiterfacts．＂

    Brand new TIOORDARSON－MEISSNIER COMBINED T． V．REPI ACEMLENT（：IVIDE available free on request，shows correct replacement on ahout $6 \boldsymbol{O}$（）different T．V．sets．Covers： Horizontal syncs ．．．deflection yokes．．．vertical outputs ．．．ratio detector \＆discriminator coils ．．chokes．．．I．F．＇s ．．．peaking coils ．．flyhacks ．．．powers ．．．width controls ．．．horizontal borking oscillators ．．focus coils ．．．vertical blocking oscillators ．traps ．．．audio outputs．
    

    For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Caralog.
     Far use in communications re-
    ceivers designed for A.M. ar Nar.
    row Band F.M. These transform.
    ers feature high gain alang with
    o high degree of frequency sta.
    bility.
    Dimensions: $13 / /^{\prime \prime}$ sq. $\times 21 / 2^{\prime \prime}$ high.
    $\# 6.32$ spadebalt maunting. Cat Na. Freq. Kc Range Use List Price

    913-C1 $\overline{455} \quad 450-475 \quad$ Input or
     Intersiag
    Output 913-W4 1500 1400-1600 913-WD 1500 1400-1600 Discriminatar 3.30

    Replacement
    I.F. Transformers

    ## These transfarmers are an essen-

    tia! part of the stock of every ser. viceman and dealer. In many cases they win give better performance than the ariginal fransfarmer. These transfarmers may be used as replacements in mast makes af re ceivers using transfarmers, of the same physicalsize. Dimensions: $1 \% / s^{\prime \prime}$ square $\times 25 / \mathrm{g}^{\prime \prime}$ high. size. Dimensions: $13 / s^{\prime \prime}$ squ
    $\# 6 / 32$ spade bolt mounting.
    $\# 6 / 32$ spade bolt mounting
    Cat. No. Freq. KC Range Use List Price $512-\mathrm{HI} \quad 262 \quad 250-275$ Inpu
    lage
    Wave
    Wage
    Wave
    -Wave
    Full-Wave
    Half-Wave

    Tron Core Tramsformers
    Dimensions: $13 / 8^{\prime \prime}$ square $\times 31 / 4^{\prime \prime}$ high. \# $6 / 32$ Cat. No. Freq. KC Range Use List Price $\begin{array}{lllll}61 \overline{2}-k 1 & 175 & 165-185 & \text { Input } & 3.50\end{array}$ $\begin{array}{lllll}612-K 2 & 175 & 165-185 & \text { Interstage } & 3.50\end{array}$ $\begin{array}{lllll}612-K 3 & 175 & 165-185 & \text { Full-Wave } & 3.50 \\ 612-K 4 & 175 & 165-185 & \text { Half-Wave } & 3.50\end{array}$ 612-K4 175 165-185 Half-Wave

    $612-\mathrm{HI} \quad 262$ 250-275 Input | $612-H 2$ | 262 | $250-275$ | Interstage |
    | :--- | :--- | :--- | :--- |
    | $612-190$ |  |  |  |
    |  | 262 | 250 |  | | $612-H 3$ | 262 | 250.275 Full-Wave | 2.90 |
    | :--- | :--- | :--- | :--- | $\begin{array}{llll}612-H 4 & 252 & 250-275 \text { Half-Wave } & 2.90\end{array}$ $\begin{array}{lllll}612-C 1 & 455 & 450-475 & \text { Inpur } & 2.90 \\ 612-C 2 & 455 & 450-475 & \text { Intersioge } & 2.90\end{array}$ $\begin{array}{lllll}612-C 2 & 455 & 450-475 & \text { Intersioge } & 2.90 \\ 612-C 3 & 455 & 450-475 & \text { Full-Wove } & 2.90\end{array}$

    Miniature I.F.
    Transformers
    Cat. Na.
    12-H6
    $12-C 2$
    $12-C 6$

    ## $12-\mathrm{C7}$ $12-\mathrm{C}$

    ## 12-C9

    12-C10 455 KC
    

    Supplied with a snap spring maunting clip which may be installed thraugh nished is an odopter plate far use ove a standard tube socket hole. Dimensions: anly $3 / 4^{\prime \prime}$ square $\times 2^{\prime \prime}$ high Manufactured under patents of and by Automatic Manufacturing Corp Item List Price $\begin{array}{llll}12-\mathrm{HI} & 262 \mathrm{KC} & \text { Input I.F. Trans } & \$ 2.50 \\ 12-\mathrm{H} 2 & 262 \mathrm{KC} & \text { Output I.F }\end{array}$ K2 KC Output I.F. Trans. 262 KC Oulput I.F. Trans. 455 KC Input I.F. Trans.

    |  | 2.20 |  |
    | :--- | :--- | :--- |
    |  | KC Output I.F. Trans. | 2.25 |

    Input I.F. Trans.
    Far Battery Radias 220

    Far Battery Radias
    Input I.F. Trans
    For AC-DC Rodias Oulput I.F. Trans.
    Far AC-DC Radias
    Input or

    | Interstage Trans. | 2.40 |
    | :--- | :--- |
    | Output Trans. | 2.40 |


    | 10. |  |  | 2.40 |  |
    | :--- | :--- | :--- | :--- | :--- |
    | 1463 | 10.7 | MC | Input or Interstage | 2.75 |
    | 1464 | 10.7 | MC | Discriminator | 3.30 |
    | 1465 | 10.7 MC | Ratia Defectar | 3.30 |  |

    ## Midget

    ## I.F. Transformers

    Dimensians:$11 /$ " $^{\prime \prime}$ square $\times 2^{\prime \prime}$ high. $\# 6 / 32$ spode bolt maunting. Air Core Transformers

    | Cat. No | e | KC Range | Use Lis | ist Pri |
    | :---: | :---: | :---: | :---: | :---: |
    | 112-H1 | 262 | 250-275 | Input | \$2.40 |
    | 112-H2 | 262 | 250-275 | Interstage | 2.40 |
    | 112-H3 | 262 | 250-275 | Full-Wave | 2.40 |
    | 112-H4 | 262 | 250-275 | Half-Wave | 2.40 |
    | 112-H6 | 262 | 250.275 | Output Stage \& Filter | e 2.65 |
    | 112-C1 | 455 | $450-475$ | Input | 2.40 |
    | 112-C2 | 455 | 450.475 | Interstage | 2.40 |
    | 112-C3 | 455 | 450-475 | Full-Wave | 2.40 |
    | 112-C4 | 455 | 450-475 | Holf-Wave | 2.40 |
    | 112-W1 | 1500 | 1400-1600 | Input | 2.40 |
    | 112-W2 | 1500 | 1400-1600 | Interstage | 2.40 |
    | 112-W3 | 1500 | 140C-1600 | Full-Wave | 2.40 |
    | 112-W4 | 1500 | 1400-1600 | Half-Wave | 2.40 |

    Iron Core Transformers
    Cor. No. Freq. KC Ronge Use $\begin{array}{llll}\text { Cot. No. Freq. } & \text { KC Range } & \text { Use } \\ 012-K 1 & 175 & 165-185 & \text { Inpu }\end{array}$
    $\qquad$ $\begin{array}{llllr}012-K 2 & 175 & 165-185 & \text { Intersfage } & 2.75 \\ 012-K 2 \\ 012-K 3 & 175 & 165-185 & \text { Full-Wave } & 2.75\end{array}$ $\begin{array}{lllll}012-K 3 & 175 & 165-185 & \text { Full-Wave } & 2.75 \\ 0175 & 165-185 & \text { Hill } & 2.75 & 2.75\end{array}$

    | $172-K 4$ | 175 | 165.185 | Half-Wave | 2.75 |
    | :--- | :--- | :--- | :--- | :--- |
    | $012-12$ | 262 | 250.275 | Input | 2.65 |

    

    ## Sub-Miniature

    ## 1.F. Transformers

    Through the use of a Ferrite shell core material these Sub-Miniature I.F. Transfarmers offer the gain and bandwidth characteristics previously obtained in only larger I.F. assemblies. (For Battery or AC-DC Radias.) Manufactured under patents of and by Automatic Manufacturing Corp. Dimensians: $1 / 2^{\prime \prime}$ sq. $\times 1 / 2^{\prime \prime \prime}$ high.
    Cat. No.
    

    ## I.F. Transformers

    These transformers are permeability tuned.and comparable in perfarmance ta standard size camponents. Expressly designed for use with the new miniature tubes. Supplied with spring elip for mounting to the chassis. Dimensions: $3 / 4^{\prime \prime} \times 3 / 4^{\prime \prime} \times 2^{\prime \prime}$ high.
    Cat. Na. Description Range List Pr. 12-W1 Input ar Interstage 1400-1600 KC $\$ 2.50$ 12-W2 Half-wave cutput $1400-1600 \mathrm{KC} \quad 2.50$

    Transistor I.F. Transformers These transfarmers have been designed for use with the Raythean Transistor type CK760. These transfarmers are equivalent ta the Automatic EXO3015 specified on the data sheet supplied by Raythean describing their transistars type CK 760 and CK761.
    (Manufactured under patents of and by Autamatic Manufacturing Corp.)
    Dimensians: $1 / 2^{\prime \prime} s q, \times 3 / 4^{\prime \prime}$ high.
    Cat. Na. Ifem Impedance List Price
    $2041 \quad 455 \mathrm{kc} \quad$ Pri. 25 K Sec. $600 \quad \$ 2.75$
    

    Miniature I.F. Transformers for Printed Circuits
    These transfarmers are electrically the same as aur regular $12-\mathrm{Cl}$ and 12.C2 K-Iran line. They differ physically in the type of mounting and terminal lugs.
    Manufactured under patents of and by Auto
    

    For general replacement purposes in auto receivers and many fypes af household and portable receivers. Dimensions: $11 / 4^{\prime \prime}$ square $\times 21 / 2^{\prime \prime}$ high. Cat. Na. Freq. KC Range Use List Price $\begin{array}{lllll}312-H 1 & 262 & 250-275 & \text { Input } & \$ 1.75 \\ 312-\mathrm{H} 2 & 262 & 250-275 & \text { Interstage } & 1.75 \\ 312-\mathrm{H} & 262 & 250-275 & \text { Output } & 1.75\end{array}$ $\begin{array}{lllll}312-\mathrm{H} 4 & 262 & 250-275 & \text { Output } & 1.75 \\ 312-\mathrm{H} 6 & 262 & 250-275 & \text { Output } & \end{array}$

    |  |  |  | \& Filter | 2.65 |
    | :--- | :--- | :--- | :--- | :--- | :--- |
    |  | 455 | $440-470$ | Input | 1.75 |
    | $312-C 2$ | 455 | $440-470$ | Interstage | 1.75 |
    | $312-C 4$ | 455 | $440-475$ | Output | 1.75 |
    | $312-C 6$ | 455 | $440-470$ | Output |  |

    Type No. 412 Iron Core Transformers Dimensions: $11 / 4^{\prime \prime}$ square $\times 21 / 2^{\prime \prime}$ high. Cat. No. Freq. KC Range Use List Price 412 -HI $\quad 262 \quad 250-275 \quad$ Input $\quad \$ 2.40$ $\begin{array}{lllll}412 \cdot H 2 & 262 & 250-275 & \text { Interstage } & 2.40 \\ 412 \cdot \mathrm{H} 4 & 262 & 250-275 & \text { Output } & 2.40\end{array}$ $4 \overline{12-C l} 455 \quad 440-470 \quad$ Inpul $412-\mathrm{C} 2 \quad 455 \quad 440-470 \quad$ Intersta $\begin{array}{llll}412-\mathrm{C} 4 & 455 & 440.470 & \text { Output }\end{array}$
    

    TV Antenna Coupling Transformers
    Matches antenna impedonce to line or line to T.V. receiver. Signol in put may be improved as much as four times. Housed in impregnated, wrather.tight aluminum shield. Dimensions: $3 / 4$ " $\times 3 / 4^{\prime \prime} \times 13 / /^{\prime \prime}$ high

    Impedonce Rotio $\qquad$ List Price
    $\begin{array}{lll}6161 & 52 / 300 \text { or } 300 / 52 \text { ohms } \\ 6162 & 72 / 300 \text { or } 300 / 72 \text { ohms }\end{array}$
    $\$ 2.75$
    2.75
    $450 / 300$ or $300 / 450$ ohms 2.75
    

    ## TV IIIGh-Pass Filter

    Improves picture clarity by re-iecting interference from short iecting interference from short wave stations, amateur transmitters, X-ray and diathermy equipment, electric appliances, etc. Attenuates all signals fram zero to 40 MC . Passes all tele. vision chonnels with minimum loss. Installed eosily in on-
    tenno leod-in of receiver. No tuning required
    Dimensions: $17^{7 \prime \prime} \times 1 \frac{1}{\prime^{\prime \prime}} \times 31 / 2^{\prime \prime}$ high.
    Cat. Na.

    > Use

    6167 TV High-Pass Filter- 72-ohm line $\$ 5.50$ 6168 TV High-Poss Filter- $\mathbf{3 0 0}$-ohm line 5.50
    

    ## TV and FM

    W'ave Traps
    These new high-Q series. resonont trops moy completely eliminote interference ond vision and FM receivers. As. sembled in aluminum shields designed for connection direct to ontenna twin-lead, Convenient screwdriver tuning adiustment of top. Four traps will cover frequency ranges from 20 to 250 megacycles.
    Dimensions: $17^{7}{ }^{\prime \prime} \times 1 \frac{1 / 8 "}{} \times 31 / 2^{\prime \prime}$ high.

    | Cat. No. | Frea. Range | List Price |
    | :---: | :---: | :---: |
    | 6163 | $150-250 \mathrm{mc}$ | \$4.40 |
    | 6164 | 75.150 mc | 4.40 |
    | 6165 | $40-80 \mathrm{mc}$ | 4.40 |
    | 6166 | 20. 40 mc | 4.4 |

    

    These filters ore designed to eliminate rodio interference coused by horizontal oscillators in T.V. receivers and smoll electrical applionces such os sewing mochines, vacuum cleaners, food mixers, and other similar devices requiring less than 550 watts. Inductive capocitive circuit ossures moximum oftenuotion of interference. Dimensions: 21/4" squore x $4^{\prime \prime}$ long. $\begin{array}{ccccc}\text { Cot. No. } & \text { Volts } & \text { Watts } & \text { List Price } \\ 7815 & 115 & 550 & \$ 7.70\end{array}$

    Transmitter Chokes
    

    For use in tronsmitter circuits of either medium or high power installations. Dimensions: Form $1 / 2^{\prime \prime} \times$ $21 / 2^{\prime \prime}$ lang.

    | Cat. No. | MH | Ohms | MA | List Price |
    | :--- | :--- | :--- | :--- | ---: |
    | 4550 | 2.0 | 6.5 | 400 | $\$ 1.75$ |
    | 4551 | 4.0 | 10.0 | 400 | 2.00 |
    | Dimensions: | (form) | $1 / 2^{\prime \prime}$ | diometer $\times 31 / 2^{\prime \prime}$ | long. |
    | 4534 | 1.0 | 2.5 | 1000 | 2.20 |
    | 4535 | 1.5 | 3.6 | 1000 | 2.50 |
    | 4533 | 2.5 | 4.5 | 750 | 2.75 |
    | 4536 | 4.0 | 5.5 | 750 | 3.05 |
    | 2881 | 7.0 | 7.2 | 750 | 4.95 |

    

    The electrical characterislics of this newiy devel oped type Ferrite Rod Loop Antenna make nas sible o general molocement loop that offers out standing performonce. Reception of distant sto tions wilt be improved to the extent that no an fenna or ground will be required, and on locn stations much better reception will he insured The loon Rod Antenna has an adiustable induc. rance which mokes it passible to penk the on enna staqe by merely slining the coil nlona the errite rod; this olso enables it to be used with Cap. No. Cal. N
    $705 . A$

    List Price

    ## Transistor Loop Antenna

    

    A fixed inductance loop with a large pick up field to insure adequote signol to the first tage. Inductar is tapped ta motch an 1650 ke when used with a variable capacito hoving a maximum capacily of 365 mmfd . Dimensions: $11 / 4^{\prime \prime} \times 91 / 2^{\prime}$
    Cap. No. Lis $2000 \quad$ Loop Antenna 2.75
    Uniuersal Adjustable Ion Trap
    
    $n$ an effort ta help the TV serviceman with his slock prablem, we ore now in o position to reduce his inven tory by odding this univer. sol Ion Irop to our present able feature whis adjust he magnetic field la be voried between $32-55$ gausses, this trap will, in most instances, replace the aldar style ion traps having a specific mognetic field.

    Packaged in an oftractive display
    Cat. No. carton of 24 pieces. List Price

    6295 Adjustable Ion Trap $\$ 1.25$
    Adjustable Padder Condensers Used as adjustablo oscillator padding condenser in super.het receivers to in sure proper three-point tracking. They also find application as the horizantal drive control in television receivers. Single hole maunting by means af a $1 / 4^{\prime}$ hreaded stud
    Dimensions: $7 / 8^{\prime \prime} \times 1^{\prime \prime} \times 3 / 8^{\prime \prime}$ thick.
    Cat. No. Capacity Range
    $\qquad$ List Price

    | $160-\bar{A}$ | $360-1000 \mathrm{mmfd}$ | .90 |
    | :--- | ---: | ---: |
    | $160-B$ | $50-400 \mathrm{mmfd}$ | .75 |
    | $160-\mathrm{C}$ | $200-600 \mathrm{mmfd}$. | .85 |
    | $160-\mathrm{D}$ | $10-160 \mathrm{mmfd}$. | .65 |
    | $160-E$ | $25-280 \mathrm{mmfd}$. | .70 |

    Electric Shater Filter
    This filter cantains an inductive-capactive cir. cuit consisting af two dua-lateral waund chokes and a nan-inductive candenser, giving camplete freedam from radia interference. Mast electric shovers act as miniature transmitters ond feed inferference energy into the hause wiring and it is then picked up by the radia receiver.Dimensions: $1 / 8$ diometer $\times 3$ lang. Cat. No. Volts Wotts Finish List Price

    | 7817 | 115 | 50 | Black | $\$ 2.75$ |
    | :--- | :--- | :--- | :--- | :--- |
    | 78171 | 115 | 50 | lvary | 2.75 |

    Heary Duty

    ## Linc Fillter Chokes

    

    For instollotion in noise producing equipment such as flosher signe, farm lighting plants. motor generators, eff. Also used with radin tronsmitters to prevent R.F.energy feeding back into the power circuits. Typical circuit diagrams ore supplicd with each choke. Chokes are duo. lateral wound an ceramic farms.

    Single line lifter Clonkes
    Far filtering individual and branch circuits Can be wound on order to corry 150 amperes. Dimensions: $2^{1 / 2} \times 4^{\prime \prime}$

    | Cat. No. Amps. | Ohms | Mh | List Price |  |
    | :--- | :---: | ---: | ---: | ---: |
    | 7826 | 5 | .28 | .57 | $\$ 4.40$ |
    | 7827 | 10 | .15 | .37 | 4.95 |
    | 7828 | 20 | .08 | .20 | 5.50 |
    | 7829 | 30 | .05 | .13 | 6.05 |

    ## Dual lime Filter Clankes

    Far filtering bath sides af single phase circuits. Dimensions: $4^{4} / 2^{\prime \prime} \times 4^{\prime \prime}$
    Cat. Na. Ans. Ohms

    | Cat. Na. Amps. | Ohms | Mh | List Price |  |
    | :---: | :---: | :---: | :---: | ---: |
    | D.7826 | 5 | .28 | .57 | $\$ 6.60$ |
    | D.7827 | 10 | .15 | .37 | 7.70 |
    | D.7828 | 20 | .08 | .20 | 8.80 |
    | D.7829 | 30 | 05 | .13 | 9.90 |

    ## Light Duty Line Filter Chokes

    

    Far use in the same applications os aur Heavy Duty Line Filter Chakes where the load is of a lighter nature. Chokes are wound an bakelite farms.
    Single Line Filter Chokes
    For filtering individuol ond branch circuits.
    Dimensions: $17 / 8^{\prime \prime} \times 13 / 4^{\prime \prime}$
    Cat. No. Amps. Ohms Lh List Price

    | 7825 | 2 | .7 | .600 | $\$ 1.65$ |
    | :--- | :--- | :--- | :--- | :--- |
    | 7825.3 | 3 | .25 | .250 | 1.75 |
    | $7825-5$ | 5 | .1 | .100 | 1.85 |
    | 7825.8 | 8 | .05 | .050 | 2.00 |

    Dual Line Filter Clonkes For filtering both sides of single phase circuits. |  |  |  |  |  |
    | :--- | :---: | :---: | :---: | ---: | ---: |
    | Cat. No. Amps. | Ohms | Mh | List Price |  |
    | D.7825 | 2 | .7 | .600 | $\$ 3.30$ |
    | D.7825-3 | 3 | .25 | .250 | 3.50 |
    | D-7825-5 | 5 | .1 | .100 | 3.75 |
    | D.7825-8 | 8 | .05 | .050 | 4.00 |

    

    ## Filament Choke

    Enclosed solenoid wound chokes for use in the filament and vi. brator circuits of boltery operated receiver, trans. mitters. cte.
    Dimensions: $3 / 4^{\prime \prime}$ dia.x $17 /$ 月 $^{\prime \prime}$ long, plus $3^{\prime \prime}$ leads. Cat. No. $u H$ Ohms Amps list Price $\begin{array}{lllll}5221 & 4 & .02 & 6 & \$ .75\end{array}$

    General Purpose Filter
    

    This filter is recommended for use with morine and D.C. applionces and rodias. It is olso for uso with extremely noisy A.C. nomliances. A good, permanent connection to ground should be used with this filter.
    Cot. No. Volts Watts List Price $7813 \quad 115 \quad 200 \quad \$ 8.25$

    The M. ISナV: - 2nth Elition
    

    Miniature Adjustable R.F. Coils

    These high $Q$ odjustable iran care coils are for general replacement use.
    Dimensians:
    $1 / 2^{\prime \prime}$ dia. $x$ 11/2" lang (Nas. 70.A and 70. RF). $1 / 2^{\prime \prime}$ dia. $\times 11 / 8^{\prime \prime}$ long (Nas. 69 -OSC and 70-OSC). Cat. No. Use Freq. Range ListPrice $\begin{array}{llll}70-A & \text { Antenna Stage } & 540-1600 \mathrm{KC} & \$ 1.50 \\ 70-\mathrm{RF} & \text { R.F. Stage } & 540-1600 \mathrm{KC} & 1.50\end{array}$ 70-OSC Osciltatar Stage 540-1600 KC 1.50 Has pri. and tapped sec. (I.F. $100-550 \mathrm{KC}$ ) 1.50 Capacity coupled type ( $100-550 \mathrm{KC}$ )
    

    Universal Adjustable Oscillator Coil These adiustable iron core oscillator coils ore for senerol replocement use. Dimensions: $5 / 9^{\prime \prime} \times 11 / 2^{\prime \prime}$ high,
    Cot. No. Use Use

    Freq. Ronge List Pr.
    71-OSC Oscillator Stoge R.F. $500-1800 \mathrm{KC} \$ 2.00$
    

    ## High-Q Ferrite

    Antenna CoilSupplied with mounting bracket Dimensions: $3 / 3^{\prime \prime}$ diometer x $21 / 4^{\prime \prime}$ long. Cat. No. Use Freq. Range List Pr 6300 Antenna Stage $540-1700 \mathrm{KC} \quad \$ 1.25$ Adjustable FM
    R.F. Coils Dimensions: $1 / 2^{\prime \prime}$ Item 0. D. $\times 15 / \mathrm{s}^{\prime \prime}$ long. List Price
    No.
    1474 88-108 MC Antenna Coil
    1475 88-108 MC R.F. Coil
    1476 88-108 MC Osc. Coil (10.7 MC I.F.) 1.50
    Unshielded High-Q R.F. Coils

    A complete line of Unshielded Permeability tuned coils for replacement use or as the fron end components in new receiver design.
    Theset 5495 series coils can be shielded in our \# $5-32$ shields ( $11 / \mathrm{B}^{\prime \prime}$ sq.) with very litile lass in Q. Mounting is by means of a single $1 / 4$ "hole, Dimensions (form): $3 / 6^{\prime \prime} \times 2^{\prime \prime}$
    Ranges shown are for use with a 365 mmfd . arioble tuning condenser.
    Long Wave Coils ( $140-420 \mathrm{KC}$ ) Cat. No. Use List Price $\begin{array}{llr}\text { X-5495-A } & \text { Antenna Staga } & \mathbf{\$ 2 . 0 0} \\ \mathbf{X} 5495-R F & \text { RF Stage } & 2.00\end{array}$

    | X-5495-RF | RF Stage | 2.00 |
    | :--- | :--- | :--- |
    | X-5495-C | Standard Osc. 455 KC | 2.00 |

    X-5496-C Topped Osc. $455 \mathrm{KC} \quad 2.00$

    Broadcast Band Coils (540-1700 KC)

    | A-5495-A | Antenna Stage |  |
    | :---: | :---: | :---: |
    | A-5495-RF | RF Stage | 2.00 |
    | A.5495-C | Standard Osc. 455 KC | 2.00 |
    | A-5496-C | Topped Osc. 455 KC | 2.00 |
    | Medium | W'ate Coils (1.7-5.5 MC) |  |
    | B-5495-A | Antenno Stage | \$2.00 |
    | B-5495-RF | RF Stage | 2.00 |
    | B-5495-C | Standard Osc. 455 KC | 2.00 |
    | B-5496-C | Tapped Osc. 455 KC | 2.00 |
    | Short Wate Broadcast Coils ( $5-18 \mathrm{MC}$ ) |  |  |
    | C-5495-A | Antenna Stage | \$2.00 |
    | C-5495-RF | RF Stoge | 2.00 |
    | C-5495-C | Stondard Osc. 455 KC | 2.00 |
    | C-5496-C | Topped Osc. 455 KC | 2.00 |
    | High Frequency Coils (12-36 MC) |  |  |
    | D.5495-A | Antenno Stage | \$2.00 |
    | D.5495-RF | RF Stage | 2.00 |
    | D-5495-C | Standord Osc. 455 KC | 2.00 |
    | D-5496-C | Tapped Osc. 455 KC | 2.00 |

    ## Germanium Crystal Diode Band-Pass TRF Tuner Kit

    

    High fidelityl Uses germonium diode dubes! No power supely! No huml A simple 2 -tuned circuit imple 2 -tuned circuil coupled band-pass tuner. Eosy to os tuner. Eosy to osFull 22 kc. pass
    and assures all bril
    lionce of treble tones. Yet selective enough to seporote locol totions. With good ontenno. AM stotions in 2025 mile ronge give output. 05 V to .5 V . Use with your amplifier ond speoker system for extro high quolity reception. The Miller $\# 585$ TRF Tuner Kit contoins coupling ond TRF coils, 2-gang con denser, slide rule diol, chossis and hordwore (Resistors, condensers, germonium crystol ond olume control not included.)
    \#585 TRE Tuner Kit Midget Variable

    ## Condensers

    Split outer plotes on the rotors permit accurote olignment. High frequency trimmers are provided on the short side of the condenser. Mounting is provided by topped holes in the frame of the condenser. Counter•clock rotarion

    for capacity increase. Shaft dia. is $1 / 4^{\prime \prime} \times 1^{\prime \prime}$ long. for capacify increase. Shaft dia. is $1 / 4 \times 1$ long. | Capacity range-10 to |
    | :--- |
    | Cat. No. Sections | $\begin{array}{llll}2111 & 1 & 11 / 8^{\prime \prime} \times 17^{3} 6^{\prime \prime} \times 15 / 8^{\prime \prime} & \$ 2.50 \\ 2112 & 2 & 23^{\prime \prime} \times 118 \times 15 / 8^{\prime \prime} & 3.50\end{array}$

    

    ## AdjustablePadderCondensers

    Used as adiustable oscillator padding condenser in super-het receivers to insure proper three-point tracking. They alsa find application os the horizontal drive confrol in television receivers. Single hale mounting by means of o $1 / 4^{\prime \prime}$ threaded stud.
    Dimensions: 7/8" $\times 1^{\prime \prime} \times 3 / a^{\prime \prime}$ 中hick.
    Cat. No. Capacity Range
    List Price

    ## 

    Capacity Range
    $50-400 \mathrm{mmfd}$.
    $10-160 \mathrm{mmfd}$.
    Midget R. F. Coils
    (Adinstable Inductance) Particularly recommended for aircraft morine and mobile equipment and general custom receiver construction. Cails ore designed for use with stand ard 365 mmfd . funing condenser. Dimensions: $11 /{ }^{\prime \prime}$ square $\times 2^{\prime \prime}$ high.

    | Broadcast Band 540.1700 KC |  |  |  |
    | :---: | :---: | :---: | :---: |
    | Cat. No. | Use | I.F. Freq. | List Pr. |
    | A-320-A | Antenna |  | \$1.95 |
    | A-320-RF | Interstage |  | 1.95 |
    | A-320-M | 2-coil Osc. | 132 KC | 1.95 |
    | A 320-C | 2-coil Osc. | 455 KC | 1.95 |
    | A-321-M | Iopped Osc. | 132 KC | 1.95 |
    | A-321-C | Tapped Osc. | 455 KC | 1.95 |
    | Marine E Aircraft Bund 2100-6300 KC |  |  |  |
    | B-320-A | Antenna |  | \$1.95 |
    | B-320-RF | Inferstage |  | 1.95 |
    | B-320-M | 2-coil Osc. | 132 KC | 1.95 |
    | B-320-C | 2-coil Osc. | 455 KC | 1.95 |
    | B-321-M | Topped Osc. | 132 KC | 1.95 |
    | B-321-C | Tapped Osc. | 455 KC | 1.95 |
    | Short Wate Band 6.0-18 MC |  |  |  |
    | C-320-A | Antenno |  | \$1.95 |
    | C-320-RF | Interstage |  | 1.95 |
    | C-320-C | 2-coil Osc. | 455 KC | 1.95 |
    | C-321-C | Topped Osc. | 455 KC | 1.95 |

    Transistor Oscillator Coil
    

    For use with a transistor to supply the lacal oscillatar energy to the mixer stage. Used with a variable copacitor having a maximum capacify of 365 mm fd. Intermediate frequency 455 kc . Mounting clip fits into a $5 / 16^{\prime \prime}$ diameter hole.
    Dimensions: $5 / \mathrm{a}^{\prime \prime} \times 11 / \mathrm{a}^{\prime \prime}$ high. Padder List Price
    Cat. No. Description Pa $2020 \quad 540-1650 \mathrm{kc} \quad .0004 \mathrm{mmfd} .2 .00$ Miniature Hi-Q R.F. Coils

    Cup core construction for high $Q$. Permeability tuning to adjust inductance. Antenna and osciliator coils have tapped windings, while R.F. cail features impedance coupling.
    Dimensions of shield: $3 / 4^{\prime \prime}$ sq. $x$ $13 / 8^{\prime \prime}$ high.

    Use Freq. Range List Price Cat. No. Use Frea. $\begin{array}{llll}\text { A-123-A } & \text { Antenna Stage } & 535-1700 \mathrm{kc} & \$ 2.25 \\ \text { A-123-RF } & \text { R.F. Stage } & 535-1700 \mathrm{kc} & 2.25\end{array}$ A-123-C Osc. Stoge 455 kc --
    0004 Pad

    ## Universal

    ## Replacement Coils

    (Permeability Tuned) This series of varioble inductonce iron core coils ore well suited for generol replacement. Adjusted to cover the standard broodcost band with o tun ing condenser having a moximum capocity of between 250 and 450 mmf. The oscillalor moy be used with ony I.F. amplifier operoting in the 100 to 550 KC range.
    Unsbielded Dimensions: $7 / \mathrm{s}^{\prime \prime}$ diometor $\times 2^{\prime \prime} \mathrm{hi}$

     $\begin{array}{llll}72-A & \text { Antenna Stage } & 500-1800 \mathrm{KC} & \$ 2.20 \\ 72-R F & \text { R.F. Stage } & 500-1800 \mathrm{KC} & 2.20\end{array}$ $\mathbf{7 2}$-OSC Oscillator Stage (see fext abovel $\quad 2.20$ Sbielded Dimensions: $13 \%^{\prime \prime}$ squore $\times 21 / 2^{\prime \prime} \mathrm{hi}$ | Cat. No. Use | Freq. Tange List Pr |  |
    | :--- | :---: | :---: | :---: |
    | $73-\mathrm{A} \quad$ Antenna Stage | $500-1800 \mathrm{KC}$ | $\$ 2.75$ | 73-RF R.F. Stage $500-1800 \mathrm{KC} \quad 2.7$ $\xrightarrow[\sim]{\text { 73-OsC Oscillator Stage (see fext obove) }}$

    

    ## Wound Coils

    High gain general purpose coils featuring high impedance coupled ontenna ond R.F. units with progressive wound litz wire secondaries (except oscillotor coils). for use with standard 365 mmfd uning condenser. All windings are thoroughly mpregnated with tropicalized R.F. lacquer. Dimensions: $13 / 8^{\prime \prime}$ square $\times 21 / 2^{\prime \prime}$ high.
    Cat. No. Use Freq. Range List Pr.

    | 44-A Antenno Stoge | $540-1700 \mathrm{KC}$ | $\$ 1.35$ |
    | :--- | :--- | :--- | :--- |
    | 44-RF R F Stage | $540-1700 \mathrm{KC}$ | 1.35 | $\begin{array}{llll}44-R F & \text { R.F. Stage } & 540-1700 \mathrm{KC} & 1.35 \\ 44-\mathrm{BP} & \text { Band-Pass Stoge } & 540-1700 \mathrm{KC} & 1.35\end{array}$ Band-Pass Stoge $540-1700 \mathrm{KC}$ List Price

    Cat. No. I.F. Freq. Series Pad Lis. \begin{tabular}{llll}
    Cat. No. \& I.F. Freq. \& Series Pad \& List Price <br>
    $44-\mathrm{H}$ \& 262 KC \& .0006 \& $\because$ <br>
    $44-\mathrm{C}$ \& 455 KC \& .0004 \& 1.35 <br>
    \hline

    Topped osc. coils (for 6SA7 and similar tubes) 

    Cat. No. \& l.F. Freq. \& Series Pod \& List Price <br>
    \hline $41-H$ \& 262 KC \& .0006 \& $" 1$ <br>
    $41-\mathrm{C}$ \& 455 KC \& .0004 \& 1.35 <br>
    \hline
    \end{tabular} Unshielded

    $\qquad$ 43-A Antenna Stage $540-1700 \mathrm{KC} \quad \$ 1.10$ $\begin{array}{llll} & \text { R.F. Słage } & 540-1700 \mathrm{KC} & 1.10 \\ 43-\mathrm{RP} & \text { Band-Pass Stage } & \mathbf{5 4 0 - 1 7 0 0} \mathrm{KC} & 1.10\end{array}$

    | Cot. No. I.F. Freq. | Series Pod | List Price |  |
    | :--- | :--- | :--- | :--- |
    | $43-\mathrm{H}$ | 262 KC | .0006 | 1.10 |


    | $43-H$ | 262 KC | .0006 |  | 1.10 |
    | :--- | :--- | :--- | :--- | :--- |
    | $43-\mathrm{C}$ | 455 KC | .0004 |  | 1.10 | Topped osc. coils (for 6SA7 and similar tubes) $\begin{array}{llll}\text { Cat. No. } & \text { I.F. Freq. } & \text { Series Pad } & \text { List Price } \\ 45-\mathrm{H} & 262 \mathrm{KC} & .0006 & \% \\ 45-\mathrm{C} & 455 \mathrm{KC} & .0004 & 1.10 \\ & & & 1.10\end{array}$

    
    

    24 MC Unsbielded Picture I.F. Transformers

    Far use as replacement units in televisian receivers where unshielded cails are called for and standard circuitry
    clip to fit ${ }^{5}{ }^{\prime \prime}$ " hale in chassis.
    Shielded I.F. trans. are $3 / 4^{\prime \prime \prime} s q . \times 2^{\prime \prime}$ high.
    Maximum Dimensions: $21 / 2^{\prime \prime}$ lang.
    Cat. Na. Descriptian $\begin{gathered}\text { List }\end{gathered}$ $6245 \quad 25.5$ MC First I.F. $\quad 27.25$ MC $\$ 2.50$ 624622 MC Secand I.F. 21.2 MC 2.50 $\begin{array}{ll}6247 & 21.25 \mathrm{MC} \text { Cathade Trap } \\ 6248 & 24.5 \mathrm{MC} \text { Videa Det. I.F. }\end{array}$ 21.2 MC 2.50

    6249 21-25 MC Bifilar Wound I.F.

    | 6250 | $25-29 \mathrm{MC}$ |
    | :--- | :--- |
    | $\mathbf{6 2 5 1}$ | $21-25 \mathrm{MC}$ |
    | $\mathbf{6 i f i l a r}$ Waund I.F. |  |


    $\begin{array}{lll}6251 & 21-25 & \text { MC } \\ 6252 & 25-29 \mathrm{MC} & \text { Bifilar Bifilar l.F. Shielded }\end{array}$ $\begin{array}{llll}6253 & 21-25 & \text { MC BC Bifilar I.F. } & 20-23 \mathrm{MC} \\ \mathbf{6 2 5} & 2.25 \\ 20\end{array}$ | 6254 | $25-29$ | $M C$ | $B i f i l a r ~ I . F . ~$ | $20-23$ |
    | :--- | :--- | :--- | :--- | :--- |

    ## Converter and Picture

    I.F. Transformers

    Dimensions: $7 / 3^{\prime \prime} \times 7 / 8^{\prime \prime} \times 21 / 4^{\prime \prime}$ high.
    Cat. No.
    Dascription Trap List Pr.
    6185 21.8 MC Conv. I.F. Trans. $21.25 \mathrm{MC} \$ 2.75$ $\begin{array}{llll}6186 & \text { 25.3 MC 1st Pix I.F. Trans. } & 27.25 \text { MC } & 2.75 \\ 6187 & 22.3 \text { MC } 2 \text { nd Pix I.F. Trans. } 19.75 \text { MC } & 2.10\end{array}$

    ## Picture I.F. Inductors <br> Unshielded

    Dimensions: $1 / 2^{\prime \prime}$ max. a.d. $\times 11 / 2^{\prime \prime}$ long.
    Cat. No.
    Description
    Freq. List Pr. 6188 3rd Pix I.F. Trans. $25.2 \mathrm{MC} \$ 1.25$ 6193 Cathade Saund Trap $\quad 21.25 \mathrm{MC} \quad 2.00$ $\begin{array}{llll}6171 \text { Tunable Chake } & 21-25 \mathrm{MC} & 1.25\end{array}$

    ## ค 21.25 MC Television

    Sound I.F. Transformers
    Dimensions:
    6170,6190 and $61917 / 8^{\prime \prime} \mathrm{sq} . \times 21 / 4^{\prime \prime} \mathrm{h}$ 6184 and $619211 / 8^{\prime \prime} \times 11 / 0^{\prime \prime} \times 21 / 2^{\prime \prime}$ high.

    Item
    Freq.

    | Item | Freq. | List Pr. |  |
    | :--- | :--- | :--- | :--- |
    | 6190 | lst Saund I.F. Trans. | 21.25 MC | $\$ 2.40$ |
    | 6191 | 2nd Saund I.F. Trans. | 21.25 MC | 2.40 |
    | 6192 | Saund Disc. Trans. | 21.25 MC | 2.75 |
    | 6184 | Saund Ratia Det. Trans. | 21.25 MC | 3.30 |
    | 6170 | Saund Disc. Trans. | 21.25 MC | 2.50 |

    

    ### 4.5 MC Intercarrier <br> Sound

    I.F. Components

    Dimensians 1466-67-68: $11 / 8^{\prime \prime} \times 11 / 8^{\prime \prime}$ $\times 21 /$ a' $^{\prime \prime}$ high.
    \#1469, 1470 and 1480 Unshielded, Mounting hole
    $1470-A$ and 1481
     \# Item Cap. No.

    |  |  | Freq. |  |
    | :--- | :--- | :--- | :--- |
    | 1466 | Input ar Inter. I.F. Trans. | 4.5 MC | $\$ 2.40$ |
    | 1467 | Saund Discrim. Trans. | 4.5 MC | 3.00 |
    | 1468 | Saund Ratia Det. Trans. | 4.5 MC | 3.30 |
    | 1469 | Saund Pick Off Cail | 4.5 MC | 1.25 |
    | 1470 | Saund Trap Unshielded | 4.5 MC | 1.25 |
    | $1470-\mathrm{A}$ | Saund Trap Shielded | 4.5 MC | 1.65 |
    | 1480 | Quadrature Cail | 4.5 MC | 1.25 |
    | 1481 | Quadrature Cail Sh'l'd. | 4.5 MC | 1.65 |
    | 1498 | Saund Ratia Det. Trans. | 4.5 MC | 3.30 |

    

    Universal Adjustable Ion Trap Due la its adiustable feature, which allows the magnetic field to be varied belween 32-55 jausses, this trap will, in most a specific magnetic field.

    ## ian traps Cat. Na.

    

    Descriptian
    List Price
     I.F. Transformers

    Converter transformer and 1 st pix I.F. grid transformer have 75 -ohm link winding
    Used in R.C.A. current models.
    Dimensions: $7 / 8^{\prime \prime} \times 7 / 8^{\prime \prime} \times 21 / 4^{\prime \prime}$ high.
    Cat. No. Destription

    Trap List Pr.
    6215 Converter I.F. Trans.
    6216 1st Pix l.F. Grid Trans. $39.25 \mathrm{MC} \begin{array}{r}\$ 2.50 \\ 3.00\end{array}$ $\begin{array}{llll}6216 & \text { Ist Pix l.F. Grid Trans. } & 39.25 \mathrm{MC} & 3.00 \\ 6217 & \text { 1st Pix l.F. Plate Trans. } & \mathbf{4 1 . 2 5} \mathrm{MC} & 3.00\end{array}$ 6218 2nd Pix I.F. Grid Trans. 47.25 MC 2.75 Unshielded
    

    Dimensians: $1 / 2^{\prime \prime}$ O.D. $\times 21 / 4^{\prime \prime}$ lang 6219 3rd-4th \& 5th I.F. $41.75-45.75 \mathrm{MC}$. 6220 41-45 MC Canverter I.F.
    

    $\begin{array}{lll}6224 & 44 \mathrm{MC} \text { Fourth I.F. } & 1.40 \\ 6225 & 41-45 \mathrm{MC} \text { I.F., Single Winding } & 1.55\end{array}$ | 6226 |  |  |
    | ---: | ---: | ---: | ---: |
    | 6226 | $\mathrm{Hi} Q$ Trap | $40-46 \mathrm{MC}$ | Video Peaking Coils,

    Filament Choke
    Na. 6175 Filament Chake- $3^{\prime \prime}$ dia. $x^{7 / 8^{\prime \prime}}$ lang;
    Videa Peaking Cails $-1_{8}^{3 \prime}$ dia. x $1 / 2^{\prime \prime}$ long. Cat. No. Use -uhy Resistor Lisi Price $6175 \quad$ Filament $\quad 0.8 \quad$ None $\quad \$ .50$

    | 6152 | Peaking | 20 | None | .50 |
    | :--- | :--- | :--- | :--- | ---: |
    | 6176 | Peaking | 36 | None | .50 |
    | 6110 | Peaking | 60 | Nane | .50 |
    | 6172 | Peaking | 73 | None | .60 |
    | 6177 | Peaking | 93 | None | .60 |
    | 6112 | Peaking | 100 | Nane | .60 |
    | 6178 | Peaking | 120 | $22 K$ | .60 |
    | 6153 | Peaking | 120 | None | .60 |
    | 6120 | Peaking | 155 | Nane | .60 |
    | 6179 | Peaking | 180 | $39 k$ | .60 |
    | 6180 | Peaking | 180 | None | .60 |
    | 6154 | Peaking | 200 | None | .60 |
    | 6173 | Peaking | 250 | $22 K$ | .60 |
    | 6181 | Peaking | 250 | None | .60 |
    | 6130 | Peaking | 275 | Nane | .60 |
    | 6155 | Peaking | 300 | None | .60 |
    | 6132 | Peaking | 330 | Nane | .60 |
    | 6134 | Peaking | 375 | Nane | .60 |
    | 6136 | Peaking | 420 | Nane | .60 |
    | 6138 | Peaking | 470 | Nane | .60 |
    | 6174 | Peaking | 500 | None | .60 |
    | 6144 | Peaking | 550 | Nane | .60 |
    | 6146 | Peaking | 600 | Nane | .60 |
    | 6148 | Peaking | 700 | Nane | .60 |
    | 6156 | Peaking | 800 | Nane | .60 |
    | 6157 | Peaking | 950 | None | .60 |

    R.F. Transformer for HV Power Supply These R.f. power supply transform. ers make an inexpensive source of high voltage. Two types are available, the 4525 for voltages to 5000 DC, and the 4526 far voltages 10 $10,000 \mathrm{DC}$ (or $30,000 \mathrm{DC}$ ) in a voltage rectifier tripler circuit). Typical circuit diagrams are supplied with each coil.
    $\qquad$ 4525 H.V. R.F. Trans. (to 5 KV) $\$ 8.25$ Dimensions: $11 / 4^{\prime \prime}$ dia. $\times 33 / 4^{\prime \prime}$ high. (lilus.)
     Horizontal Oscillator E Sync. Control Coils \#6194 Sync. Lock \#6182 Sync. Guide
    \#6183 Sync. Freq. \& Phase
    Dimensions: $11^{7} 6^{\prime \prime} \times 11_{16}^{16} \times 21 / 2^{\prime \prime}$ high. 6211 and 6324 Unshielded, Maunting hate Maunting hole 6183 may be reversed in shield for top or battam maunting.

    | Cat. No. | Item L | List Price |
    | :---: | :---: | :---: |
    | 6194 | Osc. \& A.F.C. | 2.75 |
    | 6182 | Osc. and Sync. Control Coil | 2.25 |
    | 6183 | Osc. and Sync. Stabilizer Coil | 2.75 |
    | 6210 | Sync. Stabilizer Cail 16.42 mh | 2.25 |
    | 6211 | Sync. Stabilizer tapped 16.42 mh | h 2.25 |
    | 6212 | Hariz. Osc. Iapped $12-35 \mathrm{mh}$ | 2.25 |
    | 6324 | Hariz. Ose. tapped 60-130 mh | 2.25 |
    |  | Linearity Width Cont | $\begin{aligned} & \text { G } \\ & \text { ntrols } \end{aligned}$ |
    | Dimensi <br> Cat. Na | ns: $3 / 4^{\prime \prime} \times 21 / 2^{\prime \prime}$ Max. Inductance Range | List Price |
    | 6313 | . $50-5.0 \mathrm{Mh}$ | \$1.50 |
    | 6314 | 2.0-18. Mh | 1.75 |
    | 6315 | 4.0-30 Mh | 1.80 |
    | 6316 | 4.0-30 Mh with A.G.C. | 2.25 |
    | 6317 | 3.2 - 9.0 Mh with A.G.C. | 2.25 |
    | 6318 | .20-3.0 Mh | 1.50 |
    | 6319 | $15-60 \mathrm{Mh}$ | 2.25 |
    | 6320 | .20-3.0 Mh tapped | 1.50 |
    | 6321 | 1.0-5.0 Mh tapped | 1.50 |
    | 6322 | 1.5-10 Mh | 1.75 |
    | 6323 | .50-5.0 Mh tapped | 1.50 |
    | 6324 | 60.-130 Mh tapped | 2.25 |
    | 6195 | .185-1 Mh | 1.25 |
    | 6196 | .054-. 245 Mh | 1.10 |
    | 6196-A | .054-. 50 Mh tapped | 1.25 |
    | 6197 | $.55-2.3$ Mh tapped | 1.25 |
    | 6198 | .170-.61 Mh | 1.10 |
    | 6199-A | $\begin{array}{ll}1.3 & -4.1\end{array}$ | 1.30 |
    | 6199-B | . $50-1.7 \mathrm{Mh}$ | 1.2 |

    Antenna Matching Coil (Balun)疌
    Far use in matching a $4: 1$ impedance ratia, such as 75 to 300 ohms. Two coils required in each network. Frequency range of impedance match 50 Mc to 220 Mc without introdueing an appre-
    ciable standing wave ratio. Can be used to cicable standing wave ratio. Can be used to
    replace $R C A$ \#3591, Philco \#32-4432-1, -2 , or -3, \#76-7071, and Motarola \#S-13.

    | Caf. Na. | Ltem | List Price |
    | :--- | :---: | ---: |
    | 6202 | Antenna Matching Cail | $\$ 2.35$ |

    ## ङ Miniature 44 MC

    Picture Trans.
    Converter and 1 st pix I.F. Grid trans. former have 75 ohm link winding. Dimensions: $3 / 4^{\prime \prime}$ Square $\times 2^{\prime \prime}$ high. Manufactured under patents of and by Automatic Manufacturing Corp. Cat. No. Description Trap List Pr Cat. No. $\begin{array}{lr}\text { Description } & \text { List Pr } \\ \mathbf{2 . 4 0}\end{array}$ 623144 MC First I.F. $\quad 4125 \mathrm{MC} \quad \mathbf{2 . 4 0}$ $\begin{array}{llll}6232 & 42.5 \mathrm{MC} \text { Second I.F. } & 41.25 \mathrm{MC} & 2.00 \\ 6233 & 45.5 \mathrm{MC} \text { Third I.F. } & \mathbf{4 7 . 2 5} \text { MC } & 2.40 \\ 6234 & 44 \text { MC Faurth I.F. } & & 1.75\end{array}$

    | 47.25 MC | 2.40 |
    | :--- | :--- |
    |  | 1.75 |

    ### 4.5 MC Miniature Intercarrier Sound <br> I.F. Transformers

    Clip Mounting

    Dimensions: $3 / 4^{\prime \prime}$ square by $2^{\prime \prime}$ high. Shell Core Permeability tuned Manufactured under patents af and by Automatic Manufacturing Corp. | Cal | No. | List Price |  |
    | :--- | :--- | :--- | :--- |
    | 6203 | 4.5 | MC | Input ar Interstage |
    | 6204 | 4.5 MC | Discriminator |  | $\begin{array}{ll}6204 & \text { 4.5 MC Discriminator } \\ 6205 & \text { 4.5 MC Ratio Detector }\end{array}$

    Intercarrier Sound
    T.E. Transformers
    Clip Mounting

    For a Complete Listing of MILLER PRODUCTS ask for a copy of our Latest General Catalog.

    ## BURNELL toroidal inductors

    TC-O-Frequency Range 1 KC to 20 KC . Inductance Range . 001 to 3 HYS. Nominal coil size $3 / 8 \times 15 / 18$.
    

    TC-4 - Frequency Range same as TC-1. Inductance Range .001 to 10 HYS. Nominal coil size $1^{7 / 32} \times 18 / 32$.

    TC-1-Frequency Range 400 CPS to 10 KC . Inductance Range .001 to 15 HYS . Nominal ccil size $15 / 8 \times$
    
    

    TC-5 - Frequency Range 1 KC to 100 KC . Inductance Range .001 to 750 MHY . Nominal coil size $17 / 32 \times 18 / 32$.
    

    PRICE LIST
    TC-

    TC-15-Frequency Range 100 to 5000 CPS. Inductance Range 001 to 125 HXS . Nominal coil size $1^{7 / 8} \mathrm{x}^{7 / 8}$.
    SC. 12
    CASE
    

    Inquiries invited for special toroids and magnetic amplifier coils.
    

    ## BURNELL \& CO., wc <br> YOMKERS 2. NEW YORK

    PACIFIC DIVISION: South Pasadeno, Calif.
    first in Toroids, Filters and Related Nelworks

    ## BURNELL R वToRoiD. <br>  <br> Miniature <br> Rotoroid, Type <br> VTI-C or VTI-D <br>  <br>  <br> Induction variation as function of shaft rotation for VTI-A and VTI-B units. Inductance ratio $4: 1$. <br>  <br> Variation in $Q$ as a function of inductance and frequency for VTI-A-1.0. Mean inductance is 1.0 Hy . <br>  <br> Variation in Q as a function of inductance and frequency for VTI-C-10. Mean inductance is .10 Hy .

    ## NOMINAL INDUCTANCE VALUES*

    | $\begin{gathered} \text { VTI-A } \\ \text { (TC. } 16 \text { Core) } \end{gathered}$ |  |  |  | $\begin{gathered} \text { VTI.B } \\ \text { (TC-3 Core) } \end{gathered}$ |  |  | $\begin{gathered} \text { VII-C } \\ \text { (TC-O Core) } \end{gathered}$ |  |  | VTI.D (TC. 6 Core) |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | 10.0 | Hys. | \$21.95 | . 5 | Hys. | \$16.10 | 3.2 | Hys. | \$15.25 | . 5 | Hys. | \$16.10 |
    | 3.2 | ${ }^{6}$ | 18.50 | . 32 | ' | 15.75 | 1.0 | ' | 13.75 | . 32 | " | 15.55 |
    | 1.0 | " | 16.80 | . 1 | " | 15.40 | . 32 | " | 13.00 | 1 | ، | 14.95 |
    | . 32 | " | 15.75 | . 032 | " | 15.00 | . 1 | " | 12.75 | . 032 | ' | 13.50 |
    | . 1 | ${ }^{\prime \prime}$ | 15.40 | . 01 | " | 15.00 | . 032 | " | 12.25 | . 01 | ، | 13.00 |
    | . 032 | ' | 15.00 | . 0032 | " | 15.00 | . 01 | ${ }^{\prime}$ | 12.25 | . 0032 | ' | 12.75 |
    | . 01 | " | 15.00 | . 001 | " | 15.00 | . 0032 | " | 12.25 | . 001 | " | 12.75 |
    | . 0032 | * | 15.00 | . 00032 | " | 15.00 | . 001 | " | 12.25 | . 00032 | " | 12.75 |
    | . 0010 | " | 15.00 |  |  |  |  |  |  |  |  |  |

    *intermediate inductance values avallable on SPECIAL ORDER WITH MINIMUM DELAY
    Also available are special subminiature Rotoroids, Types VTI-F and VTI-G. Inquiries are invited on "Rotoroids" with special features such as taps, additional windings, tracking characteristics, etc. Refer to Rotoroid technical brochure for information on characteristics.

    ## BURNELL AdjusToroiD.

    ## VARIABLE TOROIDAL INDUCTORS

    Now the advantages of the Rotoroid principle of inductance variationsimplicity, stability, linearity, and high " $Q$ "-can be realized economically in the numerous applications where toroid with a limited variation of inductance is desired. Using similar construction as the Rotoroid, the Adjustoroid allows a total inductance variation of approx. $10 \%$.
    

    ## PRICELIST

    

    BURNELL \& CO., me.
    YONKERS 2, NEW YORK
    PACIEIC DIVISION: SOuth Pasadena, Calif.
    First in Toroids, Filfers and Related Networte

    ## BURNELL filters

    All Burnell Filters employ the highest quality toroids and stabilized capacitor components. They have been designed to withstand the rigorous service conditions at communications stations throughout the world... and to comply with the requirements of the MIL-T-27 Government Specifications.

    ## TC-L LOW PASS FILTERS*

    600 ohm impedance up to 350 cycles$\$ 36.00$ NET PRICE 10,000 ohm impedance up to 350 cycles\$34.00 NET PRICE

    All filters above 400 cycles, either 600 or 10,000 impedance$\$ 32.00$ NET PRICE
    Important: Specify impedance when ordering.
    

    ## TC-H HIGH PASS FILTERS*

    630 ohm impedance up to 350 cycles$\$ 34.00$ NET PRICE
    10,000 ohm impedance up to 350 cycless 34.00 NET PRICE All filters above 400 cycles, either 600 or 10.000 impedance s32.00 NET PRICE
    Important: Specify impedance when ordering.
    
    :Available on various cut-off frequencies from 60 to 20.000 cycles.
    B.I.F. (Band Pass Interstage Filfers)

    This series of interstage band pass filters will be of interest to project and design engineers to whom the time required for specially designed filters is prohibitive. A stock supply will be maintained for most commonly used center frequencies** between 60 and 50,000 cycles. The filter is designed to operate between the triode plate and the grid of a tube and provides a voltage gain of approximately 6 DB . Filters are hermetically sealed. Small size pernits use in compact or even miniaturized
     When ordering, specify BIF

    Cycles.

    $$
    \begin{array}{ll}
    \mathrm{B} / \mathrm{W}= \pm 3 \mathrm{Cic} & Z \mathrm{IN}=10 \mathrm{~K} \text { ohms } \\
    40 \mathrm{db} / \text { octave } & Z \text { Out }=\text { go grid }
    \end{array}
    $$ BIF Net Price $\$ 24.00$ Each

    


    ## BURNELL \& CO., w.

    ## YONKERS 2, NEW YORK

    
    $E$

    ## 5.7

    BENCH RACK

    Size $17^{\prime \prime} \times 20^{\circ}$, tapped holes per "universal" rack spacing NET PRICE .................... \$12.75 COMPONENT PARTS

    ## Name.No.

    Pkg'd Price
    ANGLE LEG $. \$ 3.00,4$
    MOUNTING STRIP
    MS. 17 ..................
    RR-317
    ............................
    4.80/pr.

    END RACK RAIL
    1.80/pr.

    RR-320
    $2.10 / \mathrm{pr}$.
    RUBBER TIPS
    .75/8

    ## 

    Bench Racks accommodate all SeeZak parts and standard rack panels, facilitates work in any position, won't tip over.

    PEGBOARD, PGB-4
    $4^{\prime \prime} \times 17^{\prime \prime}, 1 / 16^{\prime \prime}$ phenolic, holes for "Presto" terminals punched on $1 / 4^{\prime \prime}$ centers.

    NET PRICE
    $\$ 1.6800$

    ## PRESTO TERMINALS T. 100

    Slotted, brass, silver plated. snap.in type reusable
    NET PRICE ............ $\$ 4.20 / 100$

    RIVSET 600
    Plastic case with $3 / 32^{\prime \prime}$ and $1 / 3,{ }^{\prime \prime}$ riveting tools, 200 rivets $100=4$ self.tapping screws.
    

    SEEZAK E-X-P-A-N-D-A-B-L-E CHASSIS

    ## PANELS-16 GA. ALUMINUM (FIG. A)

    | $\begin{aligned} & \text { Egth } \\ & \text { In. } \end{aligned}$ | $4{ }^{\text {\% }}$ Wde |  | $5^{\prime \prime}$ Wide |  | 6 Whe |  | $7{ }^{7}$ Wide |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | No. | Net | No. | Net | No. | Net | No. | Net |
    | 4 | P-44 | \$0.33 |  |  |  |  |  |  |
    | 5 | P-45 | $\cdot 36$ | P-5 5 P-56 | \$ 0.42 |  |  |  |  |
    | 6 | P-46 |  | P-56 P-57 |  | P-66 | S0.57 |  |  |
    | 7 | P-47 | .42 | (e57 ${ }_{\text {P- }}$ | .48 | P-67 | .60 | P-78 <br> -78 | 0.69 |
    | 8 | P-48 | 45 | P-58 | 57 | P-68 | . 68 | P-79 |  |
    | 9 | P-49 | .48 | P-59 | 6 | P-610 | 6 | P-710 |  |
    | 10 | P-410 |  | P-510 | 63 | P-611 | 72 | P. 711 | 8 |
    | 11 | P-411 | . 60 | P-512 | 66 | P-612 | 75 | P-712 | 8 |
    | 13 | P-413. | 8 | P-513 | 69 | P-613 | 78 | P-713 |  |
    | 14 | P-414 | . 66 | P-514 | . 72 | P-614 | -81 | P-714 |  |
    | 15 | P-415 | . 69 | P-515 | 75 | P-615 | 84 | P-715 |  |
    | 16 | P-416 | .72 | P-516 | . 78 | P-616 |  |  |  |
    | 17 | P-417 | .75 | P-517 | . 8 | P-617 | . 90 | P-717 | . 99 |

    $$
    \begin{aligned}
    & 10 \text { p-16" Wide } 16^{7} \text { Wide }
    \end{aligned}
    $$

    
    PROTOTYPE PANELS (FIG. B)
    lre-bunched to accommodate various sockets. 16 -ga. aluminum
    
     RAILS (FIG. C)
    

    | $\begin{aligned} & \text { Lgth. } \\ & \text { In. } \end{aligned}$ | $2^{\text {n }}$ 18-Ga. Rails |  | 3 10-Ga. Rails |  | 4* 16-Ga. Ralls |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | No. | Net Pr. | No. | Net Pr. | No. | Net Pr. |
    | 4 | R-24 | \$0.33 | F-32 | \$0.45 | R-44 | 0.60 |
    | 5 | R-25 | .36 | R-35 | . 51 | R-45 | . 66 |
    | 6 | R-26 | .39 | R-36 | 54 | R-46 | 72 |
    | 7 | R-27 | . 42 | R-37 | 60 | R-47 | 78 |
    | 8 | R-28 | . 45 | R-38 | 63 | R-48 | 84 |
    | 9 | R-29 | . 48 | R-39 | . 69 | R-49 | 90 |
    | 10 | R-210 | . 54 | R-310 | .75 | R-410 | 99 |
    | 11 | R-211 | . 60 | R-311 |  | R- 111 | 1.05 |
    | 12 | R-212 |  | R-312 | . 87 | R. 12 | 1.14 |
    | 13 | R-213 | . 72 | R-313 | 96 | R-413 | 1.23 |
    | 14 | R-214 | . 78 | R-314 | 1.02 | R-414 | . 29 |
    | 15 | R-215 | . 84 | R-315 | 1.08 | R-415 | 1.38 |
    | 16 | R-216 | . 87 | R-316 | 1.14 | R-416 | 1.44 |
    | 17 | R-217 | . 90 | R-317 | 1.20 | R-417 | 1.50 |

    RAIL CONNECTORS (FIG. D)
    To make "J.". "U" and other combination shajed chassis.
    
     SHIELD CLIP (FIG. E)
    I se with rall $1^{s}$ shorter than side rails for internal shielding. No. SC-2-J'or $2^{\prime \prime}$ rails. 1N-Ga. aluminmin. Net Eath..... $\mathbf{\$ 0 . 0 9}$ No. SC-3-for $3^{n}$ rails. 16-ga. aluminum. Net Each :i윻 No. SC-4-For $4^{\prime \prime}$ ralls. lGFa, all FEET (FIG. F)
    set of 4 reet. 4 rubber bumpers, 8 screws. 1 G -ga. aluminum
    Set of 4 feet, 4 rubber bumpers, 8 gcrews. 1G-ga. aluminum. $\mathbf{N o .} 39$
    PANEL COUPLER (FIG. G)
    
    

    Wire flat on any surface with SeeZak's interlocking rails and removable panels.
    

    SeeZak Chassis will expand in all directions, any form, shape or size as needed.

    ## CALIFORNIA Cbassis COMPANY

    

    ## STANDARD CHASSIS

    All chassis are stamped and formed from one piece of material (except fon $^{\prime \prime}$ depth). All four cornets welded and flanged to accommodate bottom plates.
    

    ## CALIFORNIA Cbassis COMPANY

    

    PANEL CHASSIS

    | Height | Weight | Net Price |
    | :---: | :---: | ---: |
    | $13 / 4$ | $2 \#$ | $\$ 2.04$ |
    | $31 / 2$ | $23 / 4$ | 2.19 |
    | $51 / 4$ | 4 | 2.37 |
    | 7 | $41 / 2$ | 2.70 |
    | $83 / 4$ | $53 / 4$ | 3.24 |
    | $101 / 2$ | $63 / 4$ | 3.48 |
    | $121 / 4$ | $71 / 2$ | 3.90 |
    | 14 | $81 / 2$ | 4.20 |

    Larger sizes on request．All made from 1 f gange steel Electro Zinc Plated．Notched Western Electric．
    Depth from flange to bottom is $51 / 4$＂．
    
    
     11．
    

    ## CHASSIS BOTTOM PLATES

    

    METER CABINETS
    

    | Net <br> Price | Weight |
    | :--- | :--- |
    | $\$ 1.50$ | 1 |
    | 1.50 | $=$ |
    | 1.50 | 2 |
    | 1.50 | 2 |
    | 1.50 | 1. |
    | 1.90 |  |

    Steel
    Cat．No．
    SMC－2
    SMC－3
    SMC－4
    SMC－6＊
    SMC－7＊
    SMC－8

    | Weight | Net Price |
    | :---: | :---: |
    | $1{ }^{1}$ 只井 | \＄1．35 |
    | $11 \%$ | 1.35 |
    | 13 年 | 1.35 |
    | $11 / 2 \#$ | 1.35 |
    | 11.4 | 1.35 |
    | $\because 1$. | 1.75 |

    
    
    CALIFORNIA CHASSIS CO．• Lynwood，California

    ## CALIFORNIA Cbassis COMPANY

    

    ## DESK CABINET RACKS

     to obit litue of hish qualis flew
     ats woll ms bility has luen buils intar this lime on dolluve tahitr liarhs．
    
    
    
    
    
    
    

    | Cat．No． | Panel Space | Height | Shipping Weight | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | DCR． 8 | －3／3 | －111！ | ご\＃ | \＄13．80 |
    | DCR－10 | 1012 | 10\％ | こ！\＃ | 15.12 |
    | DCR－12 | 1 11 | 118 | ：1 | 16.11 |
    | JCR－14 | 11 | 1\％ | $:: 3$ | 17.82 |
    | DCR－17 | 17\％ | 1：110 | $\because 7$ | 21.21 |
    | DCR－21 | $\because 1$ | ¥ロ1： | 3！\＃ | 22.77 |
    | DCR－26 | $\because 61 \%$ |  | 4．\＃ | 24.72 |
    | DCR－31 | 3119 | $83^{3} 7^{7}$ | 514 | 26.61 |
    | DCR－35 | 8 A | $\because 310$ | 5的 | 27.51 |

    

    ## SLOPING FRONT CABINETS

     Cosizhol lor with Hise it tha
     stainlabs ktcol boblilillate Roalbliful rhatma trim nive
     ＂Hae rata wi llae cabibstl has phtrelat rilltilators with at＂̈，
    
     Finish－Gray Wrinkle

    | Cat．No， | D | H | $L$ | T | X | S | C | Weight | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | SFC． 42 | s＂ | －＂ | N＂ | ：1：＂ | － | $6{ }^{\circ}$ | $51 /$ | 41．$=$ | \＄4．17 |
    | SFC．44 | s＂ | $8 "$ | 1110 | －1，＂ | －：1＂ | （i＂ | $\therefore!$ ， | $\therefore$－ | 5.85 |
    | SFC． 46 | s＂ | $8 "$ | $11^{\prime \prime}$ | ＋1：＂ | $\because: 31$ | $10^{\prime \prime}$ | ［，1，＂ | $1 ; 1, \ldots$ | 7.05 |
    | SFC－48 | 1：＂ | $1: "$ | 18＂ | f．＂ | $\because!$ | 111\％＂ | ！ 1 ！ | $11:=$ | 9.45 |

    

    METAL UTILITY CABINETS
     （allillefs atre hav． lal for maty tron
     plosiliolts，Nitc lit
    
     ath！lotasings 1011
    varimas types on
    
    
     mownhly．it mallac：
     $1 \cdot]$ oist spuecits it athmolbum is desisul．

    | Catalog No． | Weight Steel | Depth | Width | Height | Weight Alum． | Alum． Net Price | Steel Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | CAB－1 | 3. | $\because "$ | 1＂ | $1 "$ | 3 n \＃ | \＄． 99 | \＄． 93 |
    | CAB－2 | 1 | ：3 | f，＂ | $4^{\prime \prime}$ | \％ | 1.23 | 1.05 |
    | CAB－3 | $11 \%$ | ＋＂ | $5 \prime \prime$ | ti＂ | \％ | 1.44 | 1.29 |
    | CAB． 4 | $\pm 1$. | ti＂ | $1{ }^{\prime \prime}$ | 4：＂ | 1 | 1.98 | 1.44 |
    | CAB－5 | $\because 1$ | 5 ＂ | H：＂ | ！＂ | 1＇1 | 2.19 | 2.01 |
    | CAB－6 | 4 | \％＂ | ＊＂ | $111 "$ | $\because$ | 2.79 | 2.40 |
    | CAB－7 | ？ | ti＂ | \％＂ | 1：＂ | $\because$ | 3.09 | 2.55 |
    | CAB－8 | 4 | $8{ }^{\prime \prime}$ | $11^{\prime \prime}$ | 110 | $\because 16$ | 3.69 | 2.79 |
    | CAB－9 | － | ${ }^{\prime \prime}$ | 11 ＂ | 1：＂ | $\because$ | 4.59 | 3.60 |
    | CAB－10 | 7 | ＂＇ | ！＂ | $1 \% "$ | \＃ | 5.40 | 4.20 |

    

    ## ENCLOSED RELAY RACKS

    This comblutely ellolosed rark will give vour joh tha＇＂protessional andutamex＂which is desirable for all ixpes of chectronic amipment．It is con－ structed from in＂rodd rollod steel．
     rexpment．lands arr shipmed＂hnocked down＂with all neressary holts for wasy assembly．
    An ample surply of jancl monnting screws ant Washers art suprobed．black wrinkle is standard day wrinkle firish will be suphlied withont extra Share it sperefied

    Lacks will accommoulate either Western Electric （or Amatom leancls．

    ## Catalog No．RC－61

    Ourall bimmajoms
    （6t：
    Itailably patial space：
    （il＇，， $19{ }^{\prime \prime}$
    （＇latar inkitu whlt（iront）： 17＂
    （layar insith wiallh（rear）： $19^{\prime \prime \prime}$
     shipping Wriwht：100 lls．
    Net Price：$\$ 54.00$

    Catalog No．RC． 36
    Overall dimensions：
    t2 $\times 21 \times 161$
    Avalable banel space：
    36 多 $\times 19^{\prime \prime}$
    （＇lear inside＇width（front）：
    17示＂
    （latar inkide width（rear）： $19^{\prime \prime}$ （lear inside afepth： $151 / 4$＂
     Net Price：$\$ 36.00$
    

    ROLLER TRUCKS FOR RACKS
    Cat．No．RCT． 1
    1； $1 / 212 \mathrm{~s}$.
    Net Price：$\$ 10.50$
    
     distrimulan oil woisht．（astors have hall－hearine swisels，with $2^{\prime \prime}$
    

    UTILITY CABINET WITH PLATFORM CHASSIS INCLUDED

    | Catalog No． | Cabinet Size |  |  | Net |
    | :---: | :---: | :---: | :---: | :---: |
    |  | Weight | H W D | Chassis Size | Price |
    | HA－201 | 1 \＃ | $4 \times 4 \times 2$ | $31 / 4 \times 17 / 8$ | \＄1．26 |
    | HA－202 | $11 / 2$ | $4 \times 5 \times 3$ | ＋1／4x $27 / 8$ | 1.38 |
    | HA． 203 | $1 \%$ | $5 \times 4 \times 3$ | 31／8×27／8 | 1.38 |
    | HA－204 | $21 /$ | $6 \mathrm{x} 5 \times 4$ | ＋1／r $\times 378$ | 1.62 |
    | HA． 205 | $21 / 4$ | 万xfixt | $51 / 8 \times 378$ | 1.62 |
    | HA． 206 | ： | 6 x fix ff | $47 / 8 \times 5 / 8$ | 1.71 |

    CALIFORNIA CHASSIS CO．－Lynwood，California

    ## CALIFORNIA Cbassis COMPANY

    

    RELAY RACK PANELS
     aty Matl foll ＂M＂material Vитin！mis is 11001111． Pluthiner is
    ither Wirstom
    
    
    
    
     patola arr shans：in गevalat price list．

    | Westerning |  |  | Width | Weight Alum． | Weight Stecl | Alum． Net Price | $\begin{aligned} & \text { Steel } \\ & \text { Net } \\ & \text { Nrice } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Wesiern Ele tric | Amateur | Height |  |  |  |  |  |
    | PW 10 | PA－19 | 1 ${ }^{\text {a }}$ | $1!$ | ${ }^{1}=$ | 11 | \＄1．05 | \＄1．11 |
    | rw 11 | PA－12 | ： 1 | $1!$ | 3 3， | $\because 1$ | 1.32 | 1.29 |
    | PW． 12 | PA－i 2 | ＇11 | 19 | $11:$ | 1 | 1.74 | 1.47 |
    | PW－13 | PA．： 3 | $\div$ | 19 | 112 | 13 | 2.13 | 1.74 |
    | PW－14 | PA． 1 | 43 | 19 | ？ | $1{ }^{\text {a }}$ | 2.52 | 2.01 |
    | PW－15 | PA．：S | 161． | 19 | －1． | 43： | 2.94 | 2.22 |
    | PW－16 | PA． 15 | 1011 | $1!$ | 3 | S ${ }^{\text {a }}$ | 3.33 | 2.58 |
    | PW－17 | PA． 17 | 11 | $1!$ | 31 | 9 9 | 3.72 | 2.97 |
    | PW－18 | PA－18 | 10\％ | $1!1$ | 1 | 1113： | 4.14 | 3.33 |
    | PW－19 | PA－19 | に！ | 19 | $11:$ | 11 | 4.53 | 3.78 |
    | PW－20 | PA－20 | －$\square_{1}$ | 19 | $\therefore$ | 1：3 | 4.92 | 4.17 |
    | PW－21 | PA． 21 | $\therefore 1$ | $1!$ | 514． | 1.53 | 5.34 | 4.53 |
    | PW－22 | PA－22 | 311. | $1!1$ | $f$ | 151\％ | 6.06 | 5.34 |

    

    CHASSIS MOUNTING BRACKETS
    
    
    
    
    
    
    

    | Black |  |  |  |  |  |  |
    | :--- | :---: | :---: | :---: | :---: | :---: | ---: |
    | Eramel | Heioht | $x$ | Dimensions <br> Depth | Clearance | Weight | Price |

    ## All orders over \＄100．00 Prepaid in California

    

    UTILITY
    BOX
    REMOVABLE COVER

    | Cal．No． | Weight | Dimensions |  |  | Covers Only | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | ha－10 | 1. | ： x | － | $\times 11 / 2$ | 11．10－10 | \＄1．08 |
    | HA． 11 | 1 | 15 | 3 | $\times 2$ | 12．10．11 | 1.41 |
    | HA－12 | 11, | $1 \times$ | $\checkmark$ | － | $11.10 \cdot 10$ | 1.56 |
    | HA－13 | $\because$ | $\therefore 1$ | ！1！ | \ $21 / 2$ | 11.11 .13 | 1.68 |
    | HA． 14 | ＊ 1. | （i） | $\because$ | － $31 / 4$ | $11.15 \cdot 14$ | 1.89 |
    | HA． 15 | 1 | 7 8 | ． | x $21 \%$ | $11.10 \cdot 15$ | 2.58 |

    
    

    ENCLOSED
    METER
    CABINET

    Cat．No．EMC－2
    Net Price Steel $\$ 2.60$ Aluminum $\$ 3.00$
    
    
    
     －はい。
    $\qquad$

    ## METER PANELS

    
    
    

    | Cat．No． Aluminum | Weinht | No．Holes | Diameter | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | MPA． 32 | 1 | 3 | $\because 16$ | \＄1．86 |
    | MPA－52 | 11， | 5 | $\because 16$ | 2.22 |
    | MPA－33 | $1 \%$ | 3 | 218 | 1.86 |
    | MPA－53 | 1 | 5 | $21 \%$ | 2.22 |
    | Cat．No． Stael | Weight | No．Holes | Diameter | Net Price |
    | MPS－32 | 3 | 3 | $\because{ }^{3}$ | \＄1．74 |
    | MPS－52 | $3: 3$ | － | $3{ }^{3}$ | 2.10 |
    | MPS－33 | $31:$ | 3 | $\because 1$ is | 1.74 |
    | MPS． 53 | 3 | － | $\because 18$ | 2.10 |
    | －mall｜mı | 1117 | ．litusel ho | \％for $3^{\prime \prime}$ |  |

    ## TRIANGULAR MOUNTING BRACKETS

    | Cat．No． | Weight | Dimensions | Net Price |
    | :--- | :---: | :---: | ---: |
    | MB－55 | $1 \%$ | $\vdots \times 5$ | $\$ .99$ |
    | MB－77 | 11 | $7 \times 7$ | 1.05 |
    | MB－99 | 13 | $\vdots \times: 3$ | 1.32 |

    CALIFORNIA CHASSIS CO．Lynwood，California
    

    ## D) ELUXE RELAY RACKS

    These relay racks are made of 16 gauge steel with 12 gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed.
    The front and back of the top, the two sides and the door are well louvered to provide adequate rentilation. The door is hung on sturdy, loose joint hinges; it is held closed by two attractive aluminum die cast plunger type snap action catches. A streamlined appearance is achieved by the use of rounded corners and red lined chrome trim. This relay rack is shipped knocked down and complete with all necessary hardware for assembly. All standard $19^{\prime \prime}$ panels will fit these racks. Overall width is $22^{\prime \prime}$. Depth $171 /$ " $^{\prime \prime}$. Inside clearance depth in back of panels $16^{\prime \prime \prime \prime}$. Clearance thru rear door $173 / 8^{\prime \prime}$. Clearance across panel mounting rails $173^{4}$ ". Panel rails tapped $10 / 32$ with W. E. spacing.
    A SPECIAL FEATURE IS THE USE OF FOUR STURDY SUPPPORTS IN THE BOTTOM, SO THAT CASTERS CAN BE FASTENED DIRECTLY TO the base, thereby achieving ready mobility.
    Bud RC-7756 casters will fit this unit. The easters are not included in the price of the caginet. These relay racks are supplied in either black or grey wrinkle finish, or light grey hammered finish. Use suffix letter " $B$ " for black wrinkle finish. Use suffix letter " $G$ " for grey wrinkle finish.
     Use suffix letters "HG" for light grey hammered finish.

    | $\begin{aligned} & \text { Catalog } \\ & \text { No. } \end{aligned}$ | Overall <br> Height | Panel Space | Shippinf: <br> Weight | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | CR-1774 | 42-1/16 ${ }^{\prime \prime}$ | $36{ }_{4}^{3 / 4}$ | 90 lbs . | \$34.34 |
    | CR-1771 | 47-5/16" | 42" | 95 lbs . | 39.32 |
    | CR-1772 | $66.9 / 16^{\prime \prime}$ | $61{ }^{1 / 4}$ | 12 l Ibs. | 51.03 |
    | CR-1773 | 82-5/16" | 77' | 150 lbs . | 61.48 |

    ## SUPER DELUXE 2 IOOOR RACKS

    This relay rack is an entirely new model that consists of a relay rack made of 16 gauge steel with 12 gauge panel mounting supports. The panel mounting supports are recessed so that no edges of the panel will be exposed. IN ADDITION, THEY ARE ADJUSTABLE FROM FRONT TO BACK IN VARIOUS STOPPING POINTS. THIS ENABLES YOU TO USE THE SPACE IN FRONT AND BEHIND THE PANEL TO ANY DEGREE THAT YOU MAY FIND NECESSARY. Overall width is $22^{\prime \prime}$. Depth $171 / s^{\prime \prime}$. Inside clearance depth in back of panels $161 / \mathrm{s}^{\prime \prime}$. Clearance thru rear door $173 / 8$. Clearance across panel mounting rails $173 / 4$ ". Panel rails tapped $10 / 32$ with W. E. spacing. Clearance behind panels is $15^{\prime \prime}$ to $9^{\prime \prime}$ in increments of 1 inch.
    These racks are fitted with both front and rear doors. The louvred rear door is to cover any of the equipment behind the panel and at the same time provide easy accessibility to it. The front door, flush with front of rack, is to provide a means of concealing dials, knobs, etc., that may be in front of the panel.
    The exclusive Bud feature of supports on the bottom so the casters may be fixed directly to the base, eliminating the need and expense of dollies, is also present in this series of racks. Bud RC-7756 easters will fit these units. The casters are not included in the price of the cabinet.
    If black wrinkle finish is desired, use suffix letter "B." If grey wrinkle finish is desired, use suffix letter "G." If light grey hammered finish is desired, use suffix "HG."

    | $\begin{gathered} \text { Catalog } \\ \text { No. } \end{gathered}$ | Overall Height | $\begin{aligned} & \text { Panel } \\ & \text { Space } \end{aligned}$ | Shipping <br> Weirht | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | CR-2174 | 42-1/16" | $36^{3 / 4}{ }^{\prime \prime} \times 19^{\prime \prime}$ | 108 lbs . | \$48.95 |
    | CR-2171 | 47-5/16" | $42^{\prime \prime} \times 19{ }^{\prime \prime}$ | 117 lbs . | 56.10 |
    | CR-2172 | 66-9/16 ${ }^{\prime \prime}$ | $61^{1 / 4}{ }^{\prime \prime} \times 19^{\prime \prime}$ | 146 lbs . | 71.61 |
    | CR-2173 | 82-5/16" | $77^{\prime \prime} \times 19^{\prime \prime}$ | 191 lbs . | 86.85 |

    Pricen aubject to change without notice.
    Pricen on above alightly higher mest of the Missinaippl Kiver.
    Only a few of many BUD Produrts are shown. Write for complete catalog.

    RELAY RACKS－CABINET RACKS

    ADD－A．RACK SERIES
    

    It alway has been necescary to buy suecial bat without loubi＋ on one sale to obtain maximom interion pace with a miniman． of ther space．Now，you no bunger ned to buy an entice new cabinet when you want additional spare．When multiple adal units ate rataited，we not only offer additional racks at a bower cost，but provide a sturdies．befter looking assembly．Onl： Add－A－Rack efries can accomplish this savingra．
    Iflustiation A shows tine two Add－A－Rack cabinct as in blec torether．Blustation $\|$ showe the unirge and ingenious motamel of adding a unit to your present equipment．Instcad of blovise an entircly new outtit，you puichase，as a unit，fous parfe： 1．The door 2．the top，3．the buttom，4．：n Atid－A－Rack Counlin？ Unit．＇Ihe right om left side of your pre ent relay rack is tealove． and wplaced by the Adr－A－Rack Compling Unit．Next，the tw
    
     door intai position and you low have lwo tacks porderly aud eftitiently compled arether．In the stame simple waty，wore riteks can he added at any timu．Fvery une will be in a continualus one piece atsembs，
    Ihic serix is aveilable in ：W－n，way．＇Ine that is alouble whit consigtins of a rack and a raxek coupling unit．The second is ath Add－A－Rack unit eonsititing of a door，a top，a botbom and ath Adra－A－Rack conflug unit．Each section has same dimensioms
     anembls and bajal motanting hardware．The same tine featore
     is preceni on the momel．

    | Catalos： Nu． | lisifto <br> Add－A－Rack to | Shipping Weight | Lezaler COSt | $\begin{aligned} & \text { Cata.og } \\ & N_{\mathrm{L}} . \end{aligned}$ | Makes Two Ra．k $\therefore$ 唯 Size as | Shippins： Weight | Dealer <br> C＇ust |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | AR－177＊ | CR－1774 | 75 lbs ． | ¢32．55 | CR－1779 | （ $\mathrm{R}-1774$ | 165 lbs ， | \＄6it．x9 |
    | AR－1775 | CR－1771 | 77 lbs ． | $37 . ⿻ コ 一^{11}$ | （R－1780 | （ K－1771 | 15．5 1 bo | 77.12 |
    | AR－177 ${ }^{\text {a }}$ | CR－1772 | 100 lb ． | 47.25 | （－R－1786 | （K－1772 | 222 lb | 9\％．2x |
    | AR－1777 | CR－1773 | 127 lbs ． | 57.6 | （R－174．4 | CR－1773 | $21.10 \mathrm{bs}$. | 12.25 |

     fimsh is desired，use sulfix＂illi，
    

    These cabinet racks ara so made that a profecaional supteran ee is given．They are ideral for commercial broadeasiers，for soumd equipment or test equibment．
    The five larger sizes have a hinged rear door，while the smalier sizes have the welderl panel in the rear．
    No wher manufacturer has the wide variety of sizes that are included in the Bud line of delaxe cabinet racks．

    ## D）EI．UXE

    CAHINET RACKS

    Ad catat ventilaton is assured by means of louvered sides and a 2 oproning is the botton of the back，which extends the entiee width of the cabinet．＂No scratch＂exiended inetal feet ale embossed on the bottom to minimize marrins of the table top us duy other equipment that this is placed on．

    Specify + suffix $* B^{\prime \prime}$ when black wrinkle is desired，the sullix ＂G＂when grey wrinkle is desired，or the suftix＂IlG＂when lirht gres hammeral $\Rightarrow$ idesired．

    | $\begin{gathered} \text { Cutulog } \\ \mathbf{N}_{2} . \end{gathered}$ | O．erall Hzight | Panel Space | Shipping Weight |  | $\begin{gathered} \text { Healec } \\ \text { Cuol } \end{gathered}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | （ K－1741 | 10.110 | 833／4＂ | 2 N | lbs． | S12．60 |
    | （ $k-7740$ | 125） $16^{\prime \prime}$ | 101／2＂ | 30 | lb：． | 14.39 |
    | （1）－472 | $14116^{\prime \prime}$ | 121＂ | 32 | 1 bs ． | 15．33 |
    | （ R －739 | 15.1316 | 14＂ | 34 | lbs． | 17.01 |
    | （＇R－1743 | 15－5 $16^{\prime \prime}$ | 171／2＂ | $3 \times$ | lbs． | 20.16 |
    | CR－1727 | $2213,16^{\prime \prime}$ | 21＂ |  | lbs． | 21，47 |
    | （ R－1744 | 20－1 $16^{\prime \prime}$ | 261／4＂ |  | lbs． | $\because 3.63$ |
    | CK－172＊ | 33－5 $16^{\prime \prime}$ | $31^{1 / 2 \prime}$ | 52 | lbs． | 23.29 |
    | （ R－1745 | 3x－13／16 | 35＂ | 60 | 1bs． | 26.15 |

    ## RELAY IRACKS－IBRACKETS

    

    Catalog Nos．RK－126\％，RR－1264，RR－1353 and RR－1：364 the made of 12 gage steel channels，three inches leep，with crois hirs of the sane thickness．The lesign of the base has been improned to incorborate a chassis tyre bottom，together with the usual side anseles．making this rack exceptionally strong and stable．
    Holes are provided in the base to accommodate Bud RC－65sh
     I and mounting rails tapped 1032 with W．E．aracing．E゙iniah batek wrinkle or light frey hammertone．
    The 13R－1265 is a heavy duty rack，suitazle for invaldeast stations and other commercial installations，whene it is desired that excep－ tionally sturdy construction he utilized．＂The usual manmer of instatlation is to bolt this unit to the flame．
    To cmphasi\％e the heary duty construrtion．it is neessary to
    
     channel．The two supportine cross hars are made of $516^{\prime \prime} x 2^{\prime \prime}$ steel．Itate is $15 * x=0.4$ ．Fanel holes tapped 1032 with $\mathbf{W}$ ． $\mathbf{E}^{*}$ ． spacirte．Finish blark wrimhle mony．
    Ans uf the panel chassis shown on pate $J-x \cdot$ or the standard relay mack pancls shown an piose $\mathbf{J - 7 9}$ and $\mathbf{J - k}$（lan be used with these ratcks．

    | $\begin{gathered} \text { Cataloer } \\ \text { No. } \end{gathered}$ | Heititht | Panel <br> Space | Shipping Weight lbs． | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | 1RR－126：3 | 32. | $31^{11}$ | 38 | S1R．18 |
    | KR－136．4 | \＃心：＂ | 363：＂ | 45 | 1 K .90 |
    | RR－126 | ＂11 ${ }^{1}$ | 6rit＂\％ | 53 | 21.06 |
    | KR－1364 | 78：＂ | 71：＂ | 58 | 22.05 |
    | RR－126： |  | tifis＂ | 100 | 48．81 |

    

    ## D）ESK TYPE

    ## REI．AY RACKS

    These racks are perfect for table mounting of low and medium powered transmitters，public addees systems and other electronic instruments．The rack has strong chassis for mounting heavy components． These units are shipped knocked down with necersary hardware and are casy to assembre．Depth 12＂．Panel holes tapped $10 / 32$ with W．E．spacing．Standard 19 ＂ wide panels can be used and the panels are set in recess so that no edges are exposed．Black wrinkle or light grey hammertone finish．

    |  |  |  | Actual Wit． |  |
    | :--- | :---: | :---: | :---: | :---: |
    | Catalog No．Panel Spaee | Height | Lhs． | Dealer Cost |  |
    | RR－1288 | $21^{\prime \prime} \times 19^{\prime \prime}$ | $21^{\prime \prime}$ | 15 | $\$ 7.10$ |
    | RR－1289 | $28^{\prime \prime} \times 19^{\prime \prime}$ | $31^{\prime \prime}$ | 17 | 8.80 |

    ## CHASSIS MOUNTING BRACKETS

    

    Mounting brackets are essential to insure moper support of chas－ his，Mounting flange is 1 ＂wide with 2 mount－ ing holes．These brack－ ets are formed of heavy gauge steel cut away at the bottom to provide chassis dearance so that the chassis can be mounted flush acainst the panel．Finsshed in black enamel only． Chassis mounting bracket Nos．MB－450 and MB－451 are designed for a chassis height of 4 ＂．These units are soll in paits only．

    | $\begin{gathered} \text { Citatow } \\ \text { Nı. } \end{gathered}$ | Heimht | lenth | Actual Weight | Dealor <br> Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | M13－458 | ¢ $9^{1}$ | －＂ | 11，lbs． | S ．90 pr． |
    | M13－143 | $6^{1} \underline{2}^{\prime \prime}$ | $10^{\prime \prime}$ | 1\％the． | 1.16 pr. |
    | M 3－1．59 | $6{ }^{1}$ | 11＂ | 2 ！ts． | 1.26 pr ． |
    | M13－179 | 6＇20 | 12 | 2 Ihs． | 1.33 pr ． |
    | M［1－16） | $6{ }^{1} 2^{\prime \prime}$ | 1：3＂ | $21 / 2 \mathrm{llos}$ ． | 1.42 pr ． |
    | M15－4．50 | 心＇30 | $10^{*}$ | $21 / 4 \mathrm{lbs}$ ． | 1.65 pr ． |
    | M $\mathrm{B}-1.51$ | －1．2＂ | $13^{\prime \prime}$ | $3 \mathrm{lhs}$. | 1.79 pr |

    Prichs mbbject to change without notice．
    Pricem on above whighty higher weat of the Miminsiphi River．
    Only a fon of many isid Products are hhown．Write for complete catalog．

    ## JUNIOR CABINET RACKS

    This cabinet rack is a multi－ purpose unit that is attrac－ tive，and useful，and inexpen－ sive．Cabinet is constructed to accommodate two pancls：one panel is $101 / 2^{\prime \prime} \times 18-5 / 16^{\prime \prime}$ and the other is $83 / 4 \times 18-5 / 16^{\prime \prime}$ These panels are supplied with the eabinet．O．A．height $211 / 4^{\prime \prime}, 10^{1 / 2 "}$ depth x $197 / /^{\prime \prime}$ sridth．Tapping 10／32 W．E．spacing．The Bud Junior Cabinet Rack is spacious enongh to accommodate a chassis up to $1^{\prime \prime} y^{\prime \prime} \times 11^{\prime \prime}$ ．
    The real of the cabinet is covered by a hinged door with a locking device．Finished in black wrinkle only．

    |  | shiparis | Weright Founds 34 | blr．l＇us \＄16．7． |
    | :---: | :---: | :---: | :---: |

    ## CHASSIS SUPPORTING ANGLES

    

    Where heavy weights arc encountered in chassis con－ struction，the Bud Chassis Supporting Angles will dis－ tribute the weight on the sides of the racks to re－ lieve the panel．The angles are made in two sizes from $1 / \mathrm{s}^{\prime \prime}$ thick．Width $3^{\prime \prime}$ ，height $13 / \mathrm{s}^{\prime \prime}$ ；mounting hardware furnished．Finished in black enamel only．The drawing shown around the chassis supporting angles in the illustration is intended to show the manner in which the chassis will be sup－ zorted by these angles．Sold in pairs only．

    | cataloz |  | Actual | We：aler |
    | :---: | :---: | :---: | :---: |
    | No． | Length | Weisht lbs． | Cost |
    | SA－1349 | $14^{1} 2^{\prime \prime}$ | 4 | \＄1．75 pr． |
    | SA－13．0 | $12^{\prime \prime}$ | 3 | 1.65 pr ． |

    ## HANDLECCATCH SET（Plunger Type）

    

    CL－7777 is an attractive handle and catch set now featured on all Bed Cabinet Racks and Relay Racks．Handle is cast aluminum with chrome plated finish．Snap catch is spring type．IMPORTANT FEATCRE JS THE PLUNGFR WHICH ASSURES EFFICIENCY AND EASY OPERATION．Supplied complete with mounting hardware．Actual weight $1 / 4 \mathrm{lb}$ ． C1．－7777

    Dealer Cost $\$ 0.86$

    ## ENCLOSED METER PANEL．

    This meter panel is designed to give maximum protection to any meter．The steel panel has a large cut－out behind which is mounted a blank mason－ ite sulb－panel．This sob－panel has a meter mounting
     four 3＂metere． $199^{\prime \prime}$ width $\times 5^{1 / 4 " ~ h e i g h t ~ x ~} 1^{\prime \prime}$ depth． The meters are protected by a glass insert that mounts in slides．Die to the danger of breakage in shipment，the glass is not supplied with the panel． The glass insert should be cut 16 ＂long $\mathrm{x} 45 /{ }^{\prime \prime}$＂wide． Finished in either black wrinkle，grey wrinkle or light grey hammered enamel finish．Please be sure to specify the proper suffix when ordering．
    Catalug No．
    PS－439
    PS－439 Natinal Woright
    3 Jlis．
    Dealey coust
    S．5．x．

    ## STANIARI RELAY RACK PANELS

    These panels are available in either steel or alumi－ num．The steel pancls are made of high grade steel $1 /$ s＂$^{\prime \prime}$ thick．Aluminum panels are standard at＂s＂ thick aluminum．All panels are $19^{\prime \prime}$ wide．Aluminum panels $3 / 16^{\prime \prime}$ thick are available at a $60 \%$ increase in cost over the standard $1 /{ }^{1} /$ panel．
    For the first time，we are offering light grey ham－ mered finish panels at no extra charge．Be sure to sperify by use of suffix＂B＂for black wrinkle finish， suffix＂（G＂for grey wrinkle finish or suffix＂HG＂for light erey hammered finish．

    STHEL，

    | $\begin{aligned} & 1 \text { Staluy } \\ & \text { No. } \end{aligned}$ | Heisht | Nothal Night Ibs． | Wealer しいぐ | $\begin{gathered} \text { Tutallag } \\ \text { Xin. } \end{gathered}$ | Heisht | Wivigal lls． | $\begin{gathered} \text { Mealer } \\ \text { ciant } \end{gathered}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PS． 1250 | 1＊＂ | $1{ }^{1}$ | \＄．76 | PS． 1256 | 121／4＂ | $81 ;$ | \＄1．95 |
    | PS． 1251 | ：3＂ | $\because 1$ ， | ． 86 | PS－1257 | 14＂ | 416 | 2.26 |
    | PS． 1252 | ¢1，＂ | ［314 | 1.02 | PS－1258 | 153／4＊＊ | $10 \%$ | 2.52 |
    | PS－1253 | \％＇＊ | $11 / 2$ | 1.14 | PS． 1259 | 171／2＂ | 113 | 2.84 |
    | PS． 1254 | S：＂ | $1{ }^{11}$ | 1.37 | PS． 1260 | 141／4＇ | 13 | 3.15 |
    | PS． 1255 | 101\％${ }^{1 / 2}$ | 7 | 1.68 | PS． 1261 | 210 | 141／9 | 3.47 |

    A1．UMINUM

    | $\begin{gathered} \text { Chtalus } \\ \text { No. } \end{gathered}$ | Heitht |  lise | 1）（：ial ler 1＂しには | $\begin{aligned} & \text { tanatloy } \\ & \text { So. } \end{aligned}$ | Height | A．tual Weight lls． |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PA． 1101 | 17317 | ${ }^{1}$ | 5.99 | PA－1107 | $121 /{ }^{11}$ | $2-3 / 4$ | \＄3．26 |
    | PA． 1102 | $\because 1 / 20$ | 31 | 1.21 | PA． 1108 | 14＂ | 3 | 4.00 |
    | PA－1 103 | \％1＂ | 1 | 1.63 | PA－1109 | 1．7\％／4 | $31 / 2$ | 4.13 |
    | PA． 1104 | $7^{\prime \prime}$ | $13 / 4$ | 1.98 | PA－1110 | 171／2＂ | 4 | 4.25 |
    | PA． 1105 | $8 \mathrm{SH} /$ | $\because$ | 2.37 | PA．1111 | 191／4＂ | $11 / 4$ | 4.90 |
    | PA． 1106 | 1113号 | 219 | 2.84 | PA－ 1112 | 11＂ | 5 | 5.56 |

    ## VENTILATING GRILL PANELS

    

    These pancls are made of $1 / \mathrm{m}^{\prime \prime}$ thick steel．The grill is stamped into the panel itself and is recommended for use where additional ventilation is desirable．All panels are 19 ＂long and are furnished in black or grey wrinkle finish or light grey hammered finish．Please specify by proper suffix the color desired．

    | Catalog No ． | Hitirht | Grill Size | Actual Weight | Dealer Cust |
    | :---: | :---: | :---: | :---: | :---: |
    | PS－808 | 51＂ | $333^{\prime \prime} \times 14 \%{ }^{\prime \prime}$ | $2{ }^{2} \times 1 \mathrm{lbs}$ ． | \＄ 2.90 |
    | PS－su9 | $7^{\prime \prime}$ | $45^{\circ \prime} \times 14{ }^{\text {\％}}$ | $3^{11} 2 \mathrm{lbs}$ ． | 3．15 |
    | PS－810 | ※：\％＂ | 3「＂$\times 14 \%$ \％${ }^{\text {\％}}$ | $5 \quad \mathrm{lbs}$ ． | 3.80 |
    | PS－41I | 101 ${ }^{\prime \prime}$ |  | $5 \%$ los． | 4.02 |
    | PS－812 | 121／＂ | $73 /{ }^{\prime \prime} \times 14 \% /{ }^{\prime \prime \prime}{ }^{\text {c }}$ | $61 / 4 \mathrm{los}$ ． | 4.30 |

    ## SLIIDNG IDRAWERS ASSEMBL

    The new Bud S.U. 1717 silitine Urawer Assembly is asily athd
    quickly assembled and instatlent in any standard rack. Can't fall out. can"t tilt... perfectly safe mounting for any object whared on it. Slides easily in and out on ball hearing sumpension in the same natnoter as the drawers in the most expensive steed filing eabinets.
    Here are some of the mary uses of the Bud Sliding Drawer Assembly:

    1. Mountios for record player

    ㄹ. Base for portable typewritar
    3. Mounting for apparatus or instruments
    4. Base for writing table
    -5. Handy drawer suace

    In addition, there are many ather handy uses for this practioal drawer.
    LOOK AT THESE CONSTRUCTION FEATURFS:
    Chassis formed from one biere of 14 rature aluminum. Elchtrowelded. Chassis si\%e flange top and botton.
    Support brackets forned fiom one piece $1 / "$ aluminum.
    Accurately punched to conform with standard waned mosunting holes.
    Slide rail fastens securely to chassis. slides easily in and cut on ball bearings in channel.
    Stop iscrew on slide rail prevents drater from falling out of channol.
    Support brackets and channel finshed in etched aluminum.
    Chassis and slide rail finished in light grey hammertone. Will sumport up to 50 pounds.
    Also a vailable, aluminum plate which may be fastened to top of chassis us shelf, desk top ur support: or attached to bottom of chassi to form drawer. Size $166^{\prime \prime} "^{\prime \prime}$ x 14 ". Made of 14 gaure aluminum. Light grey hammertone finish. Punched with four mounting holes. Catalog No. 'TI'.-171\%.

    | Catalor Nu. | Weight | Deater Cont |
    | :---: | :---: | :---: |
    | SO-1717 | 611 s. | $\$ 12.20$ |
    | TP-1718 | 21 hs. | 2.0 s |

    ## VENTILATED DOOR RACK PANELS

    

    The Bud Ventilated Door Rack Panel has a generous perforated area in the door providing adequate ventilation for adjacent units. Distance from hinged side of opening to bottom $31 / 2$ ". Distance from lock side of opening to top $1^{\prime \prime}$. The panels are $19^{\prime \prime}$ long and are available in either black or grey wrinkle finish or light grey hammered finish. OF SPECIAL INTEREST TO THE USER IS THE NEWLY DESIGNED IMPROVED LOCK ON THIS PANEL. THE LOCK IS A PLUNGER TYPE THAT MAKES CERTAIN IT IS EASY TO OPEN THE DOOR.

    | Catatog |  | Door | Actual | Dealer |
    | :--- | :---: | :---: | :---: | :---: |
    | No. | Height | Opening | Weight | Cost |
    | PS-814 | $101 / y^{\prime \prime}$ | $15 \% \%^{\prime \prime} \times 6^{\prime \prime}$ | 6 lbs. | $\$ 6.45$ |
    | PS-815 | $1214^{\prime \prime}$ | $15 \% /^{\prime \prime} \times 71 / 2^{\prime \prime}$ | 7 lbs. | 7.00 |

    ## SHELF ASSEMBLY

    The BUD SHELF ASSEMBI.Y immediately adds extra utility $t 1$ a standard rack and at very little cost. Its practical design and attrative appearance immediately indicate it. value and fone lasting qualitios "This sturdy shelf assembly is useful ass desk. as work space and for numerous ather burgoses. It is tinished int black or grey wrinkle or grey hatimertone at no extra cost. Thus it will match the finish on all BUJ racks.
    Can't fall off
    the shelf assembe ean't tilt and will support any reasonably load placed upon it. The shelf portion is suphorted by two sturdy brackets. These brackets are punched to fit standard panel mounting strips. Becsides being luw in cust, an outstanding feature is that no panel is needed for support. However, the shelf athsembly may be uttached over a rack if so desired.
    

    This BUD SHELLE ASSEMBLY really provides extra convenience, extra quality and extra value. It should be a part of every rack instaltation.
    

    Note eonstruction and assembly features. Slides are welded to bottom of spele to add additional streugtio and rigidity. Mounting brackets slip in to slides and are fastened with two screw:i. All necessary hardware is fulnished.

    The shelf portion of the as sembly is $20^{\prime \prime} \times 22^{\prime \prime} \times 5 \times{ }^{\prime \prime}$ formed fromi 16 ratuge steel. There is at 12 flange around the four sides which adds to the sturdiness. Supportins brackets $7^{\prime \prime}$ high, are made from $1 /{ }^{\prime \prime}$ steel. Overall height of assembly is $7^{\prime \prime}$.
     Catalog No. Weight

    Deabler Cost SA-1720 5 lbs . $\$ 10.55$

    ## METAL DOOR RACK PANELS

    

    When accessibility to component parts on the chassis is a vital point. this panel is extremely useful. The panels are available in either grey or black wrinkle finish or light grey hammered finish. Please be certain that you specify, by use of the proper suffix, for color when ordering. Panels are made of $1 / \mathbf{x}^{\prime \prime}$ sheet steel. Distance from hinged side of opening to bottom $31 / 2^{\prime \prime}$. Distance from lock side of opening to top $1^{\prime \prime}$.

    | $\begin{aligned} & \text { Catalog } \\ & \text { No. } \end{aligned}$ | Height | Door Opening | Actual Weight | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | PS-615 | 101/3" | $15 \mathrm{~F} \mathrm{~m}^{\prime \prime} \times \mathrm{fi}^{\prime \prime}$ | 71/4 16s. | \$ 4.73 |
    | PS-616 | 121/4" | $15.981 \times 7 \%$ |  | 5.20 |

    Prices nubject to change without notice.
    Prices on above mlighily higher went of the Mimaimippi River.
    Only a few of many ItHID Products are nhown. W'rite for complete catalog,

    ## RACK SHELVES

    Heavy power supplies, modulator units, etc., can be mounted on these rack shelves, which are supported in the cabinet by the chassis supporting angles which are shown on page J-79. Shelves are $19^{\prime \prime}$ wide $\times 1^{\prime \prime}$ high. The shelves are made of heary gauge steel and are finished in black enamel only.

    | Catalog |  | Actual | Dealer |
    | :--- | :---: | :---: | :---: |
    | No. | Depth | Weight | Cost |
    | CIB-1476 | $15^{\prime \prime}$ | $6^{1} 2 \mathrm{lbs}$ | $\mathbf{3 . 1 0}$ |
    | CH-197\% | $12^{\prime \prime}$ | $51 / 2 \mathrm{bbs}$ | $\mathbf{2 . 3 5}$ |

    

    ## STEEL Chassis

    These Chassis are made from one piece of steel. All corners are reinforced and spot welded. The four sides are folded at the bottom for additional strength. This also permits a bottom plate to be attached if desired. As shown in table below, chassis are available in either black wrinkle finish or electro-zinc plated.

    | Blark Wriliklo Dat. No. | Zine |  | Width | Height | Gauge | Hemaler cost |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Plater |  |  |  |  | Iflack | Zint |
    |  | Cat. Nu. | Depth |  |  |  | Wrimkle | Plated |
    | CB-628 | CB-629 | $5^{\prime \prime}$ | $7{ }^{\prime \prime}$ | $2^{\prime \prime}$ | 22 | \$. 90 | \$. 98 |
    | CB-644 | CB-645 | 5" | 91吕" | $21 /{ }^{1 /}$ | 22 | . 95 | 1.04 |
    | CH-788 | CB-776 | 5 " | 9\%" | $11 / L^{\prime \prime}$ | 22 | . 84 | . 92 |
    | CH-604 | CB-605 | 5 " | $10^{\prime \prime}$ | 3' | 22 | 1.10 | 1.22 |
    | CH-855 | CB-656 | 6 " | 14" | 3 " | 20 | 1.34 | 1.47 |
    | CB-889 | CH-1191 | $7{ }^{\prime \prime}$ | $7 \prime \prime$ | $2^{\prime \prime}$ | 20 | . 95 | 1.04 |
    | CH-790 | (CH-1192 | $7 \prime \prime$ | $9^{\prime \prime}$ | $2{ }^{\prime \prime}$ | 20 | 1.10 | 1.22 |
    | CH-791 | ( $\mathrm{H}-1193$ | $7{ }^{\prime \prime}$ | 11" | $2^{\prime \prime}$ | 20 | 1.17 | 1.27 |
    | CH-792 | ( $\mathrm{H}-793$ | $7{ }^{\prime \prime}$ | 12" | 3" | 20 | 1.31 | 1.44 |
    | CB-646 | (CH-1194 | 7" | 13" | 2 " | 20 | 1.26 | 1.38 |
    | CB-647 | CH-1198 | 5" | $131 /{ }^{\prime \prime}$ | 21/2" | 20 | 1.37 | 1.50 |
    | CH-649 | CH-1189 | 7" | 15" | $3 \prime \prime$ | 20 | 1.52 | 1.67 |
    | CH-665 | CH-666 | $81 /{ }^{\prime \prime}$ | $15^{\prime \prime}$ | 3 " | 20 | 1.75 | 1.90 |
    | CH-1068 | CH-1066 | $4^{\prime \prime}$ | 17" | 3" | 20 | 1.37 | 1.50 |
    | CB-648 | CH-1199 | 7" | 17" | 21/2" | 20 | 1.64 | 1.78 |
    | CB-757 | CH-758 | 7" | 17" | 3" | 20 | 1.65 | 1.82 |
    | CB-701 | CB-802 | 8 8' | $10^{\prime \prime}$ | $21 / 2^{\prime \prime}$ | 20 | 1.49 | 1.64 |
    | C13-703 | CB-704 | $8 \prime$ | 12" | $21 /{ }^{\prime \prime}$ | 20 | 1.57 | 1.74 |
    | CB-759 | CH-760 | $8^{\prime \prime}$ | 12" | $3^{\prime \prime}$ | 20 | 1.50 | 1.64 |
    | CB-650 | CB-774 | $8^{\prime \prime}$ | 17" | $2^{\prime \prime}$ | 20 | 1.52 | 1.67 |
    | CIS-651 | CB-7\%5 | $8^{\prime \prime}$ | 17" | 3" | 20 | 1.64 | 1.78 |
    | CIS-652 | CH-1195 | $10^{\prime \prime}$ | 12" | 3 " | 20 | 1.57 | 1.74 |
    | C13-653 | CB-7\% | $10^{\prime \prime}$ | 14" | $3^{\prime \prime}$ | 20 | 1.68 | 1.84 |
    | CH-654* | CH-769 | $10^{\prime \prime}$ | 17" | $2^{\prime \prime}$ | 20 | 1.68 | 1.84 |
    | CB-636* | CB-637 | $10^{\prime \prime}$ | 17" | $3^{\prime \prime}$ | 20 | 1.70 | 1.87 |
    | CB-655* | CH-1196 | $10^{\prime \prime}$ | $17^{\prime \prime}$ | 3 " | 18 | 1.94 | 2.14 |
    | C13-656 | CB-1197 | $10^{\prime \prime}$ | $23^{\prime \prime}$ | $3^{\prime \prime}$ | 18 | 2.55 | 2.68 |
    | CB-657* | CB-770 | $11^{\prime \prime}$ | 17" | $2^{\prime \prime}$ | 18 | 2.10 | 2.30 |
    | CB-658* | CB-771 | 11" | 17" | $3^{\prime \prime \prime}$ | 18 | 2.31 | 2.54 |
    | CB-663* | CB-661 | $12^{\prime \prime}$ | $17^{\prime \prime}$ | $2^{\prime \prime}$ | 18 | 1.79 | 1.96 |
    | C13-664* | CB-662 | 12" | 17" | $3^{\prime \prime}$ | 18 | 2.10 | 2.30 |
    | CH-659* | CB-772 | 13" | $17^{\prime \prime}$ | $2^{\prime \prime}$ | 18 | 2.47 | 2.70 |
    | CH-660* | CB-773 | 13" | $17^{\prime \prime}$ | $3^{\prime \prime}$ | 18 | 2.80 | 2.93 |
    | CH-640* | CB-641 | $10^{\prime \prime}$ | 17" | $4^{\prime \prime}$ | 1K | 2.14 | 2.35 |
    | CB-642 ${ }^{\text {\% }}$ | CB-643 | $13^{\prime \prime}$ | $17^{\prime \prime}$ | 4" | 18 | 3.15 | 3.45 |
    | CB-623 | CB-624 | $10^{\prime \prime}$ | 17" | $5^{\prime \prime}$ | 18 | 3.83 | 4.20 |
    | CH-625 | CB-626 | $13^{\prime \prime}$ | 17' | $5^{\prime \prime}$ | 18 | 4.20 | 4.60 |

    ## 00000

    METER PANELSAll meter panels are made of $1 / \mathrm{s}^{\prime \prime}$ thick steel. The small holes will fit either a $2^{\prime \prime}$ square or round meter. The large holes will fit either a $3^{\prime \prime}$ square or roundi meter. If black wrinkle finish is desired, specify by use of suffix "B," grey wrinkle finish by use of suffix "G" and light grey hammered finish by use of suffix "HG."

    | $\begin{aligned} & \text { Catalox } \\ & \text { No. } \end{aligned}$ | Number of Holes | Diameter of Holes | Actual Weight | $\begin{aligned} & \text { Dealer } \\ & \text { Cosit } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: |
    | PS-440 | 3 | $2.334^{\prime \prime}$ | $23 / 4 \mathrm{lbs}$. | S 1.10 |
    | PS-441 | 5 | 2.334 " | $29 / 4 \mathrm{lbs}$. | . 11 |
    | PS-142 | 3 | 2.835" | $21 / 2 \mathrm{lbs}$. | 1.11 |
    | PS-413 | 5 | 2.535" | $21 / 2 \mathrm{lbs}$. | 1.9.7 |

    

    ## ALUMINLM CHASSIS

    The construction and design of these chassis are exactly the same as that of our steel chassis bases. The aluminum chassis are welded on Government approved spot welders that are the same as those used in the welding of aluminum aircraft parts. As a result, you can depend on Bud Aluminum Chassis to do a perfect job and to stand up under all conditions.
    Please note that the gauges shown in the table are aluminum gauges. These chassis are supplied in an etched aluminum finish.

    | Catalog Number | Dept 11 | Width | Height | Gauge |  | $\begin{aligned} & \text { ahbr } \\ & \text { ost } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | AC-430 | $4^{\prime \prime}$ | $6^{\prime \prime}$ | 3 " | 18 | \$ | .NX |
    | AC-431 | $4^{\prime \prime}$ | $6^{\prime \prime}$ | $2^{\prime \prime}$ | 18 |  | 1.01 |
    | AC-432 | 4" | 17" | $3^{\prime \prime}$ | 16 |  | 1.30 |
    | A C-402 | 5" | 7 " | $2^{\prime \prime}$ | 18 |  | 1.10. |
    | AC-429 | $5 "$ | 7 " | 3 " | 16 |  | 1.13 |
    | AC-403 | 5" | 91/2" | $2^{\prime \prime}$ | 18 |  | 1.26 |
    | AC-421 | $5^{\prime \prime}$ | 91/2" | $3 \prime$ | 18 |  | 1.i2 |
    | AC- 404 | 5" | $10^{\prime \prime}$ | $3^{\prime \prime}$ | 18 |  | 1.32 |
    | A C-422 | $5^{\prime \prime}$ | $13^{\prime \prime}$ | $3 \prime \prime$ | 18 |  | 2.11 |
    | AC-433 | $6^{\prime \prime}$ | 17" | $3^{\prime \prime}$ | 16 |  | 2.13 |
    | AC-405 | $7 \prime$ | $7 \prime$ | $2^{\prime \prime}$ | 18 |  | 2.15 |
    | A C-406 | 7" | 9 ' | $2^{\prime \prime}$ | 18 |  | 2.12 |
    | A C-407 | 7"' | 11" | $2^{\prime \prime}$ | 18 |  | 2.39 |
    | A C-408 | 7" | 12" | 3" | 18 |  | 2.72 |
    | AC-409 | $7^{\prime \prime}$ | 13" | 2" | 18 |  | 3.17 |
    | AC-441 | $7^{\prime \prime}$ | 15" | 3 " | 16 |  | 3.3! |
    | AC-423 | 7" | 17" | $3^{\prime \prime}$ | 16 |  | 2.96 |
    | AC-421 | $8 \prime \prime$ | $12^{\prime \prime}$ | $3{ }^{\prime \prime}$ | 16 |  | 3.51 |
    | AC-425 | $8^{\prime \prime}$ | $17^{\prime \prime}$ | $2^{\prime \prime}$ | 16 |  | 1.21 |
    | AC-412 | $8^{\prime \prime}$ | 17" | 3" | 16 |  | 1.27 |
    | AC-413 | $10^{\prime \prime}$ | 12" | 3" | 16 |  | 2.15 |
    | AC-414 | $10^{\prime \prime}$ | 14" | $3^{\prime \prime}$ | 16 |  | 1.4\% |
    | AC-41\% | $10^{\prime \prime}$ | 17" | $2^{\prime \prime}$ | 16 |  | 2.110 |
    | AC-416* | $10^{\prime \prime}$ | 17" | $3 \prime \prime$ | 16 |  | 2.6 |
    | AC-426* | 11" | 17" | $2^{\prime \prime}$ | 14 |  | 3.08 |
    | AC-417* | 11" | 17" | 3 " | 14 |  | 1.0\% |
    | AC-418* | $12^{\prime \prime}$ | 17" | 3 " | 14 |  | 1.16 |
    | AC-419* | $13^{\prime \prime}$ | $17^{\prime \prime}$ | 2" | 14 |  | 1.17 |
    | AC-420* | $13^{\prime \prime}$ | 17" | 3" | 14 |  | 1.17 |
    | AC-427* | $10^{\prime \prime}$ | 17" | $4^{\prime \prime}$ | 14 |  | 1.92 |
    | AC-42 ${ }^{*}$ | $13^{\prime \prime}$ | $17^{\prime \prime}$ | 4" | 14 |  | 1.45 |

    HEAYY DUTY CHASSIS
    （Fumished with Bottom
    

    Platel
    These chassis，made of 16 gauge steel，are de－ signed for applications requiring unusual sturdi－ ness and where large weights are involved．The bottom plates for these chassis are furnished at no extra charge．Available in either black wrinkle finish or electro－zinc plate．All chassis are $17^{\prime \prime}$ wide．

    | I3lack Wrinkle Cat．No． | Zinc |  |  | Dealer Cust |  |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Plated |  |  | Black | Zinc |
    |  | Cat．No． | Depth | Height | Wrinkle | Platel |
    | CH－1757 | CH－1764 | ＊＂ | 2＂ | \＄3．05 | \＄3．3．7 |
    | C13－1758 | CB－176．5 | ＊＊ | 3＂ | 3.32 | 3.61 |
    | C13－1759 | CB－1766 | 11＂ | 2＊ | 3.17 | 3，${ }^{\text {\％}}$ |
    | （＇13－1760 | CB－1767 | 11＂ | 3＂ | 3.81 | 4.22 |
    | CH－1761 | CB－1768 | 13＂ | 2＂ | 4.21 | 4.611 |
    | （13－1762 | CB－1769 | 13＂ | 3＂ | 4.62 | 5.06 |
    | （＇13－1763 | CB－1770 | 13＂ | $4^{\prime \prime}$ | 5.08 | 5．61 |

    

    ## NEW PANEL CHASSIS

    This new series of panel mounting chassis is for professional type in－ stallations primarily： These units are constructed from $.062^{\prime \prime}$ aluminum with an etched finish．The front flange has standard notching suitable for mounting to a rack．

    | Pitatog No. | Width | 1）eptli | Heiglit | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | （＇13－13\％0 | 19＂ | 5－9／32＂ | $13 \%$ | 82.00 |
    | （13－1371 | $19^{\prime \prime}$ | $5-9 / 32^{\prime \prime}$ | $31 /{ }^{\prime \prime}$ | 2．20 |
    | （13－1372 | $19^{\prime \prime}$ | $5-9 / 39^{\prime \prime}$ | $51 / 4$ | $\underline{3.34}$ |
    | （＇13－1373 | 19＂ | $5-9 / 3{ }^{\prime \prime \prime}$ | $7{ }^{\prime \prime}$ | 2.611 |
    | （13－1374 | $19^{\prime \prime}$ | $5-9 / 39^{\prime \prime}$ | 8 \％＂。 | 3．120 |
    | （＇13－1375 | $19^{\prime \prime}$ | $5-9 / 3 \mathrm{~S}^{\prime \prime}$ | $101 / 2{ }^{\prime \prime}$ | 3．30） |
    | （＇13－1376 | $19^{\prime \prime}$ | $5-9 / 3$＂$^{\prime \prime}$ | $121 /{ }^{1 / 0}$ | \＄181 |
    | （＇b－137\％ | （\％＂ | $5-4 / 30^{\circ \prime \prime}$ | 14＂ | 1.20 |

    

    ## REMOVABIE <br> TOP CHASSIS

    Amateur and experimental technicians，who make periodic changes，can do so with a minimum of waste by discarding the top that has been drilled and replac－ ing it with a new one．These chassis are supplied in black wrinkle finish or electro－zinc plate．All chassis are $17^{\prime \prime}$ wide．

    | P1ack | Zine Plated |  |  | Dealer Cost |  |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Wrinkle |  |  |  | Black | Zine |
    | Cint．No． | Cat，No． | Depth | Height | Wrinkle | Plated |
    | Cl3－196 | CB－193 | $10^{*}$ | $3{ }^{\prime \prime}$ | \＄3．47 | S3．80 |
    | CB－197 | CB－194 | 10＂ | $4^{\prime \prime}$ | 3.81 | 4.20 |
    | C13－251 | CB－210 | 18＂ | $3^{\prime \prime}$ | 3.63 | 3.99 |
    | CH－252 | CB－211 | $13^{\prime \prime}$ | $4^{\prime \prime}$ | 4.47 | 4.90 |
    | Replacement Chassis Tops |  |  |  |  |  |
    | RT－198 | RT－195 | $10^{\prime \prime}$ | $\cdots$ | 1.32 | 1.45 |
    | RT－253 | RT－212 | $13^{\prime \prime}$ | 11＂： | 1.63 | 1.79 |

    

    These are primarily intended to be used with the rarious styles and sizes of Bud Metal Cabinets．These chassis are ideal for any type of small built－up units such as recoral amplitier，code oscillator．etc．From this you call see that there is a wide variety of appli－ cations．The C－shaped construction is used with ends folded over＂s＂for additional strength．The fimish is electro－zinc pated．

    | Cat．No． | ［13：0tls | W゙10th | Heimit | Fits Cab．No． | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | （＇13－38 | ＂＇＂ | \％＂ | $2^{\prime \prime}$ | （－1384 | 8.73 |
    | （11）－301 | 5＂ | $\because$ | 1120 |  | ．6．5 |
    | （＇13－41 | $\cdots$ | －＂ |  | （＇978 | ．82 |
    | （ $13-36$ | －＇ | S＂ | 2＂ | （ -158.7 | ．920 |
    | （ （13－64\％$^{\text {c }}$ | $5{ }^{1} \times$ | $!"$ | 116 | （＇－993） | ．7\％ |
    | （ $13-976$ | －1，＂ | $9 *$ | $1{ }^{1} 9 \times$ | （ ${ }^{1}-999$ ，（ -1786 | 1．0．7 |
    | （＊13－11） | －＂ | $10^{\prime \prime}$ | 2＊ | （＇－1586 | 1.00 |
    | （13－9！\％ | －＊ | $11^{\prime \prime}$ | 11 吕＂ | （＇－994．（＇－1747 | 1.10 |
    | （13－9988 | －＂ | $13^{\prime \prime}$ | 11．＂ | （＇－995．（ -1748 | 1.213 |
    | （ $13-31$ | 10：＂ | $14^{\prime \prime}$ | ¢＊＊ | C．a）： | 1.30 |
    | （ 13 －3．3） | \％$\because$＂ | $1 \%{ }^{\circ \prime}$ | 2＂ | （ -1190 ） | 1．1\％ |

    

    ## MINIATURE ALUMINLM CHISSIS

    These small，open end aluminum chassis are the answer for miniature tube applications or sub－assem－ blies．They are made of hard aluminum with $1 / 4$＂ flanges on the bottom allowing the chassis to be fastened down．or allowing a hottom plate to be attached．Thes are extromely useful for a wide variety of applications such as small receivers，nar－ row band FM adapters or any place where the space is limited．The finish is etched aluminum．

    | $\begin{aligned} & C a t \\ & \therefore y_{1} \end{aligned}$ |  | Widrin | Heic！ut | $\begin{aligned} & \text { Fits } \\ & \text { Cabinrot No } \end{aligned}$ | ［）ealer Cost |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | （13－16）${ }^{\text {（1）}}$ | こ－＂ | ごッ＂ | 11，＂ | C－1784 | E ． 3.3 |
    | （ $13-1634$ | 1＊＊ | 31＊＊ | $1{ }^{\prime \prime}$ | （1＇－88： | ． 311 |
    | （13－16\％．\％ | 31,0 | $41_{2}$＂ | $\underline{\square}$ | （＇－1788 | ． 11 |
    | （13－16：6 | $2 \% "$ | 41．＂ | $1 "$ | （1－7\％8 | .11 |
    | （＇13－16）＊ | 3：＊${ }^{\text {a }}$ | 41.0 | $1^{\prime \prime}{ }^{\prime \prime}$ | （1）－\％）${ }^{(1)}$ | ．11 |
    | （18－16＊8 | 3 ＂ | ［ ${ }^{1}$ ．${ }^{\text {c }}$ | $11^{\prime},{ }^{\prime \prime}$ | （－1785 | ． 30 |
    | （＇13－16＇3！ | 5\％＂ | 4 ¢ $^{\prime \prime}$ | 15：＂ | （＇${ }^{+}-109 \mathrm{~N}$ | ． 51 |
    | （＇13－161\％ | 4＂ | $3^{1 / 8}$ | $1 "$ | （－160） | .41 |
    | （＇15－1618 | $4^{\prime \prime}$ | $4{ }^{1 /}$ | $1 *$ | （ -160 \％ | ．1．3 |
    | （113－161！ | $4 "$ | 513＂ | $1 "$ | （ -1604 | ． 30 |
    | （ $13-16{ }^{\text {a }}$（ $)^{\prime}$ | $4^{\prime \prime}$ | 6 ${ }^{1}$ ：$"$ | $1 "$ | （ -1605 | ．51 |

    ## －UTILITY HANDLES

    These handles are designed to provide sufficient strength and comfortable hand grip．They are made from aluminum tubing and are given an etched aluminum finish．The handles are furnished complete with screws．washers and nuts．

    | $\begin{aligned} & \text { Catalos } \\ & \text { No. } \end{aligned}$ | Overal！ <br> Length | Mounting Hole Center | Actual Weight | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | 1＇H－70A | －1， | $4 \div$ | 2 oz ， | \＄． 33 |
    | ［＇H－ild | 3：4＂ | 31／＂ | $1 \mathrm{oz}$. | ． 27 |

    CHASSIS BOTTOM PLATES
    Steel and Aluminum
    

    These bottonı plates make excellent dust covers and protect all wiring and component parts of the chassis．Each plate has four formed bosses to pre－ rent sharp edres from scratehing a table top or other surface．Those num－ bers prefaced by＂BP＇are steel bottom plates，sup－ plied in black wrinkle finish or electro－zinc plated finish．Those bottom plates prefaced by＂BPA＂are made of aluminum and have an etched tinish．

    STEEL

    | Hack Wrinkle Cat．No． | Zint |  |  | Dealer Cost |  |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    |  | Plated | Jits Chassis |  | black Wrinkle | Zine Plated |
    |  | Cat．No． |  |  |  |  |
    | 13P－705 | 3P－706 | \％＂ | $\times \mathrm{i}^{\prime \prime}$ | \＄ 42 | \＄． 46 |
    | 13P－680 | 13P－667 | 5＂ | x $9^{\prime \prime}$ | ． 50 | ． 51 |
    | 13P－5．36 | BP－53＊ | 5＂ | $\times 10^{\prime \prime}$ | ． 48 | ． 3.3 |
    | 13P－681 | BP－66， | \％＂ | $\times \mathrm{i}^{\prime \prime}$ | .70 | ． 77 |
    | 13P－682 | 13P－669 | ？＂ | $\times 8^{\prime \prime}$ | ． 70 | ． 77 |
    | 13P－683 | 13P－670 | 7＇ | $\times 11$＂ | ． 75 | ． 82 |
    | 13P－537 | 13P－539 | 7＇ | $\times 12^{\prime \prime}$ | ． 71 | ． 78 |
    | 13P－68．4 | 13P－6\％1 | 7＂ | $\times 13^{\prime \prime}$ | ． 79 | ． 86 |
    | 131－685 | 13P－672 | $5{ }^{\prime \prime}$ | $\times 13^{1 / 2}$ | ． 63 | ． 69 |
    | I3P－516 | 13P－513 | $7^{\prime \prime}$ | $\times 15^{\prime \prime}$ | ． 79 | ． 86 |
    | 13P－541 | BP－540 | 人1！ | $\times 15{ }^{\prime \prime}$ | ． 80 | ． 87 |
    | 1P－1069 | 13P－1067 | $4^{\prime \prime}$ | $\times 17^{\prime \prime}$ | ． 63 | ． 69 |
    | 13P－686 | 13P－673 | $7^{\prime \prime}$ | $\times 17 \prime$ | ． 90 | ． 99 |
    | 131－707 | 13P－708 | 8＂ | $\times 10^{\prime \prime}$ | ． 79 | ． 86 |
    | 13P－709 | 13P－710 | ＊＂ | $\times 12{ }^{\prime \prime}$ | ． 90 | ． 99 |
    | 13P－687 | 13P－674 | $\mathrm{x}^{\prime \prime}$ | $\times 17{ }^{\prime \prime}$ | ． 95 | 1.0 .4 |
    | 131－648 | BP－675 | $10^{\prime \prime}$ | $\times 12^{\prime \prime}$ | ． 9.5 | 1.04 |
    | 131－517 | 13P－514 | $10^{\prime \prime}$ | $\times 14^{\prime \prime}$ | ． 97 | 1.07 |
    | ［3P－689 | I3P－676 | 10＂ | $\times 17^{\prime \prime}$ | 1.17 | 1.27 |
    | BP－690 | HP－67\％ | $11^{\prime \prime}$ | $\times 17^{\prime \prime}$ | 1.17 | 1.27 |
    | 13P－691 | HP－678 | 12＂ | $\times 17^{\prime \prime}$ | 1.27 | 1.38 |
    | 131＇692 | BP－679 | $13^{\prime \prime}$ | $\times 17^{\prime \prime}$ | 1.47 | 1.61 |
    | 13－518 | 13P－515 | $10^{\prime \prime}$ | $\times 2310$ | 1.37 | 1．72 |
    |  |  | ，LIM | \1 1 |  |  |
    | 131PA－1．789 |  | $5^{\prime \prime}$ | $x 7^{\prime \prime}$ |  | \＄0．71 |
    | 13PA－1590 |  |  | $\times 912$ |  | ． 75 |
    | HPA－1591 |  | 5＂ | $\times 10^{\prime \prime}$ |  | ． 75 |
    | 131PA－1592 |  |  | $\times 7^{\prime \prime}$ |  | ． 77 |
    | HPA－15．93 |  | $7{ }^{\prime \prime}$ | $\times 9^{\prime \prime}$ |  | ． 80 |
    | BIPA－154． |  |  | $\times 11^{\prime \prime}$ |  | ， 90 |
    | 13PA－1595 |  | $7^{\prime \prime}$ | $\times 12$＂ |  | ． 97 |
    | ISPA－1596 |  | －＂ | $\times 13^{\prime \prime}$ |  | 1.14 |
    | HPA－1597 |  | $10^{\prime \prime}$ | $\times 17{ }^{\prime \prime}$ |  | 1.52 |
    | BIPA－1548 |  | $13^{\prime \prime}$ | $\times 17 \prime$ |  | 2.07 |

    

    ## TIRIANGULAR MOUNTING BRACKETS

    For panel and chassis assemblies where large weights are in－ volved，these triangular mount－ ing brackets，with $3 / 4$＂flange， make extremely convenient sup－ ports．They are constructed of heavy gauge steel and are furnished in black enamel finish only．These are sold in pairs．

    | Catalor No． | Height | Depth | Actual <br> Weight lbs． | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | M 13－1266 | 5 ＂ | 5 ＂ | 1 | S． 44 pr ． |
    | M ${ }^{\text {－1267 }}$ | $7{ }^{\prime \prime}$ | 7 ＇ | 1 | ． 97 pr． |
    | M 13－1268 | $9^{\prime \prime}$ | $9{ }^{\prime \prime}$ | $11 / 2$ | 1.15 pr ． |

    ## BOX SHIELDS

    

    These shields have many uses；shielding power trans－ formers and chokes；covering and protecting various other components in power supplies，transmitters， receivers and other electronic units．The top and the sides are one picce steel．Size： $5^{\prime \prime}$ high x $4 \frac{1}{2} "$ deep x $71 / 2$＂wide．BS－1244 has perforated sted ends for ventilation．BS－1891 has solid ends．Flanges at the bottom provide for mounting．Thes units are fin－ ished in hlack wrinkle enamel only．

    | Catalog No． | Finds | Actual Weightlts． | Dealer Cost |
    | :---: | :---: | :---: | :---: |
    | BS－1244 | Ventilated | 1 | $\$ 2.45$ |
    | BS－1891 | Solid | $11 \underline{153}$ |  |

    ## INSTRUMENT \＆RECEIVER CABINETS

    

    Each cabinet has an evenly ：＂ecessed hinge cover with convenient finger Iift．The panel in the front of the cabinet is readily attached with self tapping screws．No opening in rear．Louvers provide satisfactory ven－ tilation．For chassis to fit thes？cahinets，see the open end chassis listed on page J－82．Finished in black wrinkle enamel only．

    | Cont．No． | Height | Width | Dヶpt．h | Dealer Cost |
    | :--- | :---: | :---: | :---: | :---: |
    | C－973 | $7^{\prime \prime}$ | $8^{\prime \prime}$ | $8^{\prime \prime}$ | $\$ 3.36$ |
    | C－993 | $7^{\prime \prime}$ | $10^{\prime \prime}$ | $8^{\prime \prime}$ | 3.65 |
    | C－994 | $7^{\prime \prime}$ | $12^{\prime \prime}$ | $8^{\prime \prime}$ | 4.20 |
    | C－945 | $7^{\prime \prime}$ | $14^{\prime \prime}$ | $8^{\prime \prime}$ | 1.41 |
    | C－1190 | $8^{\prime \prime}$ | $16^{\prime \prime}$ | $8^{\prime \prime}$ | 6.30 |
    | C－975 | $9^{\prime \prime}$ | $15^{\prime \prime}$ | $11^{\prime \prime}$ | 6.30 |
    | C－949 | $12^{\prime \prime}$ | $18^{\prime \prime}$ | $22^{\prime \prime}$ | 8.66 |

    ## CHASSIS IDECKS

    These chassis decks are suitable for use in carrying cases，utility cabinets，etc．Each unit is folded over $11 / 2^{\prime \prime}$ on the front， $1 / 2^{\prime \prime}$ on the side and is made from steel which is grey palladin finish．They are also use－ ful for interstage shielding and supports in regular panel and chassis layouts．

    | Cat．No． | Width | Depth | Fits Cab No．De | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | CB－522 | $43 / 31$ | $51 / 2$ | CU 1095 | \＄． 52 |
    | CB－523 | $43 \% 1$ | $41 / 3$ | CU 1849 | ． 50 |
    | C13－32 ${ }^{1}$ | $6 \% "$ | 61 ！＂ | CU 829 | ． 65 |
    | C13－525 | 5\％＂ | $51 / 2$ | CU1124．CC－1096 | ． 60 |
    | CB－526 | $83 /{ }^{\prime \prime}$ | 712 | CU－880 | ． 92 |
    | C13－527 | 9\％4＂ | $71 / 21$ | CU． 881 | ．95 |
    | C13－528 | $73 / 4{ }^{\prime \prime}$ | $61 / 2$ | CU－882 | －7． |
    | C13－36 | $6 \%$ | $61 / 2$ | CC 1697 | ． 66 |
    | C13－37 | $8 \% / 4$ | $61 / 2^{\prime \prime}$ | CC． 11.00 | ． 82 |

    CAIBINETS－CDSES

    ## STREAMLINEI CABINETS

    Distinctive features of these cabincts are the rounded front corners and recessed hinge tops． $31 / 2^{\prime \prime}$ opening in rear．All parts built into these cabincts are，therefore， easily accessiblc．Suitable chassis may be found under the listing of open end chassis on page d－82．These units are furnished in black wrinkle only．

    | Catalog No． | Danel Size | Cabinet Width | Cabinet Depth | Cabinet Height | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | （－1789 | $8^{\prime \prime} \times 8^{\prime \prime}$ | 101\％＂ | k1／4＂ | $8{ }^{\prime \prime}$ | \＄3．41 |
    | C－1716 | $8^{\prime \prime} \times 10^{\prime \prime}$ | 121／3＂ | $81 / 4{ }^{\prime \prime}$ | $8^{\prime \prime}$ | 4.20 |
    | C－1747 | $8^{\prime \prime} \times 12^{\prime \prime}$ | $241 / 2$ | 81／9＂ | 8＂ | 4.74 |
    | （ -1748 | $8^{\prime \prime} \times 14^{\prime \prime}$ | $161 /{ }^{\prime \prime}$ | $81 /{ }^{\prime \prime}$ | $8^{\prime \prime}$ | 5.40 |
    | C－1790 | $k^{\prime \prime} \times 16^{\prime \prime}$ | 181／2＂ | ＊1／4＂ | $8{ }^{\prime \prime}$ | 6.01 |
    | C－1730 | $12^{\prime \prime} \times 1 k^{\prime \prime}$ | c0\％＂ | 12＂ | 12＂ | 9.77 |

    ## IDELUXE STREMMLINED CABINETS

    

    These cabincts are iden－ tical with those listed above，except that they have a $1 / 2^{\prime \prime}$ vertical chrome strip at each side of the panel and are supplied in grey wrinkle enamel finish only．

    | $\begin{aligned} & \text { Catalog } \\ & \text { No. } \end{aligned}$ | Panel Size | Catinet Width | Cabinet Depth | Cabinet <br> Height | Dealer Cust |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | C－1791 | $8^{\prime \prime} \times 8{ }^{\prime \prime}$ | 10112 | 81／4＂ | $8{ }^{\prime \prime}$ | \＄ 4.3 s |
    | C－1781 | $88^{\prime \prime} \times 10^{\prime \prime}$ | 121／2＂ | $81 /{ }^{\prime \prime}$ | $8^{\prime \prime}$ | 4.85 |
    | C－1782 | $8^{\prime \prime} \times 12^{\prime \prime}$ | 14\％＂ | 81／4＂ | $8^{\prime \prime}$ | 5.20 |
    | C－1783 | $8^{\prime \prime} \times 14^{\prime \prime}$ | $161 / 2$ | 81／＂ | $8{ }^{\prime \prime}$ | 6.49 |
    | C－1792 | $8^{\prime \prime} \times 16^{\prime \prime}$ | 14120＂ | 81／4＂ | $8^{\prime \prime}$ | 6.82 |
    | C－1731 | $12^{\prime \prime} \times 18^{\prime \prime}$ | $20{ }^{\prime}$ | 12＂ | 12＂ | 10.77 |

    ## MINIATURE AMPLIFIER FOUNDATIONS

    

    With the increased use of miniature tubes，smaller cab－ inets can be used when dc－ signing a compact amplifier． This amplifier foundation was designed expressly for this purpose．The chassis is $5^{\prime \prime} x$ $7^{\prime \prime} \times 2^{\prime \prime}$ ．Height is $6^{\prime \prime}$ ．The cover is made of perforated metal．A streamlined handle makes this cabinet port－ able．Black wrinkle finish only．

    | Cat．No． | Actual Weight lbs． | Dealer Cost |
    | :--- | :---: | :---: |
    | CA－1754 | $11 / 3$ | $\$ 3.67$ |

    ## STREAMLINEI）SCOIPE and UTILITY

    CABINETS

    These are attractive cabinets that are adaptable to a vari－ cty of uses．All cabinets are supplied with chassis．Chassis height on all except CU－1991 and CU－1992 is $11 / 2{ }^{\prime \prime}$ ．CU－1991 is designed for＂＂cathode ray tube and has a hinged cover to provide easy access to tube and other components．The chassis height is $2^{\prime \prime}$ ． CU－1992 is designed for a $5^{\prime \prime}$ cathode ray tube and al＊o has a hinged cover．Chassis height $3^{\prime \prime}$ ．

    | $\begin{aligned} & \text { Catalog } \\ & \text { Nulahar } \end{aligned}$ | Widtlı | Depth | Height | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | （c＇－1990 | $51 / 2$ | 81／4＂ | $8{ }^{\prime \prime}$ | \＄3．85 |
    | CL－1984 | $71 / 2$ | 81／4 | $8^{\prime \prime}$ | 3.87 |
    | CU－1985 | 923＂ | 81／4＂ | $8^{\prime \prime}$ | 4.31 |
    | CC＇1986 | 111建＂ | 814 | $8^{\prime \prime}$ | 4.73 |
    | CU－1987 | 13\％＂ | 81／4＂ | $8^{\prime \prime}$ | 5.50 |
    | CU－198＊ | 151／＂ | 81／4＂ | $8^{\prime \prime}$ | 6.05 |
    | CC－1989 | 17以＂ | $81 / 4$ | $8^{\prime \prime}$ | 6.87 |
    | （CU－1991 | $71 / 2$ | 13＂ | $8^{\prime \prime}$ | 6.60 |
    | （C＇－1992 | 91 年 | $19^{\prime \prime}$ | 12＂ | 8.80 |

    ## CARRYING CASES

    

    These carrying cases have many uses．An easy grip handle is fas－ tened to the top．Front and back panels are removable．Welded construction assures maximum strength where needed，and this unit is also available in alumi－ num to provide minimum weight where required for portable work．For chassis to fit these cabinets，sce the chassis decks on page J－83．Prefix＂CC＂repre－ sents steel construction，Available in black wrinkle or light grey hammertone finish．Prefix＂ACC＂rep－ resents aluminum construction．Available with etched finish or light grey hammertone．

    |  | STEEL．（Blark Wrinkle or Girey Hammertone） |  |  |  |
    | :--- | :---: | :---: | :---: | :---: |
    | Cat．No． | Depth | Width | Height | Coster |
    | CC－1095 | $5^{\prime \prime}$ | $6^{\prime \prime}$ | $9^{\prime \prime}$ | $\$ 2.60$ |
    | CC－1091 | $5^{\prime \prime}$ | $9^{\prime \prime}$ | $6^{\prime \prime}$ | 2.60 |
    | CC－1096 | $6^{\prime \prime}$ | $7^{\prime \prime}$ | $12^{\prime \prime}$ | 3.05 |
    | CC－1092 | $6^{\prime \prime}$ | $12^{\prime \prime}$ | $7^{\prime \prime}$ | 3.05 |
    | CC－1097 | $7^{\prime \prime}$ | $7 y^{\prime \prime}$ | $15^{\prime \prime}$ | 3.79 |
    | CC－1100 | $8^{\prime \prime}$ | $10^{\prime \prime}$ | $10^{\prime \prime}$ | 3.59 |
    | CC－1093 | $7^{\prime \prime}$ | $15^{\prime \prime}$ | $9^{\prime \prime}$ | $\mathbf{5 . 2 5}$ |


    | Cat．No． | Depth | Width | Height | Etched | Grey |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | ACC－2095 | 5 ＂ | $6^{\prime \prime}$ | $9{ }^{\prime \prime}$ | \＄2．52 | \＄2．75 |
    | ACC－2091 | 5 ＂ | 9 ＂ | 6 ＂ | 2.52 | 2.75 |
    | ACC－2096 | $6{ }^{\prime \prime}$ | $7{ }^{\prime \prime}$ | 12＂ | 3.15 | 3.79 |
    | ACC－2092 | 6 ＇ | $12^{\prime \prime}$ | $7 \prime$ | 3.15 | 3.79 |

    ## SLOPING PANEL CABINETS

    

    This entire front panel of this cabinet is removable if so desired. THIS CABINET IS ALSO PROVIDED WITH A HINGED TOP FOR EASY ACCESSIBILITY TO TUBES AND OTHER PARTS THAT ARE MOUNTED ON THE CHASSIS, WITHOUT NECESSITATING REMOVAL OF THE FRONT PANEL. These cabinets are finished in black wrinkle enamel or light grey hammertone. Specify with suffix B for black, HG for grey hammertone.

    | Catalog Number | Height | Width | Depth | Fits Chassis | Deale: Cost |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | C-1584 | 61/2" | 7-1/16 ${ }^{\prime \prime}$ | $75^{\prime \prime}$ | $7^{\prime \prime} \times 6^{\prime \prime} \times 2^{\prime \prime}$ | \$3.30 |
    | C-1585 | $61 / 2^{\prime \prime}$ | $9-1 / 16^{\prime \prime}$ | $7{ }_{16}{ }^{\prime \prime}$ | $7^{\prime \prime} \times \mathbf{x}^{\prime \prime} \times 2^{\prime \prime}$ | 3.75 |
    | C-1586 | 61/2" | 11-1/16 ${ }^{\text {a }}$ | 7 AB | $7^{\prime \prime} \times 10^{\prime \prime} \times 2^{\prime \prime}$ | 4.15 |
    | C-1587 | $8^{\prime \prime}$ | $8-1 / 16^{\prime \prime}$ | $8 \prime$ | $7^{\prime \prime} \times 7^{\prime \prime} \times 2^{\prime \prime}$ | 3.60 |
    | C-1588 | $8^{\prime \prime}$ | 10-1/16 ${ }^{\prime \prime}$ | $8^{\prime \prime}$ | $7^{\prime \prime} \times 9^{\prime \prime} \times 2^{\prime \prime}$ | 4.20 |
    | C-1892 | $8^{\prime \prime}$ | 13-1/16 ${ }^{\prime \prime}$ | $\times 1 / 2^{\prime \prime}$ | $8^{\prime \prime} \times 12^{\prime \prime} \times 21.3$ | 4.99 |
    | (C-1893 | $10^{\prime \prime}$ | $18-1 / 16^{\prime \prime}$ | $10^{13} \mathrm{~S}^{\prime \prime}$ | $10^{\prime \prime} \times 17^{\prime \prime} \times 3^{\prime \prime}$ | 6.99 |
    | C-1894 | $8^{\prime \prime}$ | 14-1/16 | $\mathbf{N}^{\prime \prime}$ | $7^{\prime \prime} \times 13^{\prime \prime} \times 2^{\prime \prime}$ | 4.55 |
    | C-1896 | $9^{\prime \prime}$ | 18.1/16" | 思" | $7^{\prime \prime} \times 17^{\prime \prime} \times 3^{\prime \prime}$ | 6.50\% |

    ## SLOPING PANEL UTILITY BOXES

    

    The sloping panel utility box offers a streamlined appearance and enough space to house conveniently a two or three miniature tube amplifier or gadget. Height is $4^{\prime \prime}$, depth is $4^{1 / 4^{\prime \prime}}$. A $1 / 8{ }^{\prime \prime}$ flange around the rear opening of the cabinet provides convenient back cover mounting. Extremely compact, it will accommodate a Bud Miniature Aluminum Chassis. Finished in black wrinkle enamel only.

    | Catalog No. | Width | Use Chassis No. | Actual Weight lls. | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: |
    | C-1602 | 4" | CB-1617 | 1/2 | \$1.2" |
    | C. 1603 | 5 " | CB-1618 | 1/2 | 1.30) |
    | C-1611: | $6{ }^{\prime \prime}$ | CB-1619 | 1 | 1.44 |
    | C-160. | $7 "$ | CB-1620 | 1 | 1.5\% |

    

    ## STREAMLINED) MULTIPURPOSE CABINET

    A handsome streamlined metal cabinet, finished in grey wrinkle enamel only. The back of the cabinet is completely open for ventilation purposes.

    | Cat. Nu. | Heisht | Width | Depth | Use Chassis No. | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | C-1784 | $41 / 2$ | 8参" | $31 \%$ | CR-162? | \$1.6. |
    | C-1785 | $41 / 2$ " | 71/" | $3{ }^{1 / \prime \prime}$ | CB-1623 | 1.93 |
    | C-1787 | 41 ! " | 51 | $31 / 2$ | CB-1625 | 1.74 |
    | C. 178 x | $61 / 2^{\prime \prime}$ | $51 / 2{ }^{\prime \prime}$ | $31 / 2$ " | CB-1625 | 1.7.3 |

    SLOPING PANEL AMPLIFIER FOUNDATIONS
    Each foundation con－ sists of a $31 / 2^{\prime \prime}$ sloping front chassis on which is mounted a remov－ able top cover．The top cover， $6^{\prime \prime}$ high， contains grill cutouts
    and louvers for adequate ventilation．All have handles mounted on the chassis．The cover is finished in grey wrinkle with chrome trim，and the chassis is finished in black wrinkle to give a unique and attractive appearance．

    | Catalos No． | ＇Top <br> Desth | Chassis Width | Chassis Depth | Dealer Cust |
    | :---: | :---: | :---: | :---: | :---: |
    | （A－19a） | 5 \％＇ | 110＂ | － | S5．87 |
    | CA－1981 | $7{ }^{\prime \prime}$ | 12＂ | $10^{\prime \prime}$ | 6.85 |
    | CA－1982 | $7^{\prime \prime}$ | $17^{\prime \prime}$ | $10^{\prime \prime}$ | 7.94 |
    | CA－1983 | $10^{\prime \prime}$ | 17＂ | $13^{\prime \prime}$ | $\checkmark .66$ |

    ## STREAMLINED AMPLIFIEIK

    FOUNDATIONS

    This unit is most often used to obtain beauty in an amplifier and similar apparatus． Each foundation con－ sists of a standard chassis $3^{\prime \prime}$ high，on which is mounted a removable top cover． Chrome trim is used to give additional at－ tractiveness to the equipment．Sturdy，easy grip handles are attached to the chassis．Specify with the suffix＂B＂for black wrinkle finish or the suffix＂G＂ for grey wrinkle．

    | Catalog No． | Heisht | Width | bepth | Dealer C＇inst |
    | :---: | :---: | :---: | :---: | :---: |
    | CA－1750 | 9 ＂ | $1\left(1-1,16^{\prime \prime}\right.$ | 5＂ | \＄ 4.111 |
    | CA－1751 | ！${ }^{\prime \prime}$ | 12－1／16＂ | 7＂ | 5.32 |
    | CA－1752 | ！＂ | 17－1／16＂ | $7^{\prime \prime}$ | 5.77 |
    | CA－1733 | $9 "$ | 17－1／16＂ | 1111 | 6.65 |

    ## AMPLIFIER FOUNDATIONS

    

    This standard Bud Am－ plifier Foundation con－ sists of a regular chas－ sis on which is attached a perforated metal cover providing all that you require in ventila－ tion．Easy grip handles attached to the chassis． These units are furnished in black wrinkle finish only．

    | cat．No． | Ileight | Width | Depth | Chassis Height | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | CA－699 | $8.5 / 16^{\prime \prime}$ | 9\％＂ | 6＂＂ | 216 | \＄4．04 |
    | （ A －1125 | $\chi=5 / 16^{\prime \prime}$ | 13知＂ | 51 | 210＂ | 4.45 |
    | CA－1126 | $\mathrm{K}=\mathrm{j} / 16^{\prime \prime}$ | 17\％＂ | 71 | ツ1\％＂ | 5.77 |
    | CA－1127 | $\mathrm{N}-13 / 16^{\prime \prime}$ | 171＂ | 1016＂ | $3{ }^{\prime \prime}$ | 7.50 |
    | CA－1128 | $\mathrm{N}-13 / 16^{\prime \prime}$ | 121＂ | $10^{\prime \prime}$ | 3＂ | 6.35 |

    ## HANDY BOXES

    

    The design of the Handy Box permits a large number of small components to be easily wired or serviced．The cover is held by four self tapping screws．Made from 22 gauge steel and is fur－ nished in black wrinkle finish only．

    | Catalag No． | Height | Lenuth | Width | Actual Weight llos． | Dealer Cost |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | HB－1621 | $21 / 4^{\prime \prime}$ | 419＂ | $11 / 2{ }^{\prime \prime}$ | 13 | S ． 95 |
    | H13－1622 | $2^{\prime \prime}$ | 4＂ | $23 / 4$ | 12 | 1.05 |

    

    ## MINIBOXES

    There are thousands of uses in the field of radio and elec－ tronics for these boxes．They are made of high quality aluminum．The design of the box permits installation of more components than would be possible in the more conventionally designed box of the same size．Construction is of the two piece type，each half forming three sides．The flange type construction assures adequate shielding．These units are available in either etched aluminum finish or grey hammertone finish．

    | $\begin{aligned} & \text { Gray } \\ & \text { Cut. No. } \end{aligned}$ | Fitched Cat．No． | Length | Height | Width | Dealer Cost |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  |  |  |  | Fitched | Grey |
    | CU－2100 | CU－3000 | $2 \%$＂ | 2\％＂ | $1 \%$ \％ | S ． 60 | \＄． 73 |
    | CI＇2101 | CU－3001 | $31 / 4{ }^{\prime \prime}$ | $21 /{ }^{\prime \prime}$ | $1{ }^{\prime \prime}$ | ． 60 | ． 73 |
    | CIT－2102 | C［－3002 | $4^{\prime \prime}$ | $21 /$ | 1\％＂ | ． 63 | ． 77 |
    | （1）－2103 | CIT－3003 | 4＂ | 21／4＂ | $21 / 4 \%$ | ． 22 | ． 96 |
    | CU－2104 | C1－3004 | 5＂ | 21／4＂ | 21／4＂ | ． 88 | ． 99 |
    | （ U）－2105 | CL－3005 | 5＂ | $4^{\prime \prime}$ | $3 "$ | ． 97 | 1.09 |
    | CU－2106 | CU－3006 | 514＂ | 3 ＂ | $216 "$ | ． 95 | 1.06 |
    | （CU－2107 | CL－3007 | $\mathrm{i}^{\prime \prime}$ | 5＂ | $4^{\prime \prime}$ | 1.20 | 1.69 |
    | CIT－210x | CI－3008 | $7^{\prime \prime}$ | 5 5＂ | 3 ＂ | 1.32 | 1.52 |
    | （＇U－2109 | （＇IJ－3009 | n＂ | 6＂ | 312＂ | 1.98 | 2.21 |
    | CIT－2110 | CU－3010 | $10^{\prime \prime}$ | $6{ }^{\prime \prime}$ | 316＂ | 2.17 | 2.71 |
    | CU－2111 | CT－3011 | 12＂ | $6^{\prime \prime}$ | $4^{\prime \prime}$ | 2.77 | 3.23 |
    | （＇19－2112 | CT－3012 | 17＂ | 5＂ | 4 ＂ | 3.27 | 3．80 |
    | （＇U．2113 | CIT－3013 | $10^{\prime \prime}$ | 2＂ | $1 \%$ | 1.25 | 1.32 |
    | （CU－2114 | （＇U－3014 | $12^{\prime \prime}$ | 21／2＂ | 21／＂ | 1.22 | 1.19 |
    | （ $13-2115$ | CU－3015 | ！＂ | 3＇ |  | ． 82 | ． 92 |
    | C［－2116 | CUT3016 | $41 / 4{ }^{\prime \prime}$ | 21／4＂ | 11／2＂ | ．85 | ． 96 |
    | （＇U－2117 | CU．3017 | 31，1＂ | $21 /{ }^{\prime \prime}$ | 11／＂ | ．65 | .77 |

    ## METER CASES

    

    Designed for all applications requiring a modern meter case．Size： $4^{11 / 4}$ height x $4^{\prime \prime}$ deep $\times 4^{\prime \prime}$ wide一rear of case open． All cases have a sloping front with the top corner rounded．Meter cases No． CM－1241 and CM－1242 have insulators on the top for leads to the meter． CM－1965 and CM－1966 are furnished without insulators．These steel units are finished in black wrinkle enamel or light grey hammertone．
    Also available are our new aluminum meter cases， prefixed by the letters CMA，as shown in the table below．These units are the same size and design as the steel meter cases，but are especially suitable for use when a case that will have no magnetic effect on a meter is required．No insulators furnished．These cases are etched aluminum finish or light grey hammertone．

    | （3at．No． | thole <br> Diameter | Fits <br> Meter Size | Dealer Cust |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    |  |  |  | 13lack | Grey | Etcherd |
    | （ M－1241 | $2.334^{\prime \prime}$ | $9^{\prime \prime}$ | \＄1．32 | \＄1．32 |  |
    | CM－1242 | 2．835＂ | 3 ＂ | 1.32 | 1.32 |  |
    | （CM－196\％ | 2．334＂ | 2＂ | 1.00 | 1.00 |  |
    | CM－1966 | $2.835{ }^{\prime \prime}$ | 3 3＇ | 1.10 | 1.00 |  |
    | （＇MA－2065 | $2.334^{\prime \prime}$ | ${ }^{\prime \prime}$ |  | 1.12 | \＄1．07 |
    | CMA－2066 | $2.835^{\prime \prime}$ | 3＂ |  | 1.12 | 1.07 |

    ## SPCCLAL SHEET METAL PABRICATION

    Now, Bud Radio, through its Metal Products Division, offers greatly increased facilities for the production of special sheet metal items. New machinery has been added, departments have been modernized and streamlined, and new methods have been developed.

    We make over four hundred different sheet metal products as stock items, which are illustrated elsewhere in this catalog. Often a slight change in one of our standard items will eliminate the necessity of special tools and dies, thereby reducing costs greatly. Since we produce thousands of sheet metal products. every month, for ourselves and for leading firms throughout the country, we are able to
    effect economies in production which mean lower prices and faster delivery.

    Our expanded facilities, expert workmanship, years of experience and manufacturing "know how" assure high quality products. In addition, our Engineering Staff is always available for consultation and advice. We suggest that you send us your blueprints for estimate.

    Whether the quantity be one, ten, one hundred, one thousand or many thousands, we are interested in the opportunity to be of service to you.

    Illustrated on this page are a few examples of specially fabricated sheet metal products.
    

    Only a few of many HD Produrtm are ahown. Werite for romplete catalog.

    ## TYPE "C" DELUXE CABINET RACKS <br> FOR 19" WIDE PANELS-18" and 24" DEEP


    #### Abstract

    Since 1927, PAR-METAL has been a pioneer in the design and creation of superior metal equipment for the radio and communications industries. This experience in combination with skilled craftsmen and high quality material, has made PAR-METAL PRODUCTS the standard of the industry.


    The beauty of these new enclosed type racks should prove a welcome addition to our line. It will appeal to those who wish to combine the rugged construction of our standard Type "C" racks with modern styling and improved design.

    The vertical trims which conceal the panel mounting screws are fastened by means of two "Cowl type" fasteners on each side, which permits the trims to be removed quickly and easily by a half-turn on the screw heads.

    The design of the vertical posts permits these racks to be installed in rows or "gangs," without the use of front joining strips between the racks. This provides a greater flexibility in their installation, particularly in broadcast stations.

    ## SPECIFICATIONS FOR THESE DELUXE TYPE RACKS

    CABINET: Entire cabinet is welded togetler into one integral unit. Body of cabinet is made from h" thick cold rolled sheet steel; top of cabinet is made from $5 / 64^{\prime \prime}$ thick steel; bottom is made from $7 / 64^{\prime \prime}$ thick steel.

    PANEL MOUNTING: Angle irons are $\frac{3}{10}$ " thick structural steel, holes are accurately drilled and tapped $12 / 24$ thread on standard $11 / 4$ " $1 / 2^{\prime \prime}$ spacings.

    DOOR: Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a snooth double thick edge. There are no "patch" type braces, etc., used for reinforcement.

    HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles, Hinges are of the "slip-joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated trinis at top and bottom.

    OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads, etc.

    VERTICAL SIDE SUPPORTS: Vertical Side Supports (as show'n on Page $\mathrm{J}-93$ ), are available to fit all the racks listed on this page.

    CORNER TRIMS: All racks have quick detachable corner trims. which are fastened to the rack by means of two "Cowl Type" fasteners on each trim.

    PANELS: Panels $19^{\prime \prime}$ wide to fit these racks are described on Pages J-98 and J-99.

    FINISH: Black ripple with corner trims finished in dull black; or slate grey ripple with corner trims finished in slate grey are standard. Prime coat only is optional in place of ripple enamel finish at no extra charge, if so specified in your order.
    Aluminum grey lacquer is available at an additional charge. The letter "P" before Catalog No. indicates black ripple enamel; the letter "PG" before Catalog No. indicates slate grey ripple enamel.
    RACK SHELVES: Shelf $12-2218$ fits the $181 / 2^{\prime \prime}$ deep racks; and Shelf R-2924 fits the $24^{\prime \prime}$ deep racks. See Page J-97.
    ROLLER TRUCKS: Truck RT-41S fits the $181 / 2^{\prime \prime}$ deep raclis;
    

    No. P-6918

    ## 181/2" Deep Racks

    Cat. No.
    P, PG, 6918
    P. PG, 7818
    P. PG, 8518
    

    Panel Shp. Wt. Ne: Space Lhs. Frice |  |  | $11 / 4 \times 19^{\prime \prime}$ | 15 |
    | :--- | :--- | :--- | :--- |
    | 15 | $\$ 94.50$ |  |  |

    
    

    ## 24" Deep Racks

    |  | 6: $1 / 4 \times 19^{\prime \prime}$ | 15.5 | 111.00 |
    | :---: | :---: | :---: | :---: |
    |  | 7* $\times 19^{\prime \prime}$ | 190 | 120.00 |
    |  | $78 \times 19^{\prime \prime}$ | $\because 0$ | 135.00 | and Truck RT-424 fits the 24 " deep lacks. See Page J-9\%.

    MODIFIED RACKS: The deluxe type racks listed on this page can be supplied with grille openings in top for additional ventilation. Special openings in doors can also be provided.

    ## PAR-METAL PRODUCTS CORP. - Long Island City 3, N. Y. ALL PRICES F.O.B. LONG ISLAND CITY, N. Y.

    ## TYPE＂C＂STANDARD CABINET RACKS

    ## FOR 19＂and 30＂WIDE PANELS

    These racks have been a standard unit in the electronic industry for many years，and have been adapted to a broad field of requirements．The construction is essentially the same as our DeLuxe Racks on Page J－90，and similar speci－ fications would apply as to CABINET，PANEL MOUNTING， DOOR，HARDWARE and OUTLET．

    Models G－2218，G－2219 and G－3024 have ad ditional reinforcement at the rear corners and are suitable for transmitter equipment The louvres on the rear door are covered with mesh screening in the inside，and addi． tional knockouts are provided for conduit and $4^{\prime \prime}$ square duct
    

    No．P． 6625

    CORNER TRIMS：All racks have quick，detachable，new colner trims，which are fastened to front of rack with two finger type＂captive screws．＂This permits quick．simple removal without the use of screw－drivers．etc

    TO SET UP IN GANGS OR ROWS：The racks may be joined together by means of a flat trim fastened to the front of the adjacent support angles，overlapping both racks Knockout holes $11 / s^{\prime \prime}$ in diameter are provided at the sides of the racks to permit connections between them．

    Racks are regularly shipped with corner trim as illustrated： where specified，the front joining trim is furnished without additional charge in place of the corner trim

    SIDE LOUVRES：Racks are available with louvres at sides if so ordered at no extra charge．（This is not suitable for ＂gang＂installations．）

    MODIFIED RACKS：Depth may be increased up to $2 S^{\prime \prime}$ to your specifications．Grille openings in top for additional ventilation are also available．Special openings in doors can also be provided

    FINISH：Black ripple with corner trims finished in dull black：or slate grey ripple with corner trims finished in slate grey are standard．Prime coat only is optional in place of ripple enamel finish at no extra charge if so sueci－ fied in your order．Almminum grey lacquer is available at an additional charge．The letter．＂P＂before Catalogr No． indicates black ripple enamel；the letter＂PG＂before Cata－ log No．indicates slate srey ripple enamel
    

    No．G－2218

    | 151／4＂Deep Racks |  |  |  |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | Cat．Nos． | Overall Size | Panel <br> Space | Clear <br> Depth | Slip．Wt． Lbs． | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
    | P，PG， 3675 | $4278 \times 2 \times 151 / 1^{\prime}$ | $363 / 4 \times 14$ | 1：3：＂ | 1111 | \＄54．00 |
    | P．PG， 6625 |  | （i1） 1 ¢14＂ | 1：3：＂ | 110 | 72.00 |
    | P．PG． 8325 | ：312x | 7xam | $1: 33_{1}$ | 111.0 | 93.00 |
    | 18＇Deep Racks |  |  |  |  |  |
    | P．PG． 3618 | t $27 / 8 \times 20 \times 18^{\prime \prime}$ | $364 \times 19$ | 115\％＂ | 1111 | 60.00 |
    | P．PG， 6618 | 177：303x | $61^{1} \times 1 \times 19$ | $167 / 8 \%$ | 1：610 | 78.00 |
    | P．PG． 8318 |  | －7x1！${ }^{\text {a }}$ | 16； | 1511 | 99.00 |

    PANELS：P＇anels $1!{ }^{\prime \prime}$ and ：31＂wide 10 fit these racks are described on Pages．J－4S and J－99．

    | Cãt．No． | Orerall Size | Panel <br> Space | Clear Depth | Shp．Wt． Llos． | $\begin{aligned} & \text { Vet } \\ & \text { Bücr } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | G－2218 |  | －ハ1！ | 119\％＂ | 15. | \＄15500 |
    | G－2219 |  | －小ハ！ | 16\％＂ | 214 | 117.00 |
    | G－3024 |  | 叭： $0^{\prime}$ | ござメ＂ | （1） | 1－4．30 |

    RACK SHELVES：Slelf $\mathrm{F} \cdot \boldsymbol{2} \| \mathrm{H}$ fits the $1 . \mathrm{I}_{4}$ ， deep racks；Shelf $R-2 \geq 19$ fits the $1 S^{\prime \prime}$ de el racks．Shelves are listed on Page J－97．

    ROLLER TRUCKS：＂1utck RT－115 fits I＇de 151／a＂dern racks：and Truck R「－ 112 fits the $1 s^{\prime \prime}$ deep racks．Rollor trucks are listed mi lage J－97．
    

    ## TYPE "C" UNIVERSAL CABINET RACKS

    THESE UNIVERSAL CABINET RACKS are similar in construction to our" standard Type "C" cabinet racks on Page J-88, except that the design has been modified to facilitate the location and mounting of cliassis supports, shelves, sliding shelves, and standard sliding devices. In addition, all racks, with and without front doors, have adjustable panel nounting angles, which may be positioned on the sides of the racks at any location from front to back.

    For the first time, we offer a complete line of cabinet racks, similar in design, with or without front doors, with open or closed sides, which can be used singly or grouped together in continuous rows. Where racks on Page J-91 of the same height are used, they may be set up and intermixed for $19^{\prime \prime}$ and $24^{\prime \prime}$ panels, with rear doors only, or with front and rear doors; the racks are available for $19^{\prime \prime}$ wide panels, in $18^{\prime \prime}$ and $24^{\prime \prime}$ depths, and for $24^{\prime \prime}$ wide panels in $24^{\prime \prime}$ depth. The same group arrangement can be made with racks on Page J-92.

    All racks with rear doors only are equipped with regular vertical trim strips to cover the panel monnting screws. However, whare slinling drawers and custom assembled sliding ehassis are used, these stambare trime will interfore with the operation of such drawers. To owneoms this lifticults, optional "Narrow-type' vertieal trims (same as racks with from dongs) are availalile which promit fre oporation of slititur
    
     of the rack proper are fall cabinet dexian, so that the edres of panels art reressed with trims removed.
    
    
     (1) in rows: the sidn jabls are purchasad separately for groupinar as rembired
    
    
    
    
     desmilend of that patar.

    The adsantares of "UNIVERSAL" type racks may the summarizal as follows:
    

    1. I complote line of racks to provide unit row type assembly, or for use as single racks.
    2. Nasks with ar without front doors, for either $19^{\prime \prime}$ or $24^{\prime \prime}$ widu panels may be used singly, or in rows, intermixed als rerfuiret.
    3. The panel monting angles on ALI, rueks are fully adjustable, and may les set at any position from front to hate.
    4. Virtiaral sille sulquits (see Paye J.93) for attachinur chassis hrackets, shelves, slides, ete., may be installed without arilling or titting.
    5. Kithur rewular or "Narrow Type" vertical comer trims are arailahle without arditional cost.
    6. I simplifiod methord is provided for installing stamdard or rustom-husitt slides.
    7. Available finishes are black or grey ripple enamel, primer coat only, grey hammertone or aluminum grey lacquer.

    ## SPEC\|FICATIONS FOR ALL UNIVERSAL TYPE RACKS ON PAGES J-91 AND J-92:

    

    CABINET: Entire cabinet is welded together into one integral unit. loody of cabinet is made from $1 / 16^{\prime \prime}$ thick cold rolled sheet steel; top of cabinet is made from $5 / 64^{\prime \prime}$ thick steel; bottom of cabinet is made from $7 / 64^{\prime \prime}$ thick steel.
    PANEL MOUNTING: Angle irons are $3 / 16^{\prime \prime}$ thick structural steel, holes are accurately drilled and tapped $12 / 24$ thread on standard $11 / 4^{\prime \prime}-1 / 2^{\prime \prime}$ spacings.
    DOOR: Doors are of a new type with vastly improved construction features. They are stamped from one piece of steel into a rigid unit. Door edges are folded to provide a smooth double thick edge. There are no "patch" type braces. etc. used for reinforcement.
    "FULL VENTILATING" type louvres provide adequate ventilation in the rear doors.
    HARDWARE: Doors are equipped with die-cast "automobile" type sturdy handles. llinges are of the "slip-joint" type so that doors may be easily removed. Screws for mounting panels are supplied. Front of rack is trimmed with chrome plated trims at top and bottom.

    OUTLETS: A duplex receptacle and outlet box are provided in the back under the door. A rectangular opening is provided in the bottom for conduits, leads. etc.
    

    MODIFICATIONS: Modified doors are available with louvres at Top OR Bottom only as required. Detachable side panels (listed on Page J-92) may be ordered with louvres to your specifications. Tops of cabinets can be supplied with round or rectangular onenings, with or without grilles or baffles.

    ## TYPE＂C＂UNIVERSAL CABINET RACKS

    FOR 19＂\＆24＂WIDE PANELS－ $18^{\prime \prime}$ \＆24＂DEEP

    ## WITH REAR DOOR ONLY

    

    No．PX－6718

    SPECIFICATIONS：For complete descrip－ tion，see Page J－90．

    CORNER TRIMS（＂PX＂Series Racks）：Reg． ular vertical trim strips to cover panel attach－ ment screws supplied as standard．Where sliding drawers are used．＂Narrow Type＂ trim strips should be specified．Where racks are set up in rows，front joining trims of either type are available，if so specified，at same price．

    CORNER TRIMS（＂FX＂Series Racks）： ＂Narrow Type＂vertical trim strips are stand－ ard．Where Series＂PX＂and＂FX＂racks are intermixed in rows，＂Narrow Type＂trim strips must be used．Fiont joining trims are available at same price．
    FINISH：Black Ripple Enamel is standard． Grey ripple or＂lrimer Coat＂only are op－ tional at same price．Other available finishes （at an additional cost of $15 \%$ ）are Grey Ham－ mertone enamel or Aluminum Grey Lacquer．

    PANELS：Panels to fit these racks in $19{ }^{\prime \prime}$ and $24^{\prime \prime}$ widths are listed on Pages J－98 and $\mathbf{J}-99$ ．Grille panels．etc．listed $19^{\prime \prime}$ wide can be supplied $24^{\prime \prime}$ wide to special order．
    ROLLER TRUCKS：Roller trucks to fit these racks are listed on Page J－97．

    SHELVES：Shelves，brackets，etc．are listed on Page J－93．

    HOW TO ORDER：Specify CATALOG NUM－ BER and FINISH，otherwise black ripple will be supplied．On＂PX＂Series Racks，standard vertical trim strips（to cover panel attach－ ment screws）will be furnished unless＂Nar－ row Type＂trim strips are specified．IIandle on front doors is equipped with lock and key．

    WITH FRONT \＆REAR DOOR
    

    No．FX－6718

    ## TYPE＂PX＂SERIES RACKS－WITH REAR DOORS ONLY

    ## Catalcg

    PX－48．18
    P－6718
    PX－7718
    PX－8418
    $\mathrm{PX}-8418$
    $\mathrm{P}-4824$
    $P X-4824$
    $\mathrm{PX}-6724$
    PX－6724
    $\mathrm{PX}-7724$
    PX－7724
    PX－ 8424
    PX－8424
    $P X-4827$
    PX－4827
    PX－6727
    $\mathrm{PX}-6727$
    $\mathrm{PX}-7727$
    PX－7 727
    PX－8427

    Catalog No． FX－6718 FX－7118 FX－8418 FX－4824 FX－6724 FX－7724 FX－8424 FX－4827 FX－6727 FX－7727 FX－8427

    Dimersions Height Width Depth $481 / 8 \times 29 \times 18^{\circ}$ $761 / x^{\circ} 2 \times 18^{*}$ 831／8xロッチ1先 $481 / 8 \times 25 \times 24^{\prime \prime}$ $673 / 8 \times 2 \cdot 2 \times 24^{\prime \prime}$
     $831 / 8 \times 29 \times 24$＂ $81 / 8 \times 27 \times 27^{\prime}$
    $481 / 829$ $481 / 4 \times 24 \times 24^{\prime \prime}$
    68
    

    Clear Inside＊Clear Inside

    ## Pane

    $42 \times 1!$ $61 \frac{1}{4} \times 11^{\prime \prime}$ $501 / 4 \times 1!^{\prime \prime}$ $\div 7 \times 19^{\prime \prime}$ $4 \% \times 19^{\prime \prime}$ $611 / 4 \times 13^{\prime \prime}$ $70^{10} \times 14^{\prime \prime}$ $77 \times 1!"$
    

    Depth
    
     $1178 \prime \prime$
    $117 \%$
    
     2．2 $2 / \%^{\prime \prime}$
    
     $173 / 4^{\prime \prime}$ Width（Rea

    ## TYPE＂FX＂SERIES RACKS－WITH FRONT AND REAR DOOR

    ## Dimensions

    Height Width Depth
    $481 / 8 \times 2 \times 1$ ह＂ $681 \% \times 2.2 \times 18$
    76
    8 $761 / 8 \times 2 . \times 18^{\prime \prime}$
    $831 / 4 \times 2 \times 18{ }^{\prime \prime}$ $481 / 4 \times 22 \times 2{ }^{1}$ $67^{3} 3 \times 22 \times 24$＂ $761 / 8 \times 2 \times 24^{\prime \prime}$ $831 / 8 \times 20 \times 2.4$ $481 / 8 \times 5$ ² ${ }^{2}$ t＂ $673 \times 27 \times 2: "$ $761 / 8 \times 27 \times 21^{\prime \prime}$ $831 / 8 \times 27 \times 2$ ：

    | Panel <br> Space |  |
    | :---: | :---: |
    | $42 \times$ | x 1 |
    | $611 / 4$ | $1 / 4 \times 19^{\prime \prime}$ |
    | 70 | x 1 ！${ }^{\prime \prime}$ |
    | 1 | x |
    | 42 | $\times 1$ |
    | $611 / 4$ | $1 / 4 \times 19$＂ |
    | 70 | $\times 19^{\prime \prime}$ |
    | 77 | $\times 1$ |
    | 42 | x ${ }^{\text {¢ }}$ |
    | （i） $1 / 4$ | $1 / 4 \times 2$ |
    | 0 | $x+4$ |
    |  |  |

    ＊clearane betwen front and rear doors．

    ## Clear Inside

    ## Widar Inside

    th（Front） Width（Rear）| idth（Rear） | Wt．Lbs． |
    | :---: | :---: |
    | $191 /{ }^{\prime \prime}$ | 150 |
    | $191 / \mathrm{m}$ | 190 |
    | $191 / 8{ }^{\prime \prime}$ | 210 |
    | $191 /{ }^{\prime \prime}$ | 220 |
    | $191 /{ }^{\prime \prime}$ | 170 |
    | $101 / 4{ }^{1}$ | 210 |
    | $1: 1 / 8 \%$ | 235 |
    | $1.11 / 8{ }^{\prime \prime}$ | 250 |
    | 241／8＂ | 190 |
    | $211 / 8{ }^{\prime \prime}$ | 240 |
    | 211／3＂ | 260 |
    | 211／${ }^{\text {\％}}$ | 280 |

    WITH FRONT \＆REAR DOORS
    

    No．PR－6718
    

    This Cabinet has Detachable Side Panels mounted．
    

    CORNER TRIMS（＂PR＂Series Racks）：R＂Lular vir tical lrim slrigs ly
     rathes are set $11 p^{\text {en }}$ in rows，front jwinine trims of either
    
    CORNER TRIMS（＂FR＂Series Racks）：＂Narrow
    
    
     FINISH：Blatck litple lanamel is standiand．Arey riplla
    
    
    
     FlXSJ．＂thorwise black rilble wammer will lee sup－
    
    
    
    
    

    No．FR－6718

    ## DETACHABLE

    SIDE PANELSTYPE＇PR＇＂SERIES RACKS－WITH REAR DOORS ONLY

    | Catalog No． | Overall Dimensions Height Width Depth | Panel <br> Space | Clear Inside Depth | Clear Insid Width（Front | Clear inside Width（Rear） | Shipping Wt．Lbs． | Net Price | Catalog No． （Per Pair） | Net Price （Per Pair） |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | PR．4818 | Height Width eepth | 1：2 $\quad \times 1!$ | 110\％＂ | Widh\％${ }^{\text {\％}}$ | 1！ $1 / 8{ }^{\prime \prime}$ | 1：：61 | \＄ 70.00 | RS－418 | \＄ 30.00 |
    | PR－6718 |  |  | 11；＇＊＂ | 1\％：\％， | 1！119＂ | 110 | 80.00 | RS－618 | 36.00 |
    | PR－7718 |  | $713 \times 1$ ¢ | \％ | 1： | 1！ $1 \times{ }^{1}$ | $1: 19$ | 90．00 | RS－718 | 39.00 |
    | PR－8418 | 431／4x23x18＂ | $7 \overline{7} \times 1!$ | 16\％＂， | 1－： | 1！ $11 / 1 / 4$ | 1－110 | 185．00 | RS－424 | 36.00 |
    | PR－4824 |  | $1: 31: \%$ |  | 1\％＂， | 1！1迷 | $1!111$ | 97.50 | RS－624 | 42.00 |
    | PR－6724 |  | 611 $1 / 41$ ¢ ${ }^{\prime \prime}$ | － | 1\％： | $1!1 \times$ | U1． | 107.50 | RS－724 | 45.00 |
    | PR－7724 | 7ticxatext＂ |  | 为㤩 | 19\％ | 1！1／x＂ | 230 | 120.00 | RS－824 | 48.00 |
    | PR． 8424 |  | 为 |  | 边 | 21\％＂ | $1 \%$ | 110.00 | RS－424 | 36.00 |
    | PR－4827 PR－6727 |  | （1） | －2 | 为曲 | －1／ | － | 125.00 | RS－624 | 42.00 45.00 |
    | PR－7727 |  | 「11 x0！＂ | ？ |  | ？${ }^{\text {a／k }}$ | － | 150.00 | RS－824 | 48.00 |
    | PR－8427 | 8：314x2－xさ4＂ | ＇＇ |  | 22： | －1\％ | －．． |  |  |  |

    TYPE＂FR＂SERIES RACKS－WITH FRONT AND REAR DOORS

    |  |  | Panel | Clear Inside | Clear Inside Clear Inside | Shipping | Net | Catalog No． |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Catalog No． | Height Width Depth | Space | Depth | Width（Front）Width（Rear） | Wt．Lbs． | Price | （Per Pair） | （Per Pair） |
    | FR－4818 |  | $10 \times 1!$ | 161＂＂ | 1㘶＂，191／8＂， | 110 | \＄ 85.00 | RS－618 | 36.00 |
    | FR－6718 | 行汹xさせx1く＂ |  | 161吅＂ | 15 3，${ }^{\prime \prime}$ ，101／，＂， | 190 | 100.00 | RS－718 | 39.00 |
    | FR－7718 | －61／4x20x | －0 $\times 1$ 1\％＂ | 111\％＂， |  | $\bigcirc$ | 125.00 | RS－818 | 42.00 |
    | FR． 8418 | 8：314x90x18＂ | － $71 \square^{\prime \prime}$ | 14； 1 | 11\％＂ | 1400 | 102.50 | RS－424 | 36.00 |
    | FR－4824 |  | 1\％$\times 10^{\prime \prime}$ | － | \％\％\％ | $\because 11$ | 117.50 | RS－624 | 42.00 |
    | FR－6724 |  | （1）1／1 $\times 1$ ！＂ | － | \％${ }^{1 / 4}$ | 20.5 | 132.50 | RS－ 724 | 45.00 |
    | FR． 7724 | －614029x＋＂ | こ！ | －21\％ |  | 30 | 145.00 | RS－824 | 48.00 |
    | FR－8424 |  | －x1！＂ | 哭 | ＂，${ }^{\text {\％＂}}$ | $1 \times 0$ | 127.50 | RS－424 | 36.00 |
    | PR－4827 | 4 ckxp |  |  | － | －＋11 | 150.00 | RS－624 | 42.00 |
    | FR－6727 |  | ！11 | － | －0．3＂ | 200 | 160.00 | RS－724 | 45.00 |
    | FR－7727 FR－ 8427 |  | ill $\times 2$－ | － | － | －心0 | 180.00 | RS－824 | 48.00 |

    clanalle ledworn from ：and wal dowes．

    # UNIVERSAL CABINET RACK FITTINGS 

    ## VERTICAL SIDE SUPPORTS

    

    These vertical side supports are supplied in sets of four uprights to fit type＂PX，＂ ＂PR，＂＂FX＂and＂FR＂racks listed on Pages J．91 and J－92． （Cut shows side mounting brackets in place which are sold separately－see listing below）．Uprights are fastened to grooved bolt retainers which hold panel monnting angles in place．and are ad． justably mounted from fromt to back of rack．Holes are drilled and tapped vertically on＂universal centers＂to pro－ vide adequate vertical adjusi－ ment for mounting brackets． shelves．and varions sliding devices made for electronic－ equipment．
    When installed in racks for $19^{\prime \prime}$ wide panels，the clearance between uprights（from right to left）is $17 \frac{3}{4}$＂．［iprights are $25 /{ }^{\prime \prime}$ wide and $11 /$＂$^{\prime \prime}$ deep．
    Uprights are made from $1 / \mathrm{s}^{\prime \prime}$ steel．finished in aluminum enamel．Each set is supplied with necessary bolts for rack mountins．
    

    VS．42 Height
    PX．IRE．FX．FIR－4X1s
    Slip．Wi．Net Price
    
    
     NuTh：Vertipal Side Supsonts are atso arailahle for fit all rapks listab
     alan her montified to fit sprefal slides or other erminmont

    ## SIDE MOUNTING BRACKETS

    

    ## Brackets BR－118 and Shelf SS－1918

    These brackets will fit on Vertical Side Sup－ ports as listed above．They are sold in pairs． and slotted to provide additional vertical adjust－ ment．Brackets are $2^{\prime \prime}$ wide ant $1-13 / 16^{\prime \prime}$ high． They are made from $1 / 8^{\prime \prime}$ steel．with zinc plated finish．Necessary bolts are suppliph．Shipping weight is 3 lbs．
    Cat．No．
    BR－118 Length
    
    Net Price
    $\$ 2.70$ pair

    ## EQUIPMENT SHELVES

    These shelves will assemble with the side mounting brackets listed above．to make a com－ plete shelf between Vertical Side Supports． Made from $1 / 16^{\prime \prime}$ steel．zinc plated．Necessary bolts for assembly are included．All shelves are 7／8＂high．

    | Cat．No． | Wilth | Depth |  | To Fit Racks | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | SS－1918 | 1\％${ }^{\text {\％}}$ | 1 ${ }^{1} 1$ ，＂ | $19^{\prime \prime}$ | matmels－18゙ dect | \＄2．85 |
    | SS． 1924 | $15 \%$ | 2013 | 1！＂ | manels－： $4^{\prime \prime}$ derem | 3.45 |
    | SS． 2724 | 20：＂\％ | 201 \％${ }^{\text {\％}}$ | $2 \pm "$ | pancls－2t＂deep | 4.05 |

    SLIDING SHELF UNITS
    

    Basic Slide Assembly SD－1916

    The basic assembly illustrated is sold as a complete unit． （hassis may be bolted directly to the sliding shelf；panels may be attached to the shelf using standard chassis brackets listed on Page J－101；flat steel or formed panels． $7^{\prime \prime}$ or larger， are suitable．
    The forward movement of shelves for $18^{\prime \prime}$ deep racks is $1: 1 / 4 "$ ；for $24^{\prime \prime}$ deep racks，it is $17 \frac{1}{4} 4^{\prime \prime}$ ．The shelf may be fuickly removed from the slide while it is in an extended position．
    The illustration shows a sliding shelf unit with the slide carrier in a vertical position．This type afforms the maxi－ mumi load capacity，but reduces the usable shelf space to 15 多＂wide．The shelf height is only $1^{\prime \prime}$ ．
    We also list shelves with slide carriers mounted horizontally under the shelf．This method permits the use of $17^{\prime \prime}$ wide chassis．but reduces the load capacity．The shelf height is increased to $13 / 4^{\prime \prime}$ ．All parts on hoth types are zinc plated．

    | With Vertical Slide Carriers |  |  |  |  |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | No． | Width | Depth | Width | Depth |  | Price |
    | SD． 1916 | 15．＂ | 1＋1，＂ | $1!1 "$ | $1 \mathrm{~s}^{\prime \prime}$ |  | \＄13．95 |
    | SD．2416 | $20{ }^{50}$ | $\underline{-1101}$ |  | ＂4＂ |  | 25.50 |
    | With Harizantal Slide Carriers |  |  |  |  |  |  |
    | Cat． |  |  | Panet | Rack |  | Net |
    | No． | Width | Depth | Width | Depth |  | Price |
    | SD－1920 | 151／\％ | 1＋1＂ | 1！＂ | $18^{\prime \prime}$ |  | \＄14．40 |
    | SD． 2420 | $201 /{ }^{\prime \prime}$ | 201イ＂ | 2．1＂ | ： 24 |  | 25.50 |
    | PHONO DRAWER ASSEMBLIES |  |  |  |  |  |  |

    
    （Cunsists of hasic stidine sluelf assenthly wial al haw forn and hamilu as illustrated． Drawow front is stme sion is stamlant formed famel 1016 bight．（121：＂high frawtor fromes are also a malablo．）ber． tical slicle carriars are nsed for mavimum load capacity．
    Whem motal bake batis are a：alahble wilh chatue．re．it is
    
    

    ## Phono Drawer Assembly PH－1916

    
    
     Catalog Usable Space Height Front Panel Net Price
    
    
    
    
    

    ## METAL 8 ASE PANS

    
     b゙inish is hown wrinhle natmel．

    | Cat．No． | Size | To Fit | Net Price |
    | :---: | :---: | :---: | :---: |
    | MB． 80 |  |  | \＄4．50 |
    | MB－154 | 15岛＂x1718＂x＋1／4＂ | creplural use | 4.20 |
    | MB－155 |  | grental use | 4.20 |

    ## PAR－METAL PRODUCTS CORP． <br> ALL PRICES F．O．B．LONG ISLAND CITY，N．Y． <br> Long Island City 3，N．Y． <br> FOR WEST COAST PRICES，ADD 10\％

    

    ## DELUXETYPE-FOR 19 " WIDE PANELS

    ## WITH REAR DOOR ONLY

    

    No. ER-225
    SERIES ER-225 RACKS: These units may be ganged in double or "muiti-rack" mits. When so ordered, racks are supplied with common intermediate sides which are joined to adjacent tops and bottoms. Solid intermediate sides are supplied unless otherwise specified. In multiple units, center joining trims are supplied.

    THESE DELUXE TYPE "A" RACKS are fully in keeping with modern streamlined styling. Vertical corner mouldings cover the panel mounting screws, similar to our Type "C" racks. Panels fit into a recess, so that the edges of panels are not exposed when corner mouldings are removed. Trimmed at top and bottom with chrome finished trims.

    CABINET: Entire cabinet is constructed of $1 / 16^{\prime \prime}$ thick cold-rolled steel. These racks are shipped "knocked-down" with necessary bolts for easy assembly.
    PANEL MOUNTING: Angle irons are of $7 / 64^{\prime \prime}$ thick steel, holes are accurately drilled and tapped 10-32 thread on universal centers for all types of panels.

    CORNER TRIMS: All racks have quick detachable, new corner trims which are fastened to front with two studs. This provides for rapid, finger-tip removal without the use of screwdrivers, etc.

    HARDWARE: Doors are of new design same as our Type "C" commercial racks. No. ER-223 is equipped with a "push-button" type concealed snap catch. The two larger models liave "automobile" type handles. Hinges are the "slip-joint" type so that doors may be easily removel. Front of rack is trimmed with chrome finished mouldings. Screws for mounting panels are supplied.

    FINISH: Slate grey ripple finish is standard. Black ripple enamel finish will be supplied without extra charge if so specified on your order.

    PANELS: Panels $19^{\prime \prime}$ wide to fit these racks are listed on Pages $\mathrm{J}-98$ and $\mathrm{J}-99$.

    ## WITH FRONT AND REAR DOORS

    

    No. FD- 225

    SERIES FD-225 RACKS: This series with front and rear doors have adjustable panel mounting angles. which may be located at any distance from front to rear of rack. VERTICAL SIDE SUPPORTS listed on Page $J-93$ will fit into these racks; all items listed on Page J-93 may he installed in these racks.

    |  |  | $P \mathrm{P}$ | $F$ | C A T | 10 | S |  |  |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | Catalog No. | Doors | Overall Dimensions | Panel Space | Clear Inside Width (Front) | Clear Inside Width (Rear) | Clear Inside Depth | Shipping <br> Wt. Lbs. | Net Price |
    | ER-223 | licar onty | $4314 \times 2 \times 1 \mathrm{c}^{\prime \prime}$ | $363 \% 19 \%$ | 175" | $1: 7$ | 163\% | 90 | \$46.50 |
    | ER-225 | Renar only | $57 \% \times 2.2 \times 10^{\prime \prime}$ | $811^{1 / 1} \times 19 \%$ | 17 " ${ }^{\prime \prime}$ | 19" | 16 第" | 120 | 57.00 |
    | ER-227 | litir only | *, $16 \times 2 x^{\prime \prime \prime}$ | 7\% $\times 19$ | 1\%"\%" | 14" | $10 \%^{\prime \prime}$ | 110 | 69.00 |
    | FD-223 | Frme s lear | 1214 $\times 29 \times 18^{\prime \prime}$ | $3634 \times 10^{\prime \prime}$ | $1: 1 / 8{ }^{\prime \prime}$ | $19^{\prime \prime}$ | *16"' | 110 | 57.90 |
    | FD-225 |  |  | $611 / 4 \times 1{ }^{\prime \prime \prime}$ | $1^{11 / 1 / 8 "}$ | 1:" | "16", | 145 | 72.00 |
    | FD-227 | Frabt \& Ram | - $316 \times 29 \times 1 \times$ | \% 51 \%" | 19 )/8" | 1!" | "16" | 166 | 90.00 |

    ROLLER TRUCK: Roller truck No. RT-412 for Series ER-225 rarks: use RT-418 for Series FD-225; both are listed on Page J-97.

    SHELVES: For Series ER-225 Racks, use shelf No. ER-2212 listed on Page J-97. To install shelves in Series FD-225, it is recommended that Vertical Side Supports, brackets and shelves listed on Page J-93 be used.

    ## TYPE "A" ENCLOSED RELAY RACKS

    ## ROUNDED CORNER TYPE - FOR 19" WIDE PANELS

    ## WHTH FROINT AND REAR DOORS

    

    THESE RACKS ARE SIMILAR in construction to our Series ER-225 Racks. They provide a combination of standard functional design and superior construction at a modest price. The vertical front corners are nicely rounded, and the top and bottom are trimned with red-striped chrome finished mouldings. The panels fit into a recess. so that the edges are not exposed.

    CABINET: Entire cabinet is constructed ot $1 / 16^{\prime \prime}$ thick cold-rolled steel. These racks are shipped "knocked•down" with necessary bolts for easy assembly. Screws for mounting panels are supplied.

    PANEL MOUNTING: Angle irons are 7/64" thick steel, holes are accurately drilled and tapped $10-32$ thread on universal centers for all types of panels.

    HARDWARE: Door's are of new design same as our Type "C" commercial racks. No. ER-213 is equipped with a "push-button" type concealed snap catch. The two larger models have "automobile" type handles. Hinges are the "slip-joint" type so that doors may be easily removed.

    FRONT DOOR RACKS: On Series FD-215 racks, the front panel mounting angles are recessed $2^{\prime \prime}$ deep to allow clearance for dials, etc. The clear inside depth behind the panel is $131 / 2^{\prime \prime}$. The handle on front
    

    No. ER-215

    No. FD-215 doors is equipped with a lock and key.

    | Catalog No. | Doors | Overall Dimensions | Panel <br> Space | Clear Inside Depth | Clear Inside Width (Rear) | Clear Inside Width (Front: | Sripping Wt. Lbs. | Net |
    | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
    | ER-213 | le'ar mily |  | 36 3\% $\times 1$ ! $1^{\prime \prime}$ | $151 /{ }^{1}$ | $13^{\prime \prime}$ | 17\%" | A. | \$32.70 |
    | ER-215 | Ruar wnly |  | 1011/2 x 1 ! $0^{\prime \prime}$ | $15 \%$ " | $14 \prime \prime$ | 17\%" | 110 | 48.60 |
    | ER-217 | Reatr omli |  | $\because 7 \times 19^{\prime \prime}$ | $151 /{ }^{\prime \prime}$ | $1!^{\prime \prime}$ | 175/\%" | 130 | 58.50 |
    | FD-215 | Frant \& labar | (if1/9x22x1; $1 / 4$ |  | * $181 / 4$. | $14^{\prime \prime}$ | 191, ${ }^{\text {\% }}$ | 14.5 | 62.52 |
    | FD. 217 | Frant ぐ lidal |  | $77 \times 1$ " | ${ }^{*} 131 / 2{ }^{\prime \prime}$ | $1!^{\prime \prime}$ | $191 / 8$ | 1 (\%) | 78.15 |

    FINISH: SLATE GREY RIP1LLE enamel is standard. Black ripple elramel finish will be supplied without extra charge if so specified on your order.
    RACK SHELVES: For Series ER-215 racks, use shelf No. ER-2112. For Series FID-215 racks. use shelf No. R-2915. Both shelves are listed on Page J97.

    ROLLER TRUCK: No. RT-411 will fit all racks listed on this page. Roller trucks are listed on Page $I-97$.

    ## PAR-METAL PRODUCTS CORP. <br> ALL PRICES F.O.B. LONG. ISLAND CITY, N. Y. <br> FOR WEST COAST PRICES, ADD $10 \%$

    ## TYPE＂A＂CHANNEL RELAY RACKS

    ## FOR 19＂WIDE PANELS

    DELUXE TYPE

    No．RR－197
    

    OUR NEW DELUXE CHANNEL TYPE RELAY RACK extends the utility and applicability of the standard channel relay rack．

    The panel space has been changed to $7 \mathrm{~T}^{\prime \prime} \mathrm{x} 19 \mathrm{l}$＂，to match a standard height used on enclosed cabinet racks．
    The upright channels have been modified to an $8^{\prime \prime}$ over－ all depth．which when combined with a formed recess for the panels．greatly increases the rigidity of the rarck． The edges of the panels are not exposed．

    The rack is drilled and tapped for 110 －i2 screws at both front and back permitting the optional use of either panels，or dish type chassis mounted to the racks at both front and back．The full panel space of $77^{\prime \prime} \times 19^{\prime \prime}$ is available on the back．the same as the front．

    The clear distance between panel mounting flanges （from front to back）is $63 /{ }^{\prime \prime}$ ．It is practicable to use this $6^{\prime \prime}$ depth as an enclosure for dish type chassis listed on Page J－101．When such chassis are mounted at the hack，the addition of standard or hinged type panels （see Page J．99）will make a rack enclosure with a clear depth of $63 / 4$＂．The top cross－brace is provided with a grille for rentilation where needed．

    The top brace and the vertical channel members are securely welded together．The base and rear braces are shipped knocked down．with all necessary bolts for assembly．Panel mounting screws are also supplied．

    CATALOG No．RR－197：
    Overall Dimensions： $80^{3 / 8 "}$ high， $211 / 8^{\prime \prime}$ wide， $20^{\prime \prime}$ deep Available Panel Space： $77^{\prime \prime} \times 19^{\prime \prime}$（at front and rear） Clearance between Uprights： $175 / \mathrm{m}^{\prime \prime}$
    Clear Depih in Channel： $\boldsymbol{b}^{3 / 4}$＂inside
    shipping Veight：100 lls．
    Net Price：$\$ 33.75$

    FINISH：Namdard linish is black ripple pnam＋l． Four srey ripule namel， add $10 \%$ PANELS： lammen fit thes＂rarks
    

    ## STEEL UTILITY CANS

    （＇int｜n．nisul for moni． tors，whimly wins，ade． Male of shent sital with sjot welles］reinforcell conters．Tops and but． toms remmsafole wits sulf－1apping srrews． Blask rippla．－hatmol finish．

    ## STEEL UTILITY CASES

    
    

    ## STEEL UTILITY CANS

    | Cat．No． | Overall Size | Ship．Wt． Lbs． | Net Price |
    | :---: | :---: | :---: | :---: |
    | UC－565 |  | 3 | \＄1．41 |
    | UC． 596 | $\therefore$ 「级 $\square^{\prime \prime}$ | 3 | 1.86 |
    | UC． 8107 | ＜Slux \％＂ | $1{ }^{1}$ | 2.76 |
    | UC． 8101 | －510， $10{ }^{\prime \prime}$ | 7 | 3.24 |
    | UC． 1128 | 11 x129 | ！ | 3.60 |

    ## No．RR－195

    THESE RACKS have been a stambaril mit in the electronia＇s imfustry for sears．They and sturdily constructed from $7 / 64^{\prime \prime}$ pressed stonl， and braced at the rear as illustrated．The two vortiral mambors and the top cross－brace are anemrily wrldend together．
    Panel monnting holes are acouratoly irilled on miversal conters for either Type＂ 1 ＂or type＂（＂＂pan＂s，tapperl for 10.32 machim＂ serews．An ample supply of pancl mountinit sorws and tinishing washers are supplided．

    Tprioht chammels are $3^{\prime \prime}$ feep with flameses 1 1／8＂wide．charance between upriarhta is $174 / 4 "$ ．Base is 20 多＂reep amd extends bofla front and rear on the RR－195 rack；it is $1 s^{*} "_{s}$ depp on the IRL－193 rack．
    FINISH：BLACK RIPPIE ENAMEL，

    | Cat．No． | Overall Size | Panel <br> Space | Shp．Wt． <br> Lbs． | Net <br> Price |
    | :--- | :---: | :---: | :---: | :---: |
    | RR－195 | $-31 / 4 \times 24 \times 20 \% / 3 \prime$ | $-13 / 4 \times 19^{\prime \prime}$ | 55 | $\$ 21.00$ |
    | RR－193 | $3814 \times 20 \times 18 \%^{\prime \prime}$ | $363 / 4 \times 19^{\prime \prime}$ | 45 | 18.00 |

    TABLE TYPE RELAY RACKS
    

    No．TR－2520

    THESE RACKS are in－ tronded for table monnt． iner and are usuful whare a resular flowr Whare a reyuar fowr
    type heavy duty rack is mot required．
    The bise is construched ui one pirece．similar to a ohassis．Mountiner lubles are apcuratoly drilled on univarsal comters，tallued for 10 － 32 screws．

    Thery are tindelan in bark riphle enamel and shipund＂hnomked down＂with all necessary strews．

    Cat．No
    TR－2520 Overall Size
    $25 \times 1 \times 12^{\prime \prime}$
    $32 \times 21 \times 12^{7}$

    ## UTILITY DESK CABINETS <br> AMPLIFIER FOUNDATION CHASSIS

    ## DELUXE TYPE CABINETS

    

    These caldints make attrate liwe housines for commerrial? and amatore use. The fombet tyin' door, with modern ham ill. is hinged at the back fol full arens to the intarion 1 Trome finished mouldiners aro mennted on the front at tog ane louthom. Cahinet has ventilating lourres on each side, and full width openinh 1 lack for leads, etc. Standard finsis is slate ereer rigpla Harmel. l'rices do not jnclurl flassis. Which are listerl en Page J-101.

    | $\begin{aligned} & \text { Catalog } \\ & \text { No. } \end{aligned}$ | Overall Dimensions | $\begin{gathered} \text { Panel } \\ \text { Size } \end{gathered}$ | For Chassis | $\begin{aligned} & \text { Shp. Wt. } \\ & \text { Lis. } \end{aligned}$ | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | CA-300 | 6121/4x $8^{\prime \prime}$ | $81 / 2 \times 10^{\prime \prime}$ | $7 \times 9 \times 1$ | 6 | \$ 5.55 |
    | CA. 301 | ! $1161 / 8 \times 88^{\prime \prime}$ | $81 / 2 \times 14$ " | 7x13x ${ }^{\text {a }}$ | 7 | 6.30 |
    | CA. 302 | 10x171/8x11" | !19x15" | $11 \times 14 \times 3$ " | * | 9.90 |
    | CA. 303 | $10 \times 201 \leqslant 89^{\prime \prime}$ | $01 / 2 \times 18{ }^{\prime \prime}$ | 8×17x $3^{\prime \prime}$ | 11 | 9.90 |
    | CA. 304 | 1:3x211/4x12" | 123: 218 | $10 \times 17 \times 3$ " | 15 | 11.10 |

    ## ROUNDED CORNER TYPE CABINETS

    

    Stamdard tyme cabinets are similar in desima to thusu listod ahover. The latse flat type doors, hinged at latek (a) fermit full access to the interiar. The vertical front romers alde rounded: benti. lat intr louscos are stamped in both wides. and full width openinur is provident at the lawe for lowls. standard finish is slate erey ribgla emamel. l'riows do not inthe chassis, which are listed on Para J-101.

    | Catalog No. | Overall Dimensions | $\begin{aligned} & \text { Panel } \\ & \text { Size } \end{aligned}$ | For Chassis | Shp. Wt. Lbs. | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | CA-200 | $81 / 2 \times 101 / 4 \times 8{ }^{\prime \prime}$ | $81 / 2 \times 8$ | 7x 7x? | 6 | 4.05 |
    | CA-201 | $81 / 2 \times 101 / 3 \times 8{ }^{\prime \prime}$ | $81 \underline{81010}$ | 7x $\mathrm{max}^{\prime \prime}$ | 7 | 4.35 |
    | CA-202 | 11/2x161/4x $8^{\prime \prime}$ | $\times 1{ }^{2} \times 144^{\prime \prime}$ | 7x1:8x3" | 8 | 5.25 |
    | CA. 203 | ! $12 \times 17^{14} \times 11^{\prime \prime}$ | ! $12 \times 15$ " | $11 \times 14 \times 3{ }^{\prime \prime}$ | 11 | 8.25 |
    | CA-204 |  | $1012 \times 1 x^{\prime \prime}$ | $11 \times 17 \times 3$ " | 15 | 9.75 |

    ## SLOPING FRONT CABINETS

    

    May be raidily alaphed as insirument eases for ust in stulios, faboratories, etc

    - Top commer is roundeal intil trimmed with a elirome mouldiner, and with the slate errey ripple finish makes a very attraterive
    - I chansis may be mosantal to a front panel and mo moverl as a mit.
    
    - lriares da not inclode clansis. which ane listed an later

    | Catalog No. | Overall <br> Dimensions | For Chassis | Shp. Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | SF-500 | Nx 8x $8^{\prime \prime}$ | 7 x 7x ${ }^{\prime \prime}$ | 6 | \$ 3.96 |
    | SF. 501 | Sxllox $8^{\prime \prime}$ | 7 x ! $\mathrm{x}^{2 \prime \prime}$ | \% | 4.41 |
    | SF-502 | 8x14x $8^{\prime \prime}$ | $7 \times 13 x 3^{\prime \prime}$ | 8 | 4.74 |
    | SF. 503 | ! $518 \times 8$ " | $7 \times 17 \times 3$ " | 10 | 7.20 |
    | SF-504 | $12 \times 18 \times 12^{\prime \prime}$ | 10x17x3" | 14 | 9.00 |

    ## SLOPING FRONT TYPE

    

    These new toumbations follow the latist tremed in amplifier desjign. The combination of sloping font band and streambinel cover emalless son to hatal un a joll smitar (o) that used on commercial teluxe tapm amplitiers. All pathe ar- finished in shat grey riple enamel. trimmed with reit striperd chrome finishorl mouldines and htandles.
    The front panel is removathe and protrules $3^{\prime \prime}$ from the face of the sermen cover. Chassis are supplied complete WITH bottom plates.

    | Cat. No. | Chassis Size | Screen Cover | Shp. Wt. Lbs. | Net Prise |
    | :---: | :---: | :---: | :---: | :---: |
    | F. 10120 | $11 \times 10 \times 3$ " | (\%1,2" high | 11 | \$ 6.90 |
    | F-10170 | $11 \times 17 \times 3$ \% | 611/2" ligh | 1:3 | 7.80 |
    | F. 13170 | 1:3x17x:3" | $61 / 2{ }^{\prime \prime}$ hisli | 15 | 8.85 |

    DELUXE TYPE WITH RECESSED PANEL
    

    These chassis will appeal to many wha prefer a lichuxe trou mit with a recessed fanel. The pand sopess sliphty and is attacherd to the mase is with ecrewe bin That it thay be remenct for drilime, en disturbine the pand. Tlue cover is finishot in slate wrey ripuld whatel, and is trimmed with at chome finislued mouldinu atul handles att (achels ant.
     are listed on pare j-101.

    | Cat. No. | Chassis Size | Depth of Cover | Panel Size | Shp. Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | FC. 510 | .ixlox:3" | (i) | $4 \times 1$ | i | \$ 5.52 |
    | FC-615 | "ix119:" | $1 ; "$ | 1814" | * | 6.09 |
    | FC-717 | "x17x3" | (i) | +11:3" | $!$ | 6.78 |
    | FC-1012 | 14x10x:" | ii" | 4 x ! ${ }^{\prime \prime}$ | ! | 6.78 |
    | FC-1017 | 14x17x:" | 10" | \|x13" | 111 | 7.65 |
    | F-1317 | 1:ixlix: | (;" | 4"13" | 12 | 8.70 |

    

    Cat. No.
    Chass is Size DF. 510 DF-615 DF. 717 DF. 1012 DF. 1017 DF. 1317 "xlloxi" (ix14x"," T×17×3" 111x13x.3" $111 \times 17 \times 3$ 1:3x17x:3"

    ROUNDED CORNER TYPE
    Remmed enorners uffertively streamline the seremen cowers of thetse chassis. Ventilation is obtained thromurh rectanumar
     lambles, finishom? in chrome with wil stiging, erives thu uthits a distinctive. modern desirn.
    The sorem conver is finisheal in slathe mrey rinule emamul to comtrast witla the hhack chassis. (Chassis are alrilled for linttom Jlattes, whichare listed on Jate J. 101.

    Depth of Cover Shp. Wt. Lbs. Net Price
    $1 i^{\prime \prime}$
    $1 i^{\prime \prime}$
    $1 i^{\prime \prime}$
    $6 i^{\prime \prime}$
    $1 i^{\prime \prime}$
    $60^{\prime \prime}$
    $\$ 4.23$
    4.65
    4.65
    5.40
    5.40
    5.40
    6.15
    

    Chese units are similar in lesiern to our other hassis, the screvell eovers having rommuld (a)nces. 'Tla' will fyue ventilation sives them a modern apheararice. That ehassis ate stamper
     nets securely spot woried. The eoters ary fitished in slate errey athd the ehassis in hatack ribuld enames. ('hassis ar" drilled for lathom Hlates, which are listed on l'age d-1111.
    F. 510
    F. 615
    F. 717
    F. 1012

    F-1017
    F. 1317

    Chassis Size
    5x10x?"
    4x14x:3"
    $7 \times 17 \times 3$
    $111 \times 13 \times 3$ "
    $10 \times 1 / 8 \times 3$
    $13 \times 1 / 2$

    | $66^{\prime \prime}$ | 7 |
    | :--- | ---: |
    | $6^{\prime \prime}$ | 9 |
    | $6^{\prime \prime}$ | 9 |
    | $6^{\prime \prime}$ | 9 |
    | $6^{\prime \prime}$ | 10 |
    | $6^{\prime \prime}$ | 12 |

    Net Pric
    $\$ 3.24$
    3.54
    3.24
    4.26
    4.26
    4.26
    4.26
    5.04
    5.04
    6.00

    ## PAR-METAL PRODUCTS CORP. <br> ALL PRICES F,O,B, LONG ISLAND CITY, N, Y, <br> Long Island City 3, N. Y. FOR WEST COAST PRICES, ADD 10\%

    ## TYPE "C" RACK PANELS - 19" WIDE

    Unless otherwise indicated, these panels are made from $1 / 8^{\prime \prime}$ thick steel and are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple $11 / 4^{\prime \prime}$ - $1 / 2^{\prime \prime}$ spacings or what is commonly termed as
    "W.E. spacing." They may be obtained in either black ripple enamel or slate grey ripple enamel. Panels can be furnished in aluminum grey lacquer or grey hammertone enamel at extra charge.

    GRILLE PANELS
    19" WIDE - $1 / \mathrm{s}^{\prime \prime}$ STEEL
    

    This modern type ventilat ing grille panel is stamped into the panel itself: it is not a pieced assembly.

    | Cat. No. Black | Cat. No. Grey | Panel Size | Grille Size | Shipping Wt. Lbs, | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | P. 661 | G-661 | $51 / 4$ | 3 $38 \times 14$ 倠" | 4 | \$ 2.64 |
    | P. 662 | G-662 | $7^{\prime \prime}$ | 478.814 \% ${ }^{\prime \prime}$ | 5 | 2.85 |
    | P-663 | G-663 | $\times 3 /$ | (6)78914\%" | 6 | 3.45 |
    | P-664 | G-664 | 83. | *3\% x143" | 8 | 3.15 |
    | P-665 | G-665 | $101 / 20$ |  | 7 | 3.75 |
    | P-6E6 | G-666 | 1(1)/2" | * $57 / 4 \times 1430$ | 7 | 3.45 |
    | P-667 | G-667 | 121" | * $3^{3} \times 14{ }^{\text {a }}$ " | $\varepsilon$ | 3.90 |

    * Allows $31 / 2$ " sume at lootom for chassis momatiner


    ## SOLID DOOR PANELS <br> 19" WIDE - 1/8" STEEL

    

    These panels have flush linged doors with full length piano hinges: they are equipped with a clirome knob and concealed snap catch. All doors are located $1^{\prime \prime}$ from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired.

    | Cat. No. Black | Cat. No. Grey | Panel Size | Door Size | Shipping <br> Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | P. 670 | G-670 | $83 / 4 \prime$ | $41 / 2 \times 153$ | 7 | \$ 4.41 |
    | P-671 | G-671 | $101 / 2$ | 6) x15\%" | $\varepsilon$ | 4.71 |
    | P-672 | G-672 | 121/4" | $71 / 2 \times 15 \%$ | 8 | 5.19 |

    ## GRILLE DOOR PANELS <br> 19" WIDE - $1 /$ '" $^{\prime \prime}$ STEEL

    

    These panels have flush hinged doors with modeln type ventilating grille. Dools are equipped with piano hinges. chrome knob and concealed snap catch. All doors start $1^{\prime \prime}$ from top to allow space for chassis at bottom. Regular chassis brackets may be used if desired.

    | Cat. No. Black | Cat. No. Grey | Panel Size | Door Size | Shipping Wt, Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | P. 680 | G-680 | $83 / 4 "$ | $41 / 2 \times 150 / 8$ | 7 | \$ 5.70 |
    | P-681 | G.681 | $101 /{ }^{\prime \prime}$ | $6 \times 153 / 8$ | 8 | 6.15 |
    | P-682 | G-682 | $121 / 4 *$ | $71 / 2 \times 15 \%$ | 9 | 6.75 |

    ## RECESSED METER PANELS 1/8" STEEL

    These panels are made so that the meters may be recessed from the
     front of the panel. Meters are protected by a plate glass insert, allowing $3 / 4$ " clearance in back of panel. A blank bakelite sub)panel is provided. The clear sub-panel space is $41 / 8 " x$ $15^{\prime \prime}$ on the $19^{\prime \prime}$ wide panel which is sufficient for $4-3^{\prime \prime}$ meters. On the $24^{\prime \prime}$ and $30^{\prime \prime}$ wide panel the clear subpanel space is $53 / 4 " \times 20^{\prime \prime}$ and $53 / 4 \times 26^{\prime \prime}$ respectively.

    | Cat. No. Black | Cat. No. Grey | Size | Shipping Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | P-690 | G-690 | $51 / 4 \times 13^{\prime \prime}$ | 6 | \$ 6.30 |
    | P-691 | G-691 | : $\mathrm{x} 24^{\prime \prime}$ | 7 | 11.25 |
    | P-692 | G-692 | $7 \times 30^{\prime \prime}$ | 10 | 15.60 |

    ## STANDARD DESK PANELS

    These standard tables are rigidly made of $1 / 16^{\prime \prime}$ thick furniture steel. The rounded front corners are of seamless
     construction and the flanges of the shelf are folded in to movide smooth edges underneath. They are securely mounted to regular $1 / 8^{\prime \prime}$ steel panels, size $101 / 2^{\prime \prime} \times 19^{\prime \prime}$. They may be obtained in two sizes and finishes as listed below. The tables are $22^{\prime \prime}$ wide to give full working space across the front of the racks when mounted in place. Shipping weight is 25 lbs.

    | Cat. No. | Width | Depth | Finish | Net Price |
    | :--- | :---: | :---: | :--- | ---: |
    | BT-2220 | $22^{\prime \prime}$ | $20^{\prime \prime}$ | Black enamel | $\$ 14.75$ |
    | BT-2216 | $22^{\prime \prime}$ | $10^{\prime \prime}$ | IBhack enamel | 13.50 |
    | GT-2220 | $22^{\prime \prime}$ | $20^{\prime \prime}$ | Grey enamel | 15.90 |
    | GT-2216 | $22^{\prime \prime}$ | $16^{\prime \prime}$ | Grey enamel | 14.40 |

    ## TYPEWRITER DESK PANELS

    These tables are similar in construction to standard desk type except that a recess $41 / 2^{\prime \prime}$ deep is provided for using a standard typewriter. They are
     securely mounted on regular $1 / 8^{\prime \prime}$ steel panels, $101 / 2^{\prime \prime} x$ $19^{\prime \prime}$ and are $22^{\prime \prime}$ wide to give full working space across the front of the rack. Shipping weight is 30 lbs .

    | Cat. No. Width | Depth | Finish | Net Price |  |
    | :--- | :---: | :---: | :---: | :---: |
    | BY-2220 | $22^{\prime \prime}$ | $20^{\prime \prime}$ | Black enamel | $\$ 20.40$ |
    | GY-2220 | $22^{\prime \prime}$ | $20^{\prime \prime}$ | Grey enamel | 22.05 |

    ## TYPE "C' RACK PANELS 19"-24"-30"-WIDE

    PAR-METAL
    

    Unless otherwise indicated, these panels are uniformly slotted to fit type "C" cabinet racks and all type "A" racks. They will also fit any other rack equipment having multiple $11 / 4^{\prime \prime} \cdot 1 / 2^{\prime \prime}$ spacings or what is commonly termed as "W.E. spacing." They may be obtained in either black ripple
    enamel or slate grey ripple enamel. Panels can be furnished in grey hammertone or aluminum grey lacquer at extra charge.

    Medium grey enamel to match Utility Desk Assemblies listed on Pages $\mathrm{J}-102$ and $\mathrm{J}-103$ are also available on all panels listed on this page.

    ## $1 / \mathbf{s}^{\prime \prime}$ STEEL STANDARD BLANK PANELS $1 /{ }^{\prime \prime}$ "ALUMINUM

    Standard flat panels made from $1 / 8^{\prime \prime}$ thick steel, either $19^{\prime \prime}, 24^{\prime \prime}$, or $30^{\prime \prime}$ wide. Finished in black or slate grey ripple enamel. Other finishes available as mentioned in page heading, also primer coat only.

    19* WIDE PANELS - $1 / \mathbf{g}^{\prime \prime}$ STEEL

    | Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | 6600 | G. 6600 | $13 /{ }^{\prime \prime}$ | 2 | \$ . 66 |
    | 6601 | G-6601 | $31 / 2{ }^{\prime \prime}$ | 3 | . 75 |
    | 6602 | G-6602 | $51 / 4$ " | 4 | . 96 |
    | 6603 | G-6603 | 7 " | 5 | 1.14 |
    | 6604 | G-6604 | $83 / 4{ }^{\prime \prime}$ | 7 | 1.38 |
    | 6605 | G-6605 | $101 / 2{ }^{\prime \prime}$ | 8 | 1.59 |
    | 6606 | G-6606 | 121/2" | 9 | 1.89 |
    | 6607 | G. 6607 | $11^{\prime \prime}$ | 10 | 2.16 |
    | 6608 | G-6608 | $153 / 4 /$ | 12 | 2.46 |
    | 6609 | G-6609 | 17 1/2" | 13 | 2.70 |
    | 6610 | G-6610 | $191 /{ }^{\prime \prime}$ | 14 | 3.00 |
    | 6611 | G-6611 | $\because 1{ }^{\prime \prime}$ | 15 | 3.30 |

    24" WIDE PANELS - $1 / \mathbf{s}^{\circ}$ STEEL

    | Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | 6201 | G-6201 | :31/2" | 4 | \$1.14 |
    | 6202 | G-6202 | 51/4" | 6 | 1.41 |
    | 6203 | G-6203 | 7" | 7 | 1.65 |
    | 6204 | G.6204 | $83 / 4$ | 9 | 2.01 |
    | 6205 | G-6205 | $101 / 2$ " | 10 | 2.40 |
    | 6206 | G-6206 | $121 / 4 "$ | 12 | 2.68 |
    | 6207 | G-6207 | 14" | 14 | 3.30 |
    | 6208 | G-6208 | $153 / 4{ }^{\prime \prime}$ | 15 | 3.75 |
    | 6209 | G-6209 | $171 / 2 "$ | 17 | 4.11 |
    | 6210 | G-6210 | $191 / 4{ }^{\prime \prime}$ | 18 | 4.59 |
    | 6211 | G-6211 | $21^{\prime \prime}$ | 20 | 5.04 |


    | $30^{\prime \prime}$ | WIDE PANELS |  | 1/8" STEEL |  |
    | :---: | :---: | :---: | :---: | :---: |
    | Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
    | 6301 | G-6301 | :31/2" | 4 | \$1.56 |
    | 6302 | G. 6302 | 5 $1 / 4$ " | 6 | 1.92 |
    | 6303 | G. 6303 | 7" | 8 | 2.25 |
    | 6304 | G. 6304 | S3/4" | 10 | 2.70 |
    | 6305 | G.6305 | $101 / 2{ }^{\prime \prime}$ | 12 | 3.30 |
    | 6306 | G. 6306 | $121 / 4{ }^{\prime \prime}$ | 14 | 3.90 |
    | 6307 | G-6307 | $14^{\prime \prime}$ | $11 \%$ | 4.44 |
    | 6308 | G-6308 | $153 / 4{ }^{\prime \prime}$ | 18 | 4.95 |
    | 6309 | G-6309 | $171 / 2^{\prime \prime}$ | $\because 0$ | 5.55 |
    | 6310 | G-6310 | 19 1/4" | 29 | 6.15 |
    | 6311 | G.6311 | $21 "$ | 24 | 6.75 |

    ## 19" WIDE PANELS - $1 /$ º' $^{\circ \prime}$ ALUMINUM

    | Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | 6675 | G. 6675 | $13 / 4$ " | 1 | \$0.75 |
    | 6676 | G-6676 | $31 / 2 "$ | 1 | 1.08 |
    | 6677 | G. 6677 | $51 /{ }^{\prime \prime}$ | 2 | 1.50 |
    | 6678 | G-6678 | $7{ }^{\prime \prime}$ | 2 | 1.80 |
    | 6679 | G-6679 | $83 / 4$ | 3 | 2.19 |
    | 6680 | G-6680 | $11^{1 / 2} 2^{\prime \prime}$ | 3 | 2.76 |
    | 6681 | G-6681 | 121/4" | 4 | 3.21 |
    | 6682 | G. 6682 | $14^{\prime \prime}$ | 4 | 3.69 |
    | 6683 | G-6683 | $153 / 4$ " | 5 | 4.11 |
    | 6684 | G-6684 | $171 / 2$ " | 5 | 4.53 |
    | 6685 | G-6685 | 19 1/4" | 6 | 4.95 |
    | 6686 | G-6686 | 21" | , | 5.40 |

    ## SIDE HINGED BLANK PANELS

    1/8" STEEL

    These door panels are made from $1 / 8$ " steel, hinged at the sides, with a cowl type fastener to hold the door closed.

    Finishes are black or slate grey ripple enamel; other finishes available are mentioned in page heading; also primer coat only. May be mounted on racks with hinges on right or left side.

    | *Cat. Nos. | $\begin{aligned} & \text { Panel } \\ & \text { Size } \end{aligned}$ | Clear Opening (Width) | Shp. Wt. Lbs. | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: |
    | HP. GP. 350 | 31/2x14" | 15:3" | : | \$2.52 |
    | HP. GP-525 | . $31 \times 14 \times$ | 15:" | 4 | 2.73 |
    | HP, GP-700 | \% x 1 ! ${ }^{\prime \prime}$ | 1.: $\%$ " | 5 | 2.94 |
    | HP, GP-875 | $8 \because \times 1$ ¢ ${ }^{\prime \prime}$ | 1.74 | ¢ | 3.15 |
    | HP, GP-1050 | $1012 \times 19$ | 15\%" | 8 | 3.39 |
    | HP. GP. 1225 | 1231019\% | 15:3" | 9 | 3.66 |
    | HP, GP-1400 | $14 \times 19$ " | 15, " | 10 | 3.96 |

    ## FORMED BLANK PANELS

    These manels are made from $1 / 1 \mathbf{1 0}^{\prime \prime}$ thick streel, with formed edges to make an werall thiteknt's8 of $7 / 10^{\prime \prime}$. They are madc $19^{\prime \prime}$ anll $\underline{Q 4 "}^{\prime \prime}$ winle, with mounting holes on standard benters to tit relay racks. Finishes are black or grey ripple enamel. Other available finishes are mentioned in page heading, also primer coat only. For medium grey enamel, add $20 \%$.
    

    24" WIDE PANELS - $1 / 16^{\circ}$ STEEL

    | Cat. No. Black | Cat. No. Grey | Height | Ship. Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | P-641 | G-641 | :31/2" | 2 | \$1.45 |
    | P. 642 | G.642 | 51/4" | 3 | 1.70 |
    | P. 643 | G-643 | $i^{\prime \prime}$ | 4 | 1.90 |
    | P-644 | G.644 | 8.34" | 5 | 2.30 |
    | P-645 | G-645 | $101 / 2$ " | 6 | 2.90 |
    | P.646 | G-646 | 121/4" | 7 | 3.40 |
    | P-647 | G-647 | $1{ }^{4}$ | 8 | 3.80 |
    | P-648 | G.648 | 1534" | 9 | 4.30 |
    | P. 649 | G-649 | $171 / 2$ | 9 | 4.80 |
    | P-650 | G-650 | 191/4" | 10 | 5.30 |
    | P-651 | G-651 | 21" | 10 | 5.80 |

    FORMED BLANK PANELS 19" WIDE PANELS - 1/16" STEEL
    

    Formed pancls same as above with louvres to match those usce in ["tility Desk Assumbliss. F-inished in hlack or pres ripple enamul. For medium grey enamel, ald $10 \%$. 24" wide panels are also available.

    | Cat. No. <br> Black | Cat. No. <br> Grey | Size | Ship. Wt. <br> Lbs. | Net <br> Price |
    | ---: | :---: | :---: | :---: | :---: |
    | PV-603 | GV-603 | $"$ | 3 | $\$ 2.85$ |
    | PV-604 | GV-604 | $83 / \prime \prime$ | 4 | 3.15 |
    | PV-605 | GV-605 | $101 /{ }^{\prime \prime}$ | 5 | 3.45 |
    | PV-606 | GV-606 | $121 /{ }^{\prime \prime \prime}$ | 6 | 3.90 |
    | PV-611 | GV-611 | $21^{\prime \prime}$ | 0 | 6.00 |

    # TYPE＂A＂ <br> DESK PANEL CABINET RACKS For Standard 19＂Rodk Pants 

    ## ROLER TRUCKS FOR RACKS STANDARD TYPE

    In keeping with om other le luxe racks．the vertical front corners are rounded and the top and bottom are trimmed with red－striped chrome finished mouldings．
    －Panels fit into a recess，so that the edges are not exposed．
    －Panel monnting holes are ac－ curately drilled on miversal centers，for either type＂$A$＂or type＂C＂panels
    

    No．DL－1713
    －Iloles are tapped for $10-; 2$ machine screws．They may be used with any chassis mp to $13^{\prime \prime} \times 17^{\prime \prime}$ in size．
    －All cabinets are risidly conctucted of $1 / 16^{\prime \prime}$ thick cold rolled sheet steel．with all foints electrically welded．
    －Lonvres provide ample ventilation throngh sides and back
    －Piano type hinges are used on the top doors
    －Panel mounting screws and washers are furnished．
    （With door in top only）（not illustroted）

    | Catalog No． | Cabinet Size | Available Panel Space | Ship．Wt． | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | DL－128 |  | ＊ $0_{4}$＂X1！＂ | 2－lls． | \＄12．48 |
    | DL－1210 |  | 1012＂x1：＂ | 2：1 lis． | 14.10 |
    | DL－1225 |  | 121；＂x1！＂ | 3016 s ． | 15.15 |
    | DL－1413 |  | $11^{\prime \prime} \times 1 y^{\prime \prime}$ | $\because 2115$ | 16.80 |

    （With door in top and door on rear ponel）

    | Catalog No． | Cabinet Size | Available Panel Space | Ship．Wt． | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | DL－1713 |  | 1；12＂x1！＂ | 3 Altar． | \＄19．20 |
    | OL－2613 |  | －4； $1_{1}^{\prime \prime} \times 10^{\prime \prime}$ | 1sllas． | 22.50 |
    |  |  | \％＂ 1 | is | 24 |

    
    
     RACK SHELF：liack Shulf Nir．li－关les will tit thest litchs
    

    | SHELVES FOR CABINET RACKS |  |  |  |  |
    | :---: | :---: | :---: | :---: | :---: |
    |  varimes enclusid rucks listul ith this atat <br>  inside the rack wilh will bolt mumbins． <br>  black ripple enamel．shippille woikht of all shㅆ．．．．in 10 lls． <br> No．R－2015 |  |  |  |  |
    | Catalog No． | Will Fit Rack No． | $\begin{gathered} \text { Rack } \\ \text { Page No. } \end{gathered}$ | Shelf Size | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
    | ER－2112 |  | A－！${ }^{\text {a }}$ | 1：\％＂x | \＄3．15 |
    | R－2215 |  | 1－10 | 1いご包 | 3.15 |
    | ER－2212 |  | 1－91 | 1泡\1 | 3.15 |
    | R－2128 |  | 小圌； | 1－＂-1 | 2.55 |
    | R－2219 |  | 1－ | リイ゙いご | 4.50 |
    | R－2018 |  | 1－： | リ゙＂こ1 | 4.65 |
    | R－2015 |  | ． | 1：：＂ソ1 | 4.50 |
    | R－2218 |  | ． 1 － | 10＂しこ！ | 4.20 |
    | R－2224 |  | ．1． | シ－ロ＂ | 5.10 |

    These trucks are especially designed for use on our beluxe streamlined lacks． and lave ronnded corners at the front with chrome trim．Overall size is about ：＂wider than the racks for better distribntion of weight．
    

    No．RT－412

    Castors are ball－bearing swivel－tyle with 2 ＂rubber composition wheels．Finished in slate grey ripple enamel．Also available in grey hammertome or alnminum grey lacquer at an additional cost of $15 \%$ ．Shipping weight is 22 lbs.

    | Catalog <br> No． | Will Fit Rack No． | Rack <br> PT－410 | Page No． |
    | :---: | :---: | :---: | :---: | | Net |
    | :---: |
    | Price |

    ## ROLLER TRUCKS FOR RACKS

    HEAVY DUTY TYPEOur heary auty roller trucks are similar in size and design to the standard units．except that they have rein forced bottoms，and are
    

    ## No．HD．412

    eduipped with heavy－duty swivel type casters，with ：$"$ diameter wheels．They are recommended for use on all $24^{\prime \prime}$ deep racks，and on other racks where necessary．Standard finish is grey ripple enamel：black ripple is optional．Also arailable in grey hammertone or anmanmm grey facruel at an additional coost of $10 \%$ ．Shipping weight is ： 01 los

    | Catalog No． | Will Fit Rack No． | Rack Page No． | Net Price |
    | :---: | :---: | :---: | :---: |
    | HD－412 |  | J．！！ | \＄18．90 |
    |  |  | J－い！ |  |
    |  |  | J－ |  |
    | HD． 418 |  | 1－4：1 | 20.70 |
    |  |  | 1．：91 |  |
    |  |  | 1－41 |  |
    |  |  | ．．－ |  |
    | HD． 420 |  | J．11 | 21.90 |
    |  |  | 1－1 |  |
    | HD－424 |  | ．．．． | 21.90 |
    | HD－427 |  | 1－1！1 | 24.60 |
    |  |  | 1－！ 1 |  |
    | NOTE：Roller Trucks are atailable on sperial order for ratks not listed in either the standard |  |  |  |
    |  |  |  |  | or heary duty types．

    －Long Island City 3，N．Y．

    ## BLANK STEAL CHASSIS BASIS

    ## RACK MOUNTING CHASSIS

    

    These chassis are suitable for installation in all Universal enclosed relay racks listed on Pages $\mathbf{J}-91$ and J-92 and any other racks which have provision for "mid-rail" mounting. They may also be used on Deluse channel racks lister on Page J.96 Material used is $1 / 16^{\prime \prime}$ aluminum. with corners welded for added rigidity. Etched finish on inside and outside. All chassis are $5 \frac{1}{4}$ " deep: overall width is $19^{\prime \prime}$ : chassis width inside is $16^{7} \mathrm{~s}^{\prime \prime}$

    | Catalog No. | Height | Shipping Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: |
    | AC. 430 | $13 / 4{ }^{\prime \prime}$ | 2 | \$ 2.25 |
    | AC-431 | 31/2" | : | 2.55 |
    | AC-432 | $5^{1 / 4}{ }^{\prime \prime}$ | \% | 2.91 |
    | AC. 433 | $7{ }^{\prime \prime}$ | 4 | 3.21 |
    | AC-434 | 83/4" | 5 | 3.51 |
    | AC-435 | 101/2" | 5 | 3.87 |
    | AC-436 | 1214" | 6 | 4.26 |
    | AC-437 | $14^{\prime \prime}$ | 7 | 4.71 |

    ## RACK MOUNTING CHASSIS

    

    These chassis are fabricated from $1 / 16^{\prime \prime}$ thick aluminum with etched finish. or $1 / 16^{\prime \prime}$ thick steel, zinc plated. Overall length including mounting flanges is $183 / 4$ ". They are designed to mount under $19^{\prime \prime}$ wide formed panels listed on Page $\mathbf{J}-98$. The $4-15 / 16^{\prime \prime}$ height is for use with 51/" high panels, $6 \cdot 11 / 16^{\prime \prime}$ for $7^{\prime \prime}$ high panels. etc. Additional slots are provided in chassis side flanges to clear panel attachment screws. Although chassis are $183 / 4$ overall width. they will fit on any relay rack

    | ALUMINUM Cat. No. | Net Price | Chassis Dimensions | Cat. No. | Price |
    | :---: | :---: | :---: | :---: | :---: |
    | AC-402 | \$3.30 | $4-15 / 16^{\prime \prime} \times 17^{\prime \prime} \times 3^{\prime \prime}$ | SC. 402 | \$2.40 |
    | AC. 403 | 3.75 | $6-11 / 16^{\prime \prime} \times 17$ "x:" | SC-403 | 2.70 |
    | AC. 404 | 4.20 | 8. $7 / 16^{\prime \prime} \times 17^{\prime \prime} \times 3{ }^{\prime \prime}$ | SC-404 | 3.00 |
    | AC. 405 | 4.65 | 10-3/16"×17"x3" | SC-405 | 3.30 |
    | AC. 406 | 5.20 | 11-15/16"x\|7"x:'" | SC-406 | 3.60 |

    ## CHASSIS MOUNTING BRACKETS

    

    No. SB-78

    These brackets are made for assembly with our standard or heary duty type chassis listed on this page. Panels must be at least $7^{\prime \prime}$ high. Finished in black enamel.
    

    ## BOTTOM PLATES

    Rutom plates have holes to matheh bur stamilard or heary thuy tym chassis listed on thi page, and hate pressind "hmopers" at the corners.

    | Cat. No. Black Ripple | Cat. No. Zinc Plated | Size | $\begin{aligned} & \text { Sinp. Wt. } \\ & \text { Llis. } \end{aligned}$ | $\begin{aligned} & \text { Net } \\ & \text { Price } \end{aligned}$ |
    | :---: | :---: | :---: | :---: | :---: |
    | BP-4507 | CP. 4507 | $5 \times 1$ | 1 | \$0.39 |
    | BP. 4502 | CP. 4502 | 8×12" | 1 | . 75 |
    | BP-4500 | CP. 4500 | $51 / 2 \times 91$ | 1 | 42 |
    | BP-4508 | CP. 4508 | $5 \times 10^{\prime \prime}$ | 1 | 42 |
    | BP-4509 | CP-4509 | $6 \times 14$ | 1 | . 60 |
    | BP. 4510 | CP-4510 | 7x ${ }^{\text {T" }}$ | 1 | . 51 |
    | BP. 4511 | CP. 4511 | 7x ${ }^{1 / 1}$ | 1 | . 54 |
    | BP-4512 | CP. 4512 | Tx11" | 1 | . 63 |
    | BP-4513 | CP-4513 | 7x13" | \% | . 66 |
    | BP. 4514 | CP-4514 | 7 $\times 1.5$ | ? | . 70 |
    | BP-4518 | CP. 4518 | $4 \times 17$ " | 2 | 57 |
    | BP. 4515 | CP-4515 | 7x17" | 2 | . 72 |
    | BP-4531 | CP-4531 | $8 \times 17$ " | 2 | . 75 |
    | BP-4525 | CP. 4525 | 10x12" | 2 | . 75 |
    | BP-4524 | CP. 4524 | 10x14' | 2 | . 75 |
    | BP. 4528 | CP. 4528 | 10x17" | 2 | 96 |
    | BP-4527 | CP. 4527 | 10x23" | 3 | 1.26 |
    | BP-4533 | CP-4533 | 11×17" | $\stackrel{2}{2}$ | 99 |
    | BP. 4516 | CP-4516 | 12x17" | 3 | 1.08 |
    | BP. 4535 | CP. 4535 | $13 \times 17^{\prime \prime}$ | 3 | 1.2 |
    | BP. 4540 | CP. 4540 | 17817" | 4 | 1.65 |

    STANDARD TYPE CHASSIS
    

    Stamped from one piece of cold rollend teel, and have four solid sides with weldet comers. Hottom edges are flamged in on four sides to provide additional reinforcement, aud they are drilled for bottom platrs. The chassis are made from \#20 gince stecel, except thow marked (*) Which are stamped from on" steel exactly like our heary-rluty 3 ?
    Cat. No. Cat. No.

    | Cat. No. Black Ripple | $\begin{aligned} & \text { Cat. No. } \\ & \text { Zinc } \\ & \text { Plated } \end{aligned}$ | Size | Ship. Wt. Lbs. | Net Price |
    | :---: | :---: | :---: | :---: | :---: |
    | B. 4500 | C. 4500 |  | $\underline{2}$ | \$0.81 |
    | B. 4507 | C. 4507 | 5x $7 \times 2$ " | 2 | . 90 |
    | B. 4508 | C. 4508 | $5 \times 10 \times 3{ }^{\prime \prime}$ | 3 | 1.08 |
    | B. 4509 | C. 4509 | $6 \times 14 \times 3$ " | 4 | 1.35 |
    | B. 4510 | C. 4510 | 7x $7 \times 2$ " | 2 | . 96 |
    | B. 4511 | C. 4511 | 7x 9x2" | 2 | 1.08 |
    | B-4512 | C. 4512 | 7511x9" | 3 | 1.17 |
    | B-4513 | C. 4513 | 7x13x2" | : | 1.26 |
    | B. 4514 | C-4514 | $7 \times 15 \times{ }^{\prime}$ | 4 | 1.53 |
    | B-4518 | C. 4518 | $4 \times 17 \times 3$ " | 4 | 1.32 |
    | B-4515 | C.4515 | 7x1753* | 4 | 1.62 |
    | B. 4502 | C. 4502 | $8 \times 12 \times 3$ " | 5 | 1.50 |
    | B-4531 | C. 4531 | $8 \times 17 \times 2^{\prime \prime}$ | 4 | 1.62 |
    | B-4532 | C. 4532 | $8 \times 17 \times 3{ }^{\prime \prime}$ | 5 | 1.74 |
    | B-4525 | C. 4525 | 10x12x:" | 4 | 1.59 |
    | B. 4524 | C. 4524 | 10x14x:" | 5 | 1.65 |
    | B. 4528 | C-4528 | 10x17x2" | 5 | 1.71 |
    | B-4529 | C. 4529 | $10 \times 17 \times 4^{\prime \prime}$ | 7 | 2.04 |
    | B-4526 | C. 4526 | $10 \times 17 \times 3^{\prime \prime}$ | 7 | 1.77 |
    | B. 4527 | C-4527 | 10x23×3" | $i$ | 2.34 |
    | B.4533** | C. $4533^{\circ}$ | 11817x:" | $i$ | 2.40 |
    | B. $4534^{\text {\%/t }}$ | C-4534* | $11 \times 17 \times 3^{\prime \prime}$ | 9 | 2.70 |
    | B-4516 | C. 4516 | 12517x:" | F | 1.92 |
    | B. 4517 | C-4517 | $12 \times 17 \times 3$ " | is | 2.13 |
    | B. 4530 | C. 4530 | 12x17xt" | 6 | 2.55 |
    | B.4535* | C.4535* | 13x17x2" | * | 2.70 |
    | B.4536\% | C. $4536{ }^{\text {\% }}$ | 13×1783" | ! | 3.15 |
    | B.4537* | C.4537 | $13 \times 17 \times{ }^{\prime}$ | 111 | 3.54 |
    | B. 4540 | C. 4540 | $17 \times 17 \times 4^{\prime}$ | 13 | 4.05 |

    ## HEAVY DUTY TYPE CHASSIS

    These heavy duty bases are similat to the slamlard tyme chassis bases listed above.
    However, they are substantially constrincted for "heavy duty" uses since they are formed from me piece of $1 / 16^{\prime \prime}$ sheet steel. Bottom mates and mounting screws are supplied with atach of these chassis.
    Ends are drilled to tit standaril chassis mombu ing brackets listed at tha left
    Cat

    | Cat. No. <br> Black <br> Ripple | Cat. No. <br> Zinic <br> Plated | Dimensions | Shp. Wt. <br> Lbs. | Net <br> Price |
    | ---: | :---: | :---: | :---: | :---: |
    | 15280 | 15208 | $8 \times 17 \times 2^{\prime \prime}$ | 8 | $\$ 2.92$ |
    | 15281 | 15209 | $8 \times 17 \times 3^{\prime \prime}$ | 4 | 3.18 |
    | 15282 | 15218 | $11 \times 17 \times 2^{\prime \prime}$ | 0 | 3.39 |
    | 15210 | 15219 | $11 \times 17 \times 3^{\prime \prime}$ | 11 | 3.69 |
    | 15212 | 15214 | $13 \times 17 \times 2^{\prime \prime}$ | 11 | 3.90 |
    | 15213 | 15215 | $13 \times 17 \times 3^{\prime \prime}$ | $1:$ | 4.35 |
    | 15216 | 15217 | $13 \times 17 \times 4^{\prime \prime}$ | 13 | 4.74 |
    | 15283 | 15284 | $17 \times 17 \times 4^{\prime \prime}$ | 15 | 5.70 |

    

    SINGLE UNIT ASSEMBLY
    

    The above illustrates how brackets are mounted. They are used for mounting chassis, standard shelves, or drawers. With all sides open, easy access saves considerable time in assembly.

    The combination of a control cabinet mounted on a table, desk or similar support has been in general use in the electronics industry for some time. Due to the various functions for which it may be employed, such equipment has assumed various forms, arrangements and sizes, requiring costly, custom-built construction to achieve their purpose.

    While it is obvious that no particular fixed design can serve every demand, we have devised a group of standardized units, the combination of which is readily adaptable for control stations, testing apparatus, sound distribution systems, and similar applications.

    The sizes and specifications of the various units are catalogued on the following page. There are several features which warrant your consideration, particularly the pedestal. Note that all doors of the pedestal are easily removable, allowing complete access to the interior from all sides. (See illustration at left.) Each side of the four supporting posts has also been drilled and tapped on "universal" centers, making it possible to mount standard rack panels or doors on any or all sides, at your preference. Each door is equipped with a "push-button" spring catch, plus a lock with interchangeable keys. The use of the lock is optional.

    Another time-saving aid is the method of supporting apparatus in the interior of the pedestal. Universal brackets are easily attached to any of the four sides by utilizing the tapped panel mounting holes. The brackets are slotted, so that almost continual vertical adjustment may be made. They may be used to support regular $17^{\prime \prime}$ wide chassis, or standard shelves. The shelves are suitable for mount ing amplifiers, power supplies, record changers, etc.

    All table-tops have screw type studs, which are inserted in matching holes already drilled in the pedestals. The desk cabinets have necessary mounting holes, but they have been omitted from the table top to permit a flexible assembly of similar cabinets, or other equipment.

    SPECIFICATIONS: The Desk Panel Cabinets, Table Tops and Pedestals are constructed of $1 / 16^{\prime \prime}$ thick furniture steel. Tliey are rigidly braced and reinforced wherever necessary, and substantially welded into integral units. No holes have been drilled in the table tops for desk cabinets, to permit cabinets to be located wherever desired.

    FINISH: Unless atherwise specified, the sfandard finish far all ifems an Pages J-102 and $\mathrm{J}-103$ is medium grey enamel. Black wrinkle, slafe grey wrinkle, grey hammerfone, or prime coat only is available af same price. Samples of above finishes will be mailed upon reques $f$.
    

    DOUBLE UNIT ASSEMBLY
    

    TRIPLE UNIT ASSEMBLY

    ## UTILITY DESK ASSEMIBLIES

    ## desk panel cabinets

    

    These cabinets are available in single, double and triple units, as listed below. Double and triple units are sllown 011 opposite page.
    D O O R S : Hinged door at back is remorable; ade. quately louvered for ventilation. Equipped with combined "push-button" catch and lock. Individual doors on each section of multiple unit cabinets.
    PARTITION: Solid partition between each section in multiple units, with wiring access holes.
    PANELS: Any panel up to $7 / 16^{\prime \prime}$ thick may be used. Upper panel is $121 / 4^{\prime \prime} \times 19^{\prime \prime}$, lower panel is $31 / 2^{\prime \prime} \times 19^{\prime \prime}$. Upper panel is mounted at $30^{\circ}$ angle. (See Page J-9s for panels.)
    MOUNTING HOLES: Drilled in bottom. Also two "knockout" holes $11 / 8^{"}$ diameter near back.

    | Cat. No. | Description | Length | Height | Depth | Net Price |
    | :---: | :---: | :---: | :---: | :---: | :---: |
    | CC-101 | Single I'nit | $\cdots 1{ }^{-1}$ | 1814" | $1 \mathrm{f}^{\prime \prime}$ | \$45.00 |
    | CC-102 | mouble l"nit | 40" | 181\%" | $10^{\prime \prime}$ | 67.50 |
    | CC-103 | Triple ['nit | $621 /{ }^{\prime \prime}$ | 1814" | $10^{\prime \prime}$ | 90.00 |

    ## TABLE TOPS

    

    TABLE TOPS are made in three lengths, for use with single. double or triple unit assemblies. They are constructed from $1 / 16^{\prime \prime}$ furniture steel, braced on underside; all edges flanged underneath to provide smooth surface. Screw studs are inserted to match holes in pedestals. No holes are drilled in top for desk cabinets, so that cabinets may be located wherever desired.

    | Cat. No. | Description | Width | Length | Depth | Net Price |
    | :--- | :--- | :--- | :--- | :--- | :---: |
    | T-301 | Single Init | $28^{\prime \prime}$ | $25^{\prime \prime}$ | $11 / 2^{\prime \prime}$ | $\$ 19.00$ |
    | T-302 | Double ['nit | $28^{\prime \prime}$ | $55^{\prime \prime}$ | $11 / 2^{\prime \prime}$ | 23.00 |
    | T-303 | Triple Init | $28^{\prime \prime}$ | $71^{\prime \prime}$ | $11 / 2^{\prime \prime}$ | 27.00 |

    128\mathrm{ "Ext. Jax".

    ``` \\
    \hline 8259 & \$ 7.80 & 2-cond. shielded cable; No. 2501 M connector to No, 2501F connector. \\
    \hline 8263 & \$10.00 & \[
    \begin{aligned}
    & \text { 3-cond, shielded cable; No. } 267 \text { "Littel-Plug" to } \\
    & \text { No. } 838 \text { "Ext. Jax". }
    \end{aligned}
    \] \\
    \hline 8293 & \$11.50 & 3-cond. cable; No. 297 " Littel-Plug" to No. \(1238^{\text {"Extension Jax". }}\) \\
    \hline 8266 & \$ 3.75 & 1-ft. long. 2-cond. shield cable; No. \(280^{\circ}\) LittelPlug" to No. \(1288^{\text {"Extension Jax". Used with }}\) No. \(310^{\circ "}\) Mini-Mix" where panel Jack is recessed. \\
    \hline
    \end{tabular}

    \section*{EMMCHENAEA}

    CHICAGO 22, ILLINOIS

    SWITCHES

    \section*{Lever Action - Push Button - Rotary}
    

    \section*{SWITCHCRAFT PUSH-BUTTON \& ROTARY SWITCHES}
    

    The "Littel-Switch" (A), a vailable in 3 circuits, either in Red or Black one-piece Plastic Push-Button, non-locking only. Mounts in single \(3 /{ }^{\prime \prime}\) dia. hole, panels up to \(1 / 6^{\circ}\) thick. Integral contacts are standard. recommended for low current only
    The "FF-Swith" (B), all comnon circuits, one-piece Black Plastic. Push-Button, non-locking only. Mounts in single 3/" dia. hole, panels up to \(1 / \mathbf{y}^{\circ}\) thick. Fine silver contacts rated 3 aniperes, 120 volts A.C. non-inductive.
    The "RS-Switch" (C), locking and non-locking. 2- or 3-position, all common circuits. Mounts in single \(3 / 6^{\circ}\) dia. hole, panels up to \(1 / 4^{\prime \prime}\) thick Fine silver contacts rated 3 amperes, 120 volts A.C. (non-inductive).
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{3}{|l|}{"LITTEL-SWITCH"} & \multicolumn{2}{|l|}{"FF-SWITCH"} & \multicolumn{3}{|c|}{"RS-SWITCH"} & \multirow{3}{*}{Schematic Circuit} \\
    \hline \multirow[t]{2}{*}{Part No. RedBulton} & \multirow[t]{2}{*}{Part No. BlackButton} & \multirow[t]{2}{*}{U.S.A. List Price} & \multirow[b]{2}{*}{Part No.} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { U.S.A. } \\
    \text { List } \\
    \text { Price }
    \end{gathered}
    \]} & \multicolumn{2}{|r|}{Part No.} & \multirow[t]{2}{*}{U.S.A. List Price} & \\
    \hline & & & & & NonLocking & Locking & & \\
    \hline 101 & 201 & \$0.85 & 1001 & \$0.95 & 2001 & 2001L & \$1.00 & 1 \\
    \hline 102 & 202 & 50.85 & 1002 & \$0.95 & 2002 & 2002L & \$1.00 & 11 \\
    \hline 103 & 203 & \$0.90 & 1003 & \$1,10 & 2003 & 2003L & \$1.20 & III \\
    \hline & & & 1004 & \$1.20 & 2004 & 2004L & \$1.25 & IV \\
    \hline & & & 1005 & \$1.20 & 2005 & 2005L & \$1.25 & V \\
    \hline & & & 1006 & \$1.45 & 2006 & 2006L & \$1.65 & VI \\
    \hline & & & 1009 & \$2.00 & & & & VII \\
    \hline & & & & & THRE & E.POSIT & ON TYP & PES \\
    \hline & & & & & 2034 & 2034L & \$1.25 & VIII \\
    \hline & & & & & 2035 & 2035L & \$1.25 & IX \\
    \hline & & & & & 2036 & 2036L & \$1.65 & X \\
    \hline
    \end{tabular}
    

    \section*{A complete line of LEVER SWITCHES by GENERAL CONTROL COMPANY}

    Long** 2-1/16" 2-5/16" 2-17/32" \(2-17 / 32^{\prime \prime}\)
    \(2-25 / 32^{\prime \prime}\) \(3-15 / 16^{\prime \prime}\)
    \(3^{\prime \prime}\)
    

    MCS
    

    Write for data Sheet CLRM
    RATINGS
    \begin{tabular}{|c|c|c|c|}
    \hline Type & Amps.* & High & Wide \\
    \hline MCS & 1 & 7/8", & \(7 / 8{ }^{\prime \prime}\) \\
    \hline MCT-1 & 1 & 11/4" & 3/4" \\
    \hline MCT-4 & 1 & 11/2" & 3/4' \\
    \hline MCM & 5 & 11/4" & 11/4", \\
    \hline MCL & 10 & \(13 / 4\) " & \(13{ }^{\prime \prime}\) \\
    \hline MFM & 5 & \(13 / 4{ }^{\prime \prime}\) & \(13 / 4{ }^{\prime \prime}\) \\
    \hline
    \end{tabular}
    *125 volts, 60 cycles, non-inductive.
    \(* * F r o m\) back panel to end of terminals.

    Light-wight, miniature switch. Two contact sections. Single-hole MCS mounting. Especially suited for Instruments and communications systems.
    Small switch for multiple-circuit control. Four contact sections. MCT Frames available for either single-hole or fuur-hole serew type mounting.
    Widely used switch with multiple-povition, ball-bearing detents.

    MCM Four contact sections. Contact assemblies easity removed for wiring. Single-hole mounting.
    Heavy-duty switch for constant use in electrical control. Rugged
    MCL cam. Four contact sections; easity removed contact assembly. Four-hole mounting.

    MFM
    Versatile five-position switch with four contact sections-one neutral and four switch positions. Single-hole nusunsing.
    

    M FM
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{CONTACTS} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\begin{tabular}{l}
    Frame \\
    Types \\
    AND \\
    Prices
    \end{tabular}}} & Contact Forms & A & B & C & D & E & F & C & H & 0 \\
    \hline & & & Circuit & \(\square\) & \(\square\) & \(\square\) & - & 二 & - & \(\bar{\square}\) & \(\square\) & No Contacts \\
    \hline To obtain & MCS & \$1.35 & MCS & 0.40 & 0.40 & 0.50 & 0.60 & 0.70 & 0.50 & - & 0.50 & - \\
    \hline list price:- & MCT-4 & \$1.60 & MCT-4 & 0.40 & 0.40 & 0.50 & 0.60 & 0.70 & 0.50 & - & 0.50 & - \\
    \hline & MCT-1 & \$2.00 & MCT-1 & 0.40 & 0.40 & 0.50 & 0.60 & 0.70 & 0.50 & - & 0.50 & - \\
    \hline d & MCM & \$3.00 & MCM & . 60 & . 60 & . 75 & . 95 & 1.20 & . 75 & . 75 & . 75 & - \\
    \hline contact prices & MCL & \$4.00 & MCL & . 95 & . 95 & 1.05 & 1.30 & 2.00 & 1.05 & 1.05 & 1.05 & - \\
    \hline to frame price. & MFM & \$13.75 & MFM & . 60 & . 60 & . 75 & . 95 & 1.20 & . 75 & . 75 & . 75 & - \\
    \hline
    \end{tabular}

    \section*{PUSH-BUTTON SWITCHES by GENERAL CONTROL COMPANY}

    A complere heavy duty push butenn switch with eithes 1 amp. or \(s\) amp. with palladium silver contacts. It is possible to obtain the standard alrl3 ratings at \(110 / 60\) AC. Furnished in twil or twelve positions. A right-angle switch stacked and/or intercoupled, providing all of the features of a single \(M P B\) is also available where hack-of-panel depth is limited, incorporating all switch. Other variations of the standard mpB switch are also whtainable. of the operating features of the standard MPB. 1 amp. switches are available Contact the factory with your requirements.
    

    STANDARD MPB SWITCH
    

    Write for data sheet PBRM
    \(\qquad\)
    

    \section*{PUSH BUTTON OPERATION}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Ration & ascumlatative logk & \[
    \begin{aligned}
    & \text { NO TWO } \\
    & \text { INIERIOCK }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { LOCK } \\
    & \text { prifas }
    \end{aligned}
    \] & wam 10 cr \\
    \hline Description & Buttons pushed in remain locked in position until released by pushing reser butron. & Only one button can be pushed in at one time. and releases any other button. & Any button pushed in releases any pre. viously pushed in button. & Has no locking action; returns to normal position on release of finger pressure. \\
    \hline Designation & B. 13 & B-15 & B-15 & B-16 \\
    \hline
    \end{tabular}

    \section*{ORDERING INFORMATION}
    (2)
    Push Button Oderation
    3 Contacts \(\mathrm{Cl}, \mathrm{C} 2, \mathrm{C}\), etc
    \(\mathrm{A} \cdot \mathrm{A}-\mathrm{A} \cdot \mathrm{B} \cdot \mathrm{B}-\mathrm{C}\)
    \(+.60+60+.60+.60+.60\)
    A-A-A-B.B-C.
    \(+.60+60+.60+.50+.60+.75\)
    (4)
    Contact Rating 5 -amperes
    (5) \(P\)
    anel Thickness \(1 / /^{\prime \prime}\) panel \(=\$ 12.55\)

    NOTICE: All prices and specifications subject to change without prior notice. Generol Control Company, Bosion 34, Mass.

    \section*{"Footrol" FOQT SWITCHES by GENERAL CONTROL COMPANY}

    TYPE MA A new light weight foot switch with an actuating treadle built into its top to permit operation with unusu-long-life SPDT "du oop" Limit Switch forms the internal switch action. Especially recommended for fast operation where minimum fatigue is important. Access to the internal "du-op" switch terminals is greatly facilitated by simply removing the front end of the casting.
    

    TYPE MC Especially adapted for unusual applications and hard use. Easily operated for foot, knee, hand, or elbow. Non-slip-tread top nay be operated at any point of its surface.
    TYPE MI An ideal treadletype foot switch, especially convenient for many applications. Inclined, non-slip tread has an adjustable throw and includes a heel rest. Two operating presures: 5 lbs , and 10 lbs . Mounting ears are provided on each side. A BX connector is mounted in the base, and terminal access is by a removable base plate
    

    TYPE MB Heavyduty switch, especially designed for industrial and machine tool applications where thoroughly safe, rugged, and dependable operation is required. Boot top prevents false operation.

    \section*{FOTROL}

    Since 1934, General Control Company has been a foremost manufacturer of Foot Switches. These are products of the highest quality; built for rug. ged industrial applications. The great number of GENERAL CONTROL foot switches now in everyday use throughout the world provides substantial evidence of their acceptance for all types of applications.

    Write for data sheet FSRM
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{4}{|c|}{mpes} & COntact trpes & CONTACT OPERATION \\
    \hline \[
    \begin{aligned}
    & \text { MA-3 } \\
    & \$ 4.60
    \end{aligned}
    \] & \[
    \begin{gathered}
    M C-13 \\
    \$ 8.50
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { - M1. } 23 \\
    & \$ 9.80
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { M8-33 } \\
    & \$ 13.65
    \end{aligned}
    \] &  &  \\
    \hline - & - & \[
    \begin{array}{r}
    \text { M1.25 } \\
    \$ 11.25
    \end{array}
    \] & \[
    \begin{aligned}
    & \text { M8.35 } \\
    & \$ 16.25
    \end{aligned}
    \] & \[
    \frac{2}{4}
    \] & First press transters switch contocts Second prest restores wwitch contocts (ONE MOREALLY OPEH ONE NOREALEY CLOBS) \\
    \hline - &  & \[
    \begin{aligned}
    & \text { M1. } 26 \\
    & \$ 13.65
    \end{aligned}
    \] & —— & \[
    \begin{aligned}
    & -4 \\
    & -4
    \end{aligned}
    \] & Ist Mall-throw eloses lat switeh 2nd malf-florow cleses 2 wid switch Spring Retura \\
    \hline - & \(\cdots\) & \[
    \begin{aligned}
    & M 1.27 \\
    & \$ 15.00
    \end{aligned}
    \] & - & 二
    \(=\square\) &  \\
    \hline
    \end{tabular}
    "Add \(\mathbf{\$ 2 . 5 0}\) to price shown, for foot switeh with heavy duty \(\mathbf{2 0}\)-ompere rafing.
    Standard Faat Switches are avaitable with mounting hales to occammadate special cannectors used on shielded cable.

    \section*{Preciso LIMIT SWIICHES by GENERAL CONTROL COMPANY}

    PRECISE MACHINE CONTROL depends upon PRECISE LIMIT SWITCHING
    

    CUT-AWAY VIEW

    \section*{BASIC du . op SWITCH}

    The type DU-S "du op" is a precise action limit switch. The centrally-located plunger acts directly on the wide phosphor-bronze blade to insure instantaneous contact at each point of
    repetitive plunger travel. Delays of pre-travel blade action are eliminated -- an important factor at high switching speeds.
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline  &  & comiact
    opilationat crorsis/ & aetuatmo & contact &  & ovit-mava \\
    \hline \[
    \begin{aligned}
    & \text { Du.s } \\
    & \$ 1.90
    \end{aligned}
    \] & \(\square\) & single Fole Double Throw Sprine Return & 2-6 ar. & . \(020{ }^{\circ}\) & . \(020{ }^{\circ}\) & 015' \\
    \hline \[
    \begin{aligned}
    & \text { DU-O } \\
    & \$ 2.10
    \end{aligned}
    \] & SPDT & SPDTS'R & \(2-608\). & . \(020{ }^{\circ}\) & \(050^{\circ}\) & \(015{ }^{\circ}\) \\
    \hline \[
    \begin{aligned}
    & \text { DU. } \\
    & 83.80
    \end{aligned}
    \] & SPDT & SPDT-S/R &  & .020 \({ }^{\circ}\) &  &  \\
    \hline \[
    \begin{aligned}
    & \text { DU. } 8 \\
    & \$ 3.68
    \end{aligned}
    \] & SPDT & SPDT.S/R & \(2 \rightarrow 08\) & . \(020^{\circ}\) & . \(020^{\circ}\) & 062* \\
    \hline \[
    \begin{aligned}
    & \text { Du-E } \\
    & \text { \$3.so }
    \end{aligned}
    \] & SPDT & SPDT-S/R & 2-6 or & .020* & .020' & . \(075^{\circ}\) \\
    \hline
    \end{tabular}

    RATINGS - 10 a mperes 125 volis a-c; non-inductive; 5 a mperes 230 volts a-c; non-inductive
    The A-C-O is a new development in off-on Limit Switches an innovation tor use on machine tools, and other Limit Swith applications. Operation is such that the first press transters the contaits; the second press restores them. Contacts are thaincained at the completion of each plunger scroke.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline  &  &  &  & \({ }_{\text {Onf }}\) cout &  & ovo \\
    \hline \[
    \begin{gathered}
    \text { ACo } \\
    \text { sic.o. } \\
    \text { mith coven }
    \end{gathered}
    \] & 二 & \begin{tabular}{l}
    Fir st press
    tronsfers contect: \\
    second press
    \end{tabular} & 3-4 lbs. & .020" & .218" & .113 \\
    \hline
    \end{tabular}

    RATINGS - 10 - 20 ampurio 125 volts a-c; mon-inductive; 10 amperes 2,00 volts
    a-c; nom-inductive
    Write for dota sheet ADRM

    \section*{"Promatic" CONTROLS}
    

    \section*{SYNCHRONOUS-MOTOR TIMERS}

    The Series II, Type SY, Synchronous-motor Timers has time ranges from 1 second up to 24 hours, available to match the Type ET Timer. Redesigned to incorporate the latest production and quality improvements. A new patented O-Ring clutch eliminates gears and costly maititerance problems. Time period easily adjusted and continuously indicated on large dial. Prices foom sss.00 each, list.

    \section*{ELECTRONIC TIMERS}

    Type ET, Electronic Timers with ranges from . 060 seconds to 60 seconds, are available in a variety of frame eypes, terminal arrangements, and mountings. The enclosed type or chassis model have back plates punched with universal mounting holes. Double pole, douthe throw aurihary load contacts are rated at 10 amps. 128 volss a-c. п.i. Prices from \(\$ 33.00\) each, list.
    

    \section*{SPEMCO H \& H SWITCHES}

    BALL LEVER TOGGLE SWITCHES
    Underwriters' approved. 3
    amp. 125 volts, laminated bakelite base. Nickel plated finish.
    

    BAT LEVER TOGGLE SWITCHES
    Underwriters' approved. 3 amp. 125 volts, laminated
    bakelite base. Nickel
    plated finish.
    
    No.
    1135
    1136
    1137
    \(\begin{array}{llll}1121-8 & \text { SPST } & 1.80 & \text { ea. } \\ 1123.8 & \text { SPDT } & 1.10 & \text { ea. }\end{array}\)
    \(\begin{array}{lll}1125-8 & \text { DPST } & 1 \% \\ 1127-B & 1.80 & \text { ea. }\end{array}\)
    1127-B DPDT ..... \(\boldsymbol{I}^{\prime \prime} \quad 1.95\) ea.

    ON AND OFF PLATE
    

    UTILITY SWITCHES-Toggle Type For AC Motors
    

    Underwriters' approved, 10 amp. 250 volts AC . 15 amp . 125 volts \(\mathrm{AC}, 3 / 4\) H.P. \(115 \mathrm{~V}-230 \mathrm{~V}\) AC.
    \begin{tabular}{|c|c|c|c|}
    \hline No. & Description & eve & List Price \\
    \hline 1185
    1186 & SPST & 纤", & \$1.25 ea. \\
    \hline 1188 & SPST & & 1.50 ea. \\
    \hline 1194 & DPDT & 言' & 2.75 ea. \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline \multicolumn{4}{|c|}{PUSH BUTTON DOUBLE ACTION SWITCH} \\
    \hline Unde 250 conta conta & ers' approved Press lever press lever Nickel plated &  & \\
    \hline \[
    \begin{gathered}
    \text { No. } \\
    1156
    \end{gathered}
    \] & Description SP & Sleeve ! \({ }_{2}^{\prime \prime}\) ". & \[
    \begin{aligned}
    & \text { List Pr } \\
    & \$ 1.35
    \end{aligned}
    \] \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline \multicolumn{3}{|l|}{MOMENTARY BAT LEVER TOGGLE SWITCHES} &  \\
    \hline Unde amp. plated & iters' approv 25 volts, lam binished. & & \\
    \hline No. & Description & Sle & List Pri \\
    \hline 1166 & SPST & : \({ }^{\prime \prime}\) & \$1.60 \\
    \hline 1167
    1155 & SPDT & "!" & 1.70 ea. \\
    \hline 1150 & DPST & & 2.10 \\
    \hline
    \end{tabular}

    MOMENTARY PUSH BUTTON SWITCH
    
    Two circuit slow make and
    slow break momentary
    switch. One circuit normally
    on, the other off, with snap-
    cn plastic button, in red or
    black. (Pushing the button
    reverses the contact.)
    No. Description Sleeve List Price
    \begin{tabular}{l} 
    No. \\
    \(1158-A\)
    \end{tabular}\(\quad\) Red
    \(1158-8\)
    

    \section*{NEUTRAL CENTER}
    

    Underwriters' approved, 10 amp .250 volts \(A C\), 15 amp. 125 volts \(A C, 3 / 4\) H.P. \(115 \mathrm{~V} .230 \mathrm{~V} A C\).
    \begin{tabular}{cccc} 
    No. & Description & Sleeve & List Price \\
    1187 & SPDT & \(\frac{1}{5}{ }^{\prime \prime}\) & \(\$ 1.55\) ea. \\
    1189 & DPDT & \(\frac{51}{\prime \prime}\) & 2.75 ec.
    \end{tabular}

    \footnotetext{
    SPECIALTIES MANUFACTURING CO. • Detroit 38, Michigan
    }

    \section*{SPEMCO H \& H SWITCHES}

    POWER SWITCHES
    
    

    Underwriters' approved, 12 amp. 125 volts. Size of case, \(13 / 4^{\prime \prime}\) long. \(3 / 4^{1 "}\) wide, \(z^{\prime} 5^{\prime \prime}\) high.

    No. Description Sleeve List Price 1159................. DPST ...................................... \(\$ 1.90\) ea.
    

    Underwriters' approved, 12 amp. 125 volts. Size of case, \(13 / 4\) " long, \(3 / 4^{\prime \prime}\) wide, f!'" high.

    No. Description Sleeve List Price 1159-B. DPST ...... 4 "... \(\$ 1.90\) eq.
    

    Underwriters' approved, 15 amp. 125 volts. Size of case. \(2^{1 "}\) long, \(\left.\right|^{\prime \prime}\) wide, \(\mathbf{3}^{\prime \prime}\) high.
    

    Underwriters' approved, 15 amp. 125 volts. Size of case, \(2^{\prime \prime}\) long, \(1^{\prime \prime}\) wide, \(f^{\circ \prime \prime}\) high.
    No. Description Sleeve List Price 1134-8...... DPST .................15"............... \(\$ 2.85\) ea.
    - All Prices F.O.B. Defrolf

    POWER SWITCHES
    

    Fully enclosed tumbler switch, 20 amp. 250 volts, \(11 / 2\) herispower, \(260^{\circ}\) velts, size of case \(21 / 4^{\prime \prime}\) long, \(1 / 8^{\prime \prime}\) wide. \(1 \frac{5}{3}{ }^{\prime \prime}\) high.

    No. Description Sleeve List Price 11705 ............DPST .............15". ....... \$4.75 ea.
    

    Fully enclosed tumbler switch, 20 amp. 250 volts, \(11 / 2\) horsepower, 250 volts. Size of case, \(21 / 4{ }^{\prime \prime}\) long, \(1 / \mathbf{a}^{\prime \prime}\) wide. \(15^{5}{ }^{\prime \prime}\) high.
    No. Description Sleeve List Price
    \(1170 . \ldots . . . . . . . . . . . . ~ D P S T ~\)

    PUSH BUTTON MOMENTARY SWITCH
    

    This switch is primarily intended as safety switch to be used as an interlock connection on doors of dangerous high voltage devices when they are opened. Rated at 12 amp. 125 volts. I horsepower, 250 volt AC. Normally OFF. Size of case, \(13 / 4^{\prime \prime}\) long, \(3 / 4{ }^{\prime \prime}\) wide, \(\frac{15}{2}{ }^{\prime \prime}\) high.

    No. Description Sleeve List Price
    1160 ................ DPST ..................㫊 \(\ldots . . . . . . . . . . . . .52 .70\) ea.

    \section*{FEED THROUGH CORD SWITCH}
    

    Underwriters' approved, black bakelite case sliding lever, 10 amp. 125 volts, 5 amp. 250 volts. Fsit \(^{\prime \prime}\) cord hole.
    \begin{tabular}{ccc} 
    No. Description Sleeve & List Price \\
    1163 & \(5 P\) & \(\$ 1.85\) ea.
    \end{tabular}

    1163 SP \(\$ 1.85\) ea.

    Prices Subject to Change Without Notlce

    PORTABLE TOOL HANDLE SWITCHES
    

    Tool handle switch, fully enclosed, normally OFF with locking latches. Rated and approved by the Underwriters' for 6 amp. 250 volts. 12 amp. 125 volts, | H.P. 250 volts. \(13 / 4^{" ~ l o n g, ~} 35^{\prime \prime}\) wide \(5 / 8^{\prime \prime}\) high.

    No.
    1168
    Description
    DPST
    List Price
    

    Smail tool switch, mechanism fully enclosed in bakelite case. Rugged construction, curren carrying parts made of phosphor bronze and contacts of hard drawn copper. Contacts ar ranged to be wired from the back for simplic. ity in wiring. Approved by Underwriters' at 10 amp. 250 volts, 15 amp. 125 volts, \(1 / 2\) H.P. | 10 V - 220 V AC, \(\mathrm{z}^{1} / 4^{\prime \prime}\) long. \(1 / 9^{\prime \prime}\) wide, \(+\xi^{\prime \prime}\) high.
    No. Description List Price
    

    This switch is arranged with momentary con tacts, normally OFF. Approved by the Under writers' at 10 amp. 250 volts, 15 amp .125 volts
    
    \begin{tabular}{ccc} 
    No. & Deseription & List Price \\
    1173 & DP Trigger Lever & S4.25 ea.
    \end{tabular}

    \section*{ROTARY}

    SWITCHES
    

    \section*{SPECIALTIES MANUFACTURING CO. Detroir 38, Michigan}

    \section*{SPEMCO H \& H SWITCHES}

    EXTRA HEAVY DUTY SWITCH NEUTRAL CENTER
    

    Used in heavy current circuits, such as trans mitters, power amplifiers, motors, etc. Contacts have fast "break"' which reduces the endency to arc. Rated at 10 amp. 125 volts. Size of case \(2^{\prime \prime}\) long, \(11 / 4^{\prime \prime}\) wide, \({ }^{\prime \prime}\) high.

    No. Description Sleeve List Price 1161 DPDT \(\quad{ }_{j 2}^{\prime \prime} \quad \$ 6.25\) ea.
    

    Size of Case: \(\mathbf{2 1}^{1 / 2^{\prime \prime}}\) long, \(1\left\{2^{\prime \prime}\right.\) wide \(1210^{10^{\prime}}\) high \(3 \mathrm{Y}^{2}\) counting centers. 10 amp., 250 volts: 20 250 volis DC. 2 H.P., 230 volits DC.
    

    Size of Case: \(2 \mathbf{1 2}^{5}{ }^{\prime \prime}\). long, \(2^{\prime \prime}\) wide, \(11 / 8^{\prime \prime}\) hiah Rated 10 amp . 125 volts, \(1 / 2\) horsepower, \(115-230\) volt \(A C\).
    \begin{tabular}{|c|c|c|c|}
    \hline No. & Description & Sleeve & List Price \\
    \hline \[
    1177
    \] & 3PDT & & \\
    \hline
    \end{tabular}
    

    1 H.P. \(\qquad\) 120 volts \(A C\) 2 H.P. 240 volts \(A C\)

    No.
    1130-K Description DPST

    Stee
    .. \(4 \frac{15}{2}\)
    3"
    \(\$ 4.2\)

    \section*{SPECIALTIES MANUFACTURINGCO.}

    DETROIT \(38, M I C H I G A N\)
    No. Description Sleeve List Price
     \(1128-K A\) Key Only for Above. 30 ea.

    HEAVY DUTY SWITCHES

    \section*{Toggle Type}

    Underwriters' approved, 30 amp. 250 volts, 2 H.P., \(115 \mathrm{~V}-230 \mathrm{~V}\) AC only: \(1 \mathrm{H} . \mathrm{P} . \mathrm{d}\). 46 V AC only. For use on Food Machines, Grinders, Sanders, Machine Tools, Gasoline Pumps, etc.
    

    Underwriters' approved, 20 amp. 250 volts, 2 H.P. 230 V AC, 2 H.P. 250 V DC.

    For use on Floor Sander, as a foot switch, etc.
    \begin{tabular}{ccc} 
    No. & Description & PRT \\
    1192 & & PRICE
    \end{tabular}

    \section*{ROTO-LOCK} SWITCH

    Underwriters' approved 3 amp. 250 volts.
    

    CORD CONNECTORS
    

    Brown Bakelite Cord Connector Complete, \(1 / \mathbf{g}^{\prime \prime}\) O.D. \(\times 2 \frac{1}{2}\) " long. 10 amps. 250 volts. End opening for wire size up to \(5 / a^{\circ}\) O.D.
    \begin{tabular}{llll} 
    No. & Description & List Price \\
    1162 & Complete & \(\$ 2.00\) ea. \\
    \(1162-F\) & Female Port & & 1.00 ea. \\
    \(1162-\mathrm{M}\) & Male Port & & \\
    & &
    \end{tabular}

    \section*{RECEPTACLES}

    Underwriters' approved, 10 amp. 250 volts AC. Short Female Flush Receptacle
    

    Recessed Male Receptacle
    
    \begin{tabular}{ccc} 
    No. & Description & List Price \\
    80328 & 2 Screw Mounting & S 1.65 ea. \\
    80329 & Lock Nut Mounting & 2.15 ea.
    \end{tabular}

    Recessed Female Receptacle
    

    No. Description List Price 80331 Lock Nut Mounting............... \(\$ 2.15\) eo. All aforementioned switches are manufacfured by H. \& H. for S.M.C.
    
    and \(1 / 8^{\circ \prime}\) mounting centers.
    \begin{tabular}{|c|c|c|c|}
    \hline No. & & Description & List Price \\
    \hline 1180 & SPST & .75A-125V AC-DC & \$0.31 ea. \\
    \hline 1181 & SPDT & .7SA-125V AC-DC & 0.37 ea. \\
    \hline 1182 & DPST & .50A-125V AC-DC & 0.44 eo . \\
    \hline 1183 & DPDT & .50A-125V AC-DC & 0.55 ea . \\
    \hline
    \end{tabular}

    \section*{TIME CONTROLS}

    \section*{A complete line of Appliance Timers and Time Switches for all AUTOMATIC CONTROL requirements.}

    TIME-ALL-For all-around use in the home, office or store. Ideal for converting any radio to a clock-radio: for controlling lights when no one is at home; for defrosting refrigerators (user selects defrost starting time to meet his needs); for controlling de-humidifiers, coffeemakers, broilers, fans, etc. Has manual control with automatic reset for continuous "off" or "on". Minimum on time-one hour; maximum 23 hours. 24 -hour, large, easy-to-read, time dial. Plug-in receptacle for equipment to be controlled. Attractive light gray plastic case, in modern design. Also Patrician Deluxe model with black case-gold dial, packaged in gift carton (Model A211-5). Model A.221, standard model, rated at 875 watts has gray case with 2 wall mounting holes in rear. Size, \(5 \times 4 \times 2 \frac{1 / 2^{\prime \prime}}{}\). Complete with 6 ft . cord, plug and full instructions. Shipping weight 2 lbs , U.L., C.S.A. approved.

    TV SHOW CATCHER-Catch favorite radio and TV programs with this electric clock and signal timer combined in one smartly-designed case. Model A-301 is useful in many different ways . . . times anything that takes time. from one minute to four hours. Positive reminder-pleasant buzzer sounds at end of interval until shut off manually. Portable; plugs in anywhere. Attractive Spruce Green case blends with any surroundings. Easy-to-read dial. Should be in every home! U.L. Approved.

    PORTABLE PLUG-IN APPLIANCE TIMERS
    

    TIME-ALL
    (1) (1)
    

    TV SHOW CATCHER Model A301
    \begin{tabular}{|c|c|c|c|}
    \hline MODEL NUMBER & SWITCH & CAPACITY & VOLTS \\
    \hline A211 & SPST & 15 amp - 1650 watt & 125 \\
    \hline A211-5 & SPST & 15 amp - 1650 wat & 125 \\
    \hline A221 & SPST & 7.5 amp. - 875 watt & 125 \\
    \hline A301 & - & - & 125 \\
    \hline A401 & SPST & 15 amp. - 1650 watt & 125 \\
    \hline
    \end{tabular}
    

    SERIES TS60 (14) 11
    

    SERIES TS66

    For complete Appliance Timer information request Catalog TA-65

    \section*{STANDARD AND SKIPPER ON-OFF TIME SWITCHES}

    TS60-Models for permanently wired-in or portable plug-in operation. For ordinary ON-OFF automatic control requirements with up to 12 complete cycles in each 24 -hour period. Minimum onoff time, 1 hour; maximum, 23 hours. Manual control with automatic reset. Complete mechanism easily removed by pressing a spring clasp. New E-Z See black and yellow dial permits fast, accurate setting even in dimly lit areas. Pull dial forward and turn in either direction to set time. Silver tipped, 35 ampere contacts for fast make and break action. Heavy duty drawn steel case with permanently hinged door and hasp for padlocking.
    Models also available for independent switching of heating or air conditioning thermostats where time switch motor operates on voltages other than that being controlled"
    TS66-Similar to standard TS60 Series time switches except has "skipping device" to omit operation of the controlled unit on holidays, weekends, or other selected days. For permanently wired-in or portable plug-in \({ }^{*}\) installation. Also models for independent switching \({ }^{*}\).
    \begin{tabular}{|l|c|c|c|}
    \hline \multicolumn{1}{|c|}{ MODELS } & SWITCH & VOLTS \\
    \hline TS6OSP; TS66SP & SPST & (60 CYCLES)
    \end{tabular}\(|\)\begin{tabular}{l} 
    AMPS
    \end{tabular}

    Models also available for 125 volts, 50 and 25 cycle, and 250 volis, 50 cyele operation. INTERNATIONAL REGISTER COMPANY, CHICAGO, ILLINOIS

    For complete time Switch information, request Cafalog TS.81
    

    TIME CONTROLS
    for use on:
    - Radio Equipment
    - Recorders
    - Process Timings
    - Store and Window Lighting
    - Flood Lighting
    - Signs
    - Animated Displays
    - Yard Lights
    - Post Lanterns
    - Heating Systems
    - Air Conditioners

    \section*{PMCEECHI PUSH BUTTON SWITCHES for Manual Operation}
    

    Snap aution，momentary contact，single pure，singlo throw：arailable either normally open up notmally rlosed．Rated 10 amps 115 V．A．C．resistive load． Housing and button are molded phemolic．sohter typ terminals．A distinet click accompanies aetuation． No． 2201 Norm．（Ipen（Red 13utton）．．．．．．．．\(\$ 1.65\) ea． No． 2202 Norm．（losed（Black Irutton）．．．．\(\$ 1.65\) ea，
    

    Momentary rontart．single pulp，singlo fhrow non－ nap action stailathle nistue burnall upen ar nor mally closed．Jetond ronathatioly at \(2_{2}\) amp 115 Y．A．C．resistive lowl．Homsins and tutton are molded phenolic．solder is po Tormintits．
    No． 4001 Nirm，Hown ill d Futtuns．．．．．．．．\(\$ 0.60\) ea， No． 4002 Sirm．Cloral（Hlank luitom）．．．．\(\$ 0.60\) ea．

    \section*{GERMANIUM}

    DIODEHOLDER
    

    Gilues tixht shap fit within the vyring temsion rlins．Terninal and vring rlip pornoed as one pien frum placiphor hromze wire． ciold platonl for ease of solder－ ing alll corrosion pristance．
    No．17－1．．．．．．．．．．．．．．．．．．\(\$ 0.33\) ea．

    \section*{BINDING POST}
     callmium plated \(.0003^{\prime \prime}\) to \(.0005^{\prime \prime}\) thirk．Acorpts standard hanana plus， wire lead thruggh hole，wire loop．pade lug．clip lead．Liad san be soldered to turret lug at rear of panel or rlanipuld bethern nuts．

    No． 29 R（lied）
    No． 29 （Black）

    \section*{MOLDED PHENOLIC INSULATING WASHERS}
    

    Fither washers of blark electrical grade phemplic or natural mica－rithed phenoli， re available as standard items．The hark is cuitable for genural application
     roud for high fromumerjos and any coutiv． ment owithod fur environmental condi－ tiolls．
    2181001 through 2181005 and 2181021.
    ．\(\$ 0.05\) ea． 21B1006
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Part No． Natural Miea Filled & Part No． Black Elee． Grade & \[
    \begin{aligned}
    & \text { Serew } \\
    & \text { Size }
    \end{aligned}
    \] & \[
    \underset{\sim}{\text { Die. }}
    \] & \[
    \begin{aligned}
    & \text { Dis: } \\
    & \cdots \mathbf{B}^{\prime}
    \end{aligned}
    \] &  & \[
    \begin{gathered}
    \text { Dim: } \\
    \hline 0_{0}^{\prime} \\
    \hline
    \end{gathered}
    \] &  & \({ }_{\text {Dim．}}\) \\
    \hline －｜13100 & 2！ 11001 & \(\pm 6\) & 洲＂ & 35：＂ & ．1：\％＂ & ．11：1＂ & ，11：3：3 & ．031＂ \\
    \hline 21161002.1 & 2181002－2 & 二 & ＂里）＂ & ． \(3:\) & .1710 & ．108＋＂． & ． \(16.3{ }^{\text {a }}\) ， & ．031＂， \\
    \hline －1181003．1 & \(213100: 3-2\) & ＝1．＂ & ＂914＂） & \％ & －1：1＂ & －1930＂ &  & ．0．31＂ \\
    \hline 181004－1 &  & \({ }^{1 / 4.4}\) &  & 得号＂ & 319＊ & ，1194． & ．1943： & ．031＂ \\
    \hline ：131005－1 & \({ }_{2}^{213131006-2}\) & 象 & －2： & ＂509\％ & 3si＂ & －114＂ & On＋3＂ & ．1131＂ \\
    \hline －Mn1021－1 & －111リン1－2 & ＝ & ッブ＂ & （200 & ．14： & & （1） \(1:\) & ．1331＂ \\
    \hline
    \end{tabular}

    MATING INSULATING WASHER UNIT
    Designed for use on jacks with a \(3 / 8\)＂dia．bushing to insulate them frum the munting panel Euvipped with insulate them rrum the mounting panel．Eccurpped with hole fir nonl－turn tail of jack and hoss to it a panel choulder is dimenined fur a 1 ＂minimum panel thick mour Mold of mira filled pholic sadd in mating ness．Molder 2181007 and 2181008.
    \(\mathbf{\$ 0 . 1 2}\) pair
    
    

    MICA－FILLEO PHENOLIC COIL FORMS What for high fro tut ne appli－ athms tharaus of low loss．low in moisture ahsomtinn，high
    
    

    SERIES 23
    Designed for miniaturization．Rated at \(1 / 4\) amp 115 b．A．C．resistive load．Momentary contact．single pole single throw，non－snap action Mousine and puttor are molded phenolic Solder tipe turminuls No．23－1 Normally Open（Ited Buttini）．．．．\(\$ 0.75\) ea．
    

    \section*{TEST CLIPS}
    

    Completely insulated：The hinge pin is corered with nylan tubing preventing all passibility at shorting through side contart． Finger grips are molded phen－ olic and enclose the pontart and spring nempleers． Luw enter resistance of approximatels 0015 whes Silver overlas at point of rontact is .00 x ＂thick． No． 16 R （ IRed）．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．\(\$ 0.75 \mathrm{ea}\) ． No． 16 B（Blark）
    

    The basic clip is arailable on tour different munt－ ings as illustrated．Ideal for rapid testing as leads are simply slipped in withuit any jaus tu uifen＂r clamps to adjust．
    

    \section*{MINIATURE TAP SWITCHES}
    
    
    
     (hreak heforre make "re shorfing (make hefore brtak). Maximum of 10 wesitions fur derk gites conitinumbis
    
    

    SERIES 5000
    

    Single Deck Construction
    
     in roustruetion betaetil smele and multi-de is units
    
    
    
    
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{}} & \multirow{2}{*}{\[
    \begin{aligned}
    & \text { DIM. } \\
    & \text { "'A" }
    \end{aligned}
    \]} & \multicolumn{9}{|c|}{NUMPER OF POSITIONS PER DECK OR POLE} \\
    \hline & & & 2 & 3 & 4 & 5 & 8 & 7 & 8 & 9 & 10 \\
    \hline \multirow[t]{6}{*}{} & 1 & See Single Dcsk Drauing & \[
    \begin{array}{r}
    5002 \\
    \$ 0.75
    \end{array}
    \] & \[
    \begin{aligned}
    & 5003 \\
    & \$ 0.80
    \end{aligned}
    \] & \[
    \begin{array}{r}
    5004 \\
    \$ 0.85
    \end{array}
    \] & \[
    \begin{aligned}
    & 5005 \\
    & \$ 0.90
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5006 \\
    & \$ 0.95
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5007 \\
    & \$ 1.00
    \end{aligned}
    \] & \[
    \begin{array}{r}
    5008 \\
    \$ 1.05
    \end{array}
    \] & \[
    \begin{array}{r}
    5009 \\
    \$ 1.10
    \end{array}
    \] & \[
    \begin{array}{r}
    5010 \\
    \$ 1.15
    \end{array}
    \] \\
    \hline & 2 & 1-1/4 & \[
    \begin{array}{r}
    5202 \\
    \$ 2.65
    \end{array}
    \] & \[
    \begin{array}{r}
    5203 \\
    \$ 2.70
    \end{array}
    \] & \[
    \begin{array}{r}
    5204 \\
    \$ 2.74
    \end{array}
    \] & \[
    \begin{aligned}
    & 5205 \\
    & \$ 2.78
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5206 \\
    & \$ 2.82
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5207 \\
    & \$ 2.86
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5208 \\
    & \$ 2.90
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5209 \\
    & \$ 2.94
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5210 \\
    & \$ 2.98
    \end{aligned}
    \] \\
    \hline & 3 & 1.21/32 & \[
    \begin{array}{r}
    5302 \\
    \$ 2.88
    \end{array}
    \] & \[
    \begin{array}{r}
    5303 \\
    \$ 3.00
    \end{array}
    \] & \[
    \begin{array}{r}
    5304 \\
    \$ 3.12
    \end{array}
    \] & \[
    \begin{array}{r}
    5305 \\
    \$ 3.24
    \end{array}
    \] & \[
    \begin{array}{r}
    5366 \\
    \$ 3.36
    \end{array}
    \] & \[
    \begin{array}{r}
    5307 \\
    \$ 3.48
    \end{array}
    \] & \[
    \begin{aligned}
    & 5308 \\
    & \$ 3.60
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5309 \\
    & \$ 3.72
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5310 \\
    & \$ 3.84
    \end{aligned}
    \] \\
    \hline & 4 & 2-1/16 & \[
    \begin{array}{r}
    5402 \\
    \$ 3.42
    \end{array}
    \] & \[
    \begin{array}{r}
    5403 \\
    \$ 3.58
    \end{array}
    \] & \[
    \begin{array}{r}
    5404 \\
    \$ 3.74
    \end{array}
    \] & \[
    \begin{aligned}
    & 5405 \\
    & \$ 3.90
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5406 \\
    & \$ 4.06
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5407 \\
    & \$ 4.22
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 \uparrow C 8 \\
    & \$ 4.38
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5409 \\
    & \$ 4.54
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \$ 410 \\
    & \$ 4.70
    \end{aligned}
    \] \\
    \hline & 5 & 2-15/32 & \[
    \begin{array}{r}
    5502 \\
    \$ 3.96
    \end{array}
    \] & \[
    \begin{gathered}
    5503 \\
    \$ 4.16
    \end{gathered}
    \] & \[
    \begin{array}{r}
    5504 \\
    \$ 4.36
    \end{array}
    \] & \[
    \begin{aligned}
    & 5505 \\
    & \$ 4.56
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5506 \\
    & \$ 4.76
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5507 \\
    & \$ 4.96
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5508 \\
    & \$ 5.16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5509 \\
    & \$ 5.36
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5510 \\
    & \$ 5.56
    \end{aligned}
    \] \\
    \hline & 6 & 2-7/8 & \[
    \begin{gathered}
    5802 \\
    \$ 4.50
    \end{gathered}
    \] & \[
    \begin{gathered}
    5603 \\
    \$ 4.74
    \end{gathered}
    \] & \[
    \begin{array}{r}
    5604 \\
    \$ 4.98
    \end{array}
    \] & \[
    \begin{aligned}
    & 5605 \\
    & \$ 5.22
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5606 \\
    & \$ 5.46
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5677 \\
    & \$ 5.70
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5608 \\
    & \$ 5.94
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5609 \\
    & \$ 6.18
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5610 \\
    & \$ 6.42
    \end{aligned}
    \] \\
    \hline
    \end{tabular}
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{}} & \multirow{2}{*}{\[
    \begin{aligned}
    & \text { DIM. } \\
    & \text { "'A" }
    \end{aligned}
    \]} & \multicolumn{9}{|c|}{NUMBER OF POSITIONS PER DECK OR POLE} \\
    \hline & & & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 19 \\
    \hline \multicolumn{2}{|l|}{\[
    \begin{array}{c|c}
    \stackrel{0}{0} \\
    0 & 1 \\
    0 &
    \end{array}
    \]} & \begin{tabular}{l}
    (see \\
    Diag.)
    \end{tabular} & \[
    \begin{gathered}
    24 Y Y 2100-2 \\
    \$ 2.88
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2100-3 \\
    \$ 2.99
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2100-4 \\
    \$ 3.10
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2100-5 \\
    \$ 3.21
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2100-6 \\
    \$ 3.32
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2100-7 \\
    \$ 3.43
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 \text { YY2 } 100.8 \\
    \$ 3.54
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2100-9 \\
    \$ 3.65
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2100-10 \\
    \$ 3.76
    \end{gathered}
    \] \\
    \hline \multirow{5}{*}{} & 2 & 1.391 & \[
    \begin{gathered}
    24 Y Y 2032-2 \\
    \$ 4.27
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-3 \\
    \$ 4.38
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-4 \\
    \$ 4.49
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-5 \\
    \$ 4.60
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-6 \\
    \$ 4.71
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-7 \\
    \$ 4.82
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-8 \\
    \$ 4.93
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-9 \\
    \$ 5.04
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2032-10 \\
    \$ 5.15
    \end{gathered}
    \] \\
    \hline & 3 & 1.766 & \[
    \begin{gathered}
    24 Y Y 2033-2 \\
    \$ 4.96
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-3 \\
    \$ 5.12
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-4 \\
    \$ 5.29
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-5 \\
    \$ 5.45
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-6 \\
    \$ 5.62
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-7 \\
    \$ 5.78
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-8 \\
    \$ 5.95
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-9 \\
    \$ 6.12
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2033-10 \\
    \$ 6.28
    \end{gathered}
    \] \\
    \hline & 4 & 2.141 & \[
    \begin{gathered}
    24 Y Y 2034-2 \\
    \$ 5.65
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2034-3 \\
    \$ 5.87
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2034-4 \\
    \$ 6.09
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2034-5 \\
    \$ 6.31
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2034-6 \\
    \$ 6.53
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2034-7 \\
    \$ 6.75
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 \text { YY2034-8 } \\
    \$ 6.97
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2034-9 \\
    \$ 7.19
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2034-10 \\
    \$ 7.41
    \end{gathered}
    \] \\
    \hline & 5 & 2.516 & \[
    \begin{gathered}
    24 Y Y 2035-2 \\
    \$ 6.33
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2035-3 \\
    \$ 6.60
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 24 \text { YY2035.4 } \\
    & \$ 6.88
    \end{aligned}
    \] & \[
    \begin{gathered}
    24 Y Y>035-5 \\
    \$ 7.15
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2035-6 \\
    \$ 7.43
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 \mathrm{YY} 2035-7 \\
    \$ 7.70
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2035-8 \\
    \$ 7.98
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2035-9 \\
    \$ 8.25
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2035-10 \\
    \$ 8.53
    \end{gathered}
    \] \\
    \hline & 6 & 2.891 & \[
    \begin{gathered}
    24 Y Y 2036-2 \\
    \$ 7.04
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 \curlyvee Y 2036-3 \\
    \$ 7.37
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 \mathrm{YY} 2036-4 \\
    \$ 7.70
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2036-5 \\
    \$ 8.03
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2036-6 \\
    \$ 8.36
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2036-7 \\
    \$ 8.69
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 \text { Y Y } 2036-8 \\
    \$ 9.02
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 7036-9 \\
    \$ 9.35
    \end{gathered}
    \] & \[
    \begin{gathered}
    24 Y Y 2036 \cdot 10 \\
    \$ 9.68
    \end{gathered}
    \] \\
    \hline
    \end{tabular}

    SPRING RETURN ROTARY SWITCH
    A sursion uf the sories :3 which gives numboraty mat
    
    ITH Hirere dows.
    No. 24YY2101
    10 ch
    \(\$ 3.81 \mathrm{ca}\)
    
    No. 24 YY2103 :: mecles ............................ 5.24 ea.
    
    

    TRUEI - more ADC Plugs and Jacks in broadeast use today than those of any other manufacturer.

    \section*{JACK S}

    Nickel silver springs. Silver alloy contacts. Tinned connecting lugs. Die formed, nickel plated frames.
    Standard dimensions, interchangeable with any telephone type jack using a \(1 / 4\)-inch plug.
    Spring arrangements available as follows:
    
    \begin{tabular}{|c|c|c|}
    \hline TYPE & FIG & LIST \\
    \hline PJ 116 & 1 & \(\$ 1.70\) \\
    PJ 318 & 2 & 1.27 \\
    PJ 125 & 3 & 1.70 \\
    PJ 123 & 4 & 1.16 \\
    PJ 117 & 6 & 1.60 \\
    PJ 203 & 7 & 1.38 \\
    PJ 115 & 8 & 1.48 \\
    PJ 638 & 9 & 1.70 \\
    PJ 339 & 9 & 1.92 \\
    \hline
    \end{tabular}

    For use with plugs PJ. 5 PL- 55 WE. 47 except PJ 339. use with WE-291.

    \section*{JACK PANELS}

    Constructed of solid bakelite, reinforced with steel.
    Slotted mounting brackets for use in 19" relay racks.
    Spacing prevents cross connection of adjacent circuits with double plug.
    Designation strip included on ai. panels. Single panel holds 24 jacks, requires \(13 / 4^{\prime \prime}\) panel space.
    Double panel holds 48 jacks, requires 21/8" panel space.
    \begin{tabular}{|l|l|c|}
    \hline TYPE & \multicolumn{1}{|c|}{ DESCRIPTION } & LIST \\
    \hline PJ 31 & Double, less Jocks & \(\$ 15.75\) \\
    PJ 33 & Single, less Jocks & 14.20 \\
    PJ 341 & Double, with 48 PJ 318 Jocks & 75.00 \\
    PJ 343 & Single, with 24 PJ 318 Jocks & 44.10 \\
    \hline
    \end{tabular}

    \section*{PLUGS}

    Interchangeoble with standord plugs as shown.
    Designed for easy assembly and card replocement.
    Insulated for 500 V. RMS. breakdown.
    
    \begin{tabular}{|c|c|c|c|}
    \hline TYPE & EQUIVALENT & NO. COND. (Ea. Plug) & LIST \\
    \hline PJ-1 & WE 241 & 3 & \(\$ 4.60\) \\
    PJ-5 & PL55, WE47 & 2 & 1.30 \\
    \hline
    \end{tabular}

    In addition to the plugs, jacks, and jack panels illustrated above - ADC manufactures a custom line of iron core components, such as transformers, filters, reactors and chokes, designed and built in production quantities to your specifications. For complete information address your inquiry to:

    \section*{PATCHCORDS}

    Best quolity tinned copper 2 conductor stronded wire. Heavy broided caver, with 6 " reinforcement of each end. Shield normolly grounded both ends.
    

    \title{
    A LEADER IN THE CUSTOM TRANSFORMER FIELD SINCE 1934 aUDIO DEVELOPMENT COMPANY 2833 Thirteenth Avenue So. - Minneapolis, Minnesota
    }

    \title{
    B
    }

    \section*{POWER TAP SWITCHES NON-SHORTING TYPE}
    

    Each switch is a non-shorting, single pole, rotary, multiposition unit. but switches can be ordered assembled 2 or 3 in tandem ( 2 maximum, 5 taps, for Model 111) to form multipole assemblies. All ceramic insulation, large, solid silver-to-silver contacts, and "slow-break" action especially designed for alternating current use establish new standards of dependability and performance. Switch shafts are electrically "dead"-insulated by strong ceramic hubs. Contacts and mechanism are entirely enclosed and protected (except for the Model 111).

    \section*{MODEL 111 TAP SWITCH}

    Alternating Current Rating 10 Amps. 150 Volts —Diameter \(13 / 4{ }^{\prime \prime}\) - Shaft Diameter \(1 / 4 "\) - Standard Mounting: For \(1 / 4^{\prime \prime \prime}\) panel maximum, by means of \(3 / 8^{\prime \prime}-32\) threaded bushing and hex. nut.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\(\underset{\text { D'anel }}{\text { Depth Behind }}\)}} & \multicolumn{2}{|l|}{Single Unit} & \multicolumn{2}{|l|}{2 in Tandem} \\
    \hline & & \multicolumn{2}{|c|}{11 sm} & \multicolumn{2}{|l|}{23/4"} \\
    \hline \[
    \begin{aligned}
    & \text { No. of } \\
    & \text { Taps }
    \end{aligned}
    \] & Total Rotation & Stock Numher & \[
    \begin{gathered}
    \text { List } \\
    \text { *Irice }
    \end{gathered}
    \] & Stoek Number & \[
    \begin{aligned}
    & \text { List } \\
    & \text { \#l'rice }
    \end{aligned}
    \] \\
    \hline 11 & \(300^{\circ}\) & 111-11 & . \(\$ 1.67\) & & \\
    \hline 10 & \(270^{\circ}\) & 111-10 & 4.73 & ......... & \\
    \hline 7
    8 & \(20^{20}\) & \(111-9\)
    111
    1 & 1.53
    1.36 & & \\
    \hline 7 & \(180{ }^{\circ}\) & 111-7 & 4.36 & & \\
    \hline 6 & \(150{ }^{\circ}\) & 111-1i & 4.19 & & \\
    \hline 5 & \(120^{\circ}\) & 111-5 & 4.19 & 111-5-T2 & \$16.22 \\
    \hline 4 & \(90^{\circ}\) & 111-4 & 4.06 & 111- 1-T2 & 15.89 \\
    \hline \[
    \begin{aligned}
    & 3 \\
    & 2
    \end{aligned}
    \] & 60
    30
    30 & 111-3 & 4.06
    4.06 & 111-3-T2
    \(111-2-\mathrm{T} 2\) & 15.89
    15.89 \\
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Kecommended Knobs}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Stoek No. 5150 or 4516}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Stock No. 4509 or 4510}} \\
    \hline & & & & & \\
    \hline
    \end{tabular}

    \section*{MODEL 212 TAP SWITCH}

    Alternating Current Rating 15 Amps. 150 Volts —Diameter 21/4" -Shaft Diameter \(1 / 4^{\prime \prime}\) - Standard Mounting: For \(1 / 4^{\prime \prime}\) panel maximum, by means of \(3 / \mathrm{g}^{\prime \prime}-32\) threaded bushing and hex. nut. Tandem Mounting: For \(1 / 4\), ," panel maximum, three No. \(10-32\) fat-head machine screws \(3 / 8^{\prime \prime}\) long.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Depth Behind
    Panel}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Single Unit
    \(13 / 4^{\prime \prime}\)}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \frac{2 \text { in Tandem }}{4^{3} 18^{\prime \prime}}
    \]}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \frac{3 \text { in Trandem }}{6^{*} 16^{\prime \prime}}
    \]}} \\
    \hline & & & & & & & \\
    \hline No. of Taps & Total Rotation & Stork No. & \[
    \underset{\text { List }}{\text { \#Price }}
    \] & \begin{tabular}{l}
    Stock \\
    No.
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { *l'rice }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Stock } \\
    & \text { No. }
    \end{aligned}
    \] & \[
    \underset{\substack{\text { List } \\ \text { PPrice }}}{ }
    \] \\
    \hline 12 & \(330^{\circ}\) & 212-12 & \$11.70 & 212-12-T2 & \$31.50 & 212-12-T3 & \$46.80 \\
    \hline 11 & \(300^{\circ}\) & 212-11 & 11.70 & 212-11-T2 & 31.50 & 212-11-T3 & 46.80 \\
    \hline 10 & \(270^{\circ}\) & 212-10 & 11.31 & 212-10-T2 & 30.78 & 212-10-T3 & 45.64 \\
    \hline 9 & \(240^{\circ}\) & 212-9 & 11.31 & 212-9-T2 & 30.78 & 212- 9-T3 & 45.64 \\
    \hline 8 & \(210^{\circ}\) & 212-8 & 10.95 & 212- 8-T & 29.97 & 212-8-T3 & 44.47 \\
    \hline 7 & \(180^{\circ}\) & 212- 7 & 10.95 & 212- 7 -T2 & 29.97 & 212- 7-T3 & 44.47 \\
    \hline 6 & \(150^{\circ}\) & 212-6 & 10.53 & 212-6-T2 & 29.17 & 212-6-T3 & 43.30 \\
    \hline 5 & \(120^{\circ}\) & 212-5 & 10.53 & 212-5-T2 & 29.17 & 212-5-T3 & 43.30 \\
    \hline 4 & \(90^{\circ}\) & 212-1 & 10.14 & 212- 4-T2 & 28.39 & 212- 4-T3 & 42.14 \\
    \hline 3 & \(60^{\circ}\) & 212-3 & 10.14 & 212-3-T2 & 28.39 & 212- 3-T3 & 42.14 \\
    \hline 2 & \(30^{\circ}\) & 212-2 & 10.14 & 212-2-T2 & 28.39 & 212-2-T3 & 42.14 \\
    \hline \multicolumn{2}{|l|}{Recommended Knobs} & \multicolumn{2}{|l|}{Stock No. 5150 or 4516} & \multicolumn{2}{|l|}{Stock No. 4509 or 4510} & \multicolumn{2}{|l|}{Stock No. 4509 or 4510} \\
    \hline
    \end{tabular}
    *Without Knob.

    \section*{MODEL 312 TAP SWITCH}

    Alternating Current Rating 25 Amps. 300 Volts. 150 V. A.C. bctween taps - Diampter 3 ", Shaft Dianmeter \(14{ }^{\prime \prime}\) - Standard Mounting: For \(1 / 4^{\prime \prime}\) panel maximum, three No. 10-32 flat-head machine screws \(3 / \mathrm{m}^{\prime \prime}\) long.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Depth Behind
    I'anel}} & \multicolumn{2}{|l|}{Stugle Unit} & \multicolumn{2}{|l|}{2 in Tandem} & \multicolumn{2}{|l|}{\% In Tandem} \\
    \hline & & \multicolumn{2}{|l|}{21/4"} & \multicolumn{2}{|l|}{\(4{ }^{5} \mathrm{~B}^{\prime \prime}\)} & \multicolumn{2}{|l|}{\(7{ }^{\prime \prime}\)} \\
    \hline \[
    \begin{aligned}
    & \text { No. of } \\
    & \text { Taps }
    \end{aligned}
    \] & Total Rotation & \[
    \begin{aligned}
    & \text { Stock } \\
    & \text { No. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \frac{1 \text { ist }}{* l \text { rice }}
    \end{gathered}
    \] & Stock No. & List *Price & \[
    \begin{aligned}
    & \text { Stock } \\
    & \text { No. }
    \end{aligned}
    \] & 1ist \\
    \hline 12 & \(330^{\circ}\) & 312-12 & \$16.36 & 312-12-T2 & \$42.61 & 312-12-T:3 & \$64.44 \\
    \hline 11 & \(3100{ }^{\circ}\) & 312-11 & 16.36 & 312-11-T2 & 42.61 & 312-11-T3 & 64.44 \\
    \hline 10 & \(270^{\circ}\) & 312-10 & 16.00 & 312-10-T2 & 41.81 & 312-10-T3 & 63.17 \\
    \hline , & \(240^{\circ}\) & 312-9 & 16.00 & 312-9-T2 & 41.81 & 312- 9-T3 & 63.17 \\
    \hline 8 & \(210^{\circ}\) & 312-8 & 15.61 & 312-8-T2 & 41.03 & 312-8-T3 & 62.11 \\
    \hline 7 & \(180^{\circ}\) & 312-7 & 15.61 & 312-7-T2 & 41.03 & 312- \(\mathrm{i}-\mathrm{T} 3\) & 62.11 \\
    \hline 6 & \(150{ }^{\circ}\) & 312-6 & 15.20 & 312-6-T2 & 40.23 & 312-6-T:3 & 60.83 \\
    \hline 5 & \(120^{\circ}\) & 312-5 & 15.20 & 312-5-T2 & 40.23 & 312-5-T3 & 60.83 \\
    \hline 4 & \(90^{\circ}\) & 312-4 & 14.83 & 312- 4-T & 39.48 & 312- 4-T3 & 59.72 \\
    \hline 3 & \(60^{\circ}\) & 312-3 & 14.83 & 312-3-T2 & 39.48 & 312- 3-T:3 & 59.72 \\
    \hline 2 & \(30^{\circ}\) & 312-2 & 14.83 & 312- 2-T2 & 39.48 & 312- 2-T3 & 59.72 \\
    \hline \multicolumn{2}{|l|}{Recommended Knobs} & \multicolumn{2}{|l|}{Stock No. 4509 or 4510} & \multicolumn{2}{|l|}{Stock No. 4511 or 4512} & \multicolumn{2}{|l|}{Stork No. 4511 or 4512} \\
    \hline
    \end{tabular}
    *Without Knob.

    \section*{MODEL 412 TAP SWITCH}

    Alternating Current Rating 50 Amps. 300 Volts, 150 V. A.C. be tween taps - Diameter 4 is" - Shaft Diameter \(1 / 4^{\prime \prime}\) - Standard Mounting: For \(1 / 4^{\prime \prime}\) panel maximum three No. \(10-32\) fat-head machine screws \(3 / \mathrm{B}^{\prime \prime}\) long.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Depth Behind } \\
    & \text { Panel }
    \end{aligned}
    \]}} & \multicolumn{2}{|l|}{Single Unit} & \multicolumn{2}{|l|}{2 in Tandem} & \multicolumn{2}{|l|}{3 in Tandem} \\
    \hline & & \(2^{7}\) & & 51 & & 7 & \\
    \hline No. of Taps & Total Rotation & Stock No. & \[
    \begin{gathered}
    \text { 1.ist } \\
    \text { *Price }
    \end{gathered}
    \] & Stock No. & \[
    \begin{gathered}
    \text { list } \\
    \text { *Price }
    \end{gathered}
    \] & \begin{tabular}{l}
    Stock \\
    N u.
    \end{tabular} & \[
    \underset{\text { *Price }}{\text { List }}
    \] \\
    \hline 12 & 3:30 \({ }^{\circ}\) & 412-12 & \$21.84 & 112-12-T2 & \$53.50 & 412-12-T3 & \$80.81 \\
    \hline 11 & \(300^{\circ}\) & 412-11 & 21.84 & 412-11-T2 & 53.50 & 412-11-T3 & 80.81 \\
    \hline 10 & \(270^{\circ}\) & 412-10 & 20.89 & 412-10-T2 & 51.64 & 412-10-T3 & 78.00 \\
    \hline 9 & \(2.40^{\circ}\) & 412-9 & 20.89 & 112-9-T2 & 51.64 & 412-9-T3 & 78.00 \\
    \hline 8 & \(210^{\circ}\) & 412-8 & 20.50 & 412-8-T2 & 30.87 & +12- 8-T3 & 76.83 \\
    \hline 7 & \(180^{\circ}\) & 412-7 & 20.50 & 412-7-T2 & 50.87 & 412-7-T3 & 76.83 \\
    \hline 6 & \(150^{\circ}\) & 412-6 & 19.56 & 412-6-T2 & 49.00 & 412-6-T3 & 73.94 \\
    \hline 5 & \(120^{\circ}\) & 112-5 & 19.56 & 412-5.T2 & 49.00 & 412- 5-T:3 & 73.94 \\
    \hline 4 & \(90^{\circ}\) & 412-4 & 19.11 & 412- 4-T2 & 48.03 & 412- 4-T3 & 72.53 \\
    \hline 3 & \(60^{\circ}\) & 412-3 & 19.11 & 412-3-T2 & 48.03 & 412-3-T:3 & 72.53 \\
    \hline 2 & \(30^{\circ}\) & 412-2 & 19.11 & 412-2-T2 & 48.03 & 412-2-Ta & 72.53 \\
    \hline \multicolumn{2}{|l|}{Recommended Knobs} & \multicolumn{2}{|l|}{Stock No. 4511 or 4512} & \multicolumn{2}{|l|}{Stock No. 4511 or 4512} & \multicolumn{2}{|l|}{Stock No. 4511 or 4512} \\
    \hline
    \end{tabular}
    *Without Knob.

    \section*{MODEL 608 TAP SWITCH}

    Alternating Current Rating 100 Amps. 300 Volts - Diameter 6 -Shaft Diameter \(3 / \mathbf{B}^{\prime \prime}\)-Standard Mounting: For \(1^{\prime \prime}\) panel maxi mum, three flat-head machine screws \(1 / 4^{\prime \prime \prime}-20 \times 11 / 4\)
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{lepth Behind Panel}} & \multicolumn{2}{|l|}{Single Unit} & \multicolumn{2}{|l|}{2 in Tandem} & \multicolumn{2}{|l|}{3 in Tandem} \\
    \hline & & \multicolumn{2}{|r|}{\(3^{5}\) ¢18"} & \multicolumn{2}{|l|}{\(6^{13} 16^{\prime \prime}\)} & \multicolumn{2}{|l|}{\(10^{5} 16{ }^{\prime \prime}\)} \\
    \hline \[
    \begin{aligned}
    & \text { No. of } \\
    & \text { Taps }
    \end{aligned}
    \] & Total Rotation & Stock No. & \[
    \underset{\text { Listrice }}{\text { List }}
    \] & Stock No. & \[
    \begin{gathered}
    \text { List } \\
    \text { *Price }
    \end{gathered}
    \] & Stock No. & \[
    \underset{\text { *Price }}{\text { List }}
    \] \\
    \hline 8 & \(280^{\circ}\) & 608-8 & \$46.81 & 608-8-T2 & \$108.90 & 608-8-T3 & \$160.14 \\
    \hline & \(240^{\circ}\) & 608-7 & 46.81 & 608-7-T2 & 108.90 & 608-7-T3 & 160.14 \\
    \hline 6 & \(200^{\circ}\) & 608-6 & 45.23 & 608-6-T2 & 105.79 & 608-6-T3 & 155.47 \\
    \hline 5 & \(160^{\circ}\) & 608-5 & 45.23 & 608-5-T2 & 105.79 & 608-5-T3 & 155.47 \\
    \hline 4 & \(120^{\circ}\) & 608-4 & 43.67 & 608-4-T2 & 102.65 & 608-4-T3 & 150.78 \\
    \hline 3 & \(80^{\circ}\) & 608-3 & 43.67 & 608-3-T2 & 102.65 & 608-3-T3 & 150.78 \\
    \hline 2 & \(40^{\circ}\) & 608-2 & 43.67 & 608-2-T2 & 102.65 & 608-2-T3 & 150.78 \\
    \hline \multicolumn{2}{|l|}{\multirow[b]{3}{*}{Recommended Knobs}} & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{Stock No. 4508 or 4515 or 4517}} & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{\[
    \begin{aligned}
    & \text { Stock No. } \\
    & 4508 \text { or } \\
    & 4515 \text { or } \\
    & 4517
    \end{aligned}
    \]}} & \multicolumn{2}{|l|}{Stock No.} \\
    \hline & & & & & & & \\
    \hline & & & & & & 451 & \\
    \hline
    \end{tabular}

    \section*{TRIMM}

    \section*{PLUGS • JACKS • PATCH CORDS • JACK PANELS}
    

    \section*{STANDARD PHONE PLUGS}
    ho stambard radio phomes pher, widely usen \(11^{2}\). I., "t"., लquipmont. Inesismed ti) tit all
    
     fing had somews in lomminal, handers of mohdod bakelite om metal
    
     phag to stamdard fhome jack.
    No. 511 - \(13 l_{\text {itr }}\) plastic sholl
    No. 5ll-1-Rnd platio shell
    No. 511-2—shieldeet, singlo pheme shell
    No. 511-2-s_simbled, swo pine sherle
    \$ .65
    1.05
    
    1.65

    No. \(511.5-T w o\) cirenit, Flibleded. Aubly shell. Ilas long tip to shom" insulator which law"s "ring" surilg open when uns-rtmi in three e circuit jack
    1.05

    No. 513 -Thrers cirnuit, hlark plastio shoil
    No. 513-1-Throe rivenit, ral plastic shell
    No. 513-2-Tlure "ireuit, shithlod, sinele pioce shel
    No. 513-2- Thre "iremit, shiedned, si
    
    1.05
    1.05
    1.45

    No. 515- Mifut.

    \section*{"514" MIN-A-PLUG}
    
    
     No. 514 - Blatk plast ie slubll
    No. 514-1—|kM plastic shà 1 \$ . 65
    No. 514-2 - Nimpleal. sinche piere shall \(\quad 1.00\)
    

    \section*{PATCH CORDS and PLUGS}
    

    Widmy usod liy majotity ot radio stations, "sto sories madin stations. assembly nses flivilu
     puality shiplad cord. मlus se le l -alligning.
    Number following "\&40", represents length.
    No. 506-Plug
    \(\$ 4.65\)
    No. 840-1.PP (irral Asedmin! 12.00
    No. 840-2-PP-(ioral Assembly 12.50
    No. 840-3-PP—Cond Issenmis:
    13.00
    No. 840-4-PP—Cond Assumbly
    13.45
    No. 840-5-PP—cord Issembly 13.95
    No. 840-6-PP-Cond Issimbliy
    14.40
    No. 840-10-PP—(ond Issumbly
    16.30
    
     slewson an flig.

    No. 517 - *iuste, threendrouit phar
    No. 841-1-PP-(") Is:
    No. 841-3-PP—[(1)"! Assembly . .. 11.99
    
    
    

    \section*{"512" PLUG}

    \section*{} ars held lay suld sopw
    No. 512-1 1 1at \(k\)
    \(\$ .75\)

    \section*{CONNECTORS}

    The "5es" saries provilus means of athathine headset colds, or ans two wires, to sinerle com
     hages. Math mast of athmertor is similar 10 a
    

    \section*{"518'' PLUG - "562'" JACK}
    

    Two rireuit minia ture diseommert blus and fack serions. Intral for small size coril. arre. Plars hand two
     multi-leafed contatiminars in jack, Xo, in \& and atio hases acetate half whils comomtad
     hakelite shells held toredher with somew
    No. 518- Plum
    No. 518-7-Plıи
    No. 562-7-Jiteh

    \section*{.72
    .80 .72
    .80 .80}

    \section*{'501'" and "509'" PLUGS}

    Well hnown llo.\%. and Plods twone ras spertivery Brase filod atm polishorb. Shell of acetate The ". Sel
    
    
     of \(0.206^{\prime \prime}\)
    No. 501--131anth plastic whell
    No. \(501-1-R_{1} \cdot 1\) lhast in shell
    No. 501.8-「Wa comlumbr, hank plas
    
    \(\$ 1.60\)
    1.60
    1.75
    4.15

    \section*{JACK PANELS}
    
    
    
     No. 9601 virll 1 ? No. 96-02
    

    \section*{JACK S}
    

    \section*{"90" SERIES}

    Ines the commonly known folephone tur (anst metion. Rushing at and of frame of lnatse, untbreaded, jack montuterl by weans of morrw in hack side of panel. Frame, sted, zine plated dichomata treated for maximum cortosion esistances. sprinirs are nickel silver, (entaters arts of palladium-silver alloy, standard dinemsions, interchangeable with any similar !spe jack. Hare eommon cirenits listed at right, all othor eirenits mot shown atailahle.

    \section*{"95" SERIES}

    Proville low eost jack suit. able for P.A., etc., applicationse f'ane! mountiner lo Hums of threaded bushinas
    fits in \(3_{8}{ }^{\prime \prime}\) dia. hole, famels uy to \(3_{2}^{5}{ }^{\prime \prime}\) think. "rojects helind panel an" suriner comtucts af nickel silver, held in fiace by interlackiner insubaliner washers. C'irenits elesismated similar insubatiner wash

    No.95-01- () man circuil, © conductor \$ 40 No. 95-02-(lusid eireuit, 3 comductor No. 95-25-() 4 н qirenit, 3 conductor ductor

    NOTE: For more detailed information on TRIMM phone plugs and jacks, including a rarne variety not listed here, see Bulletins R-15. R-18, R-21 and R23.
    \begin{tabular}{|c|c|c|}
    \hline  & \[
    \begin{gathered}
    \text { CODE No. } \\
    90-01
    \end{gathered}
    \] & \begin{tabular}{l}
    LIST \\
    \(\$ 1.15\)
    \end{tabular} \\
    \hline \(4 \sim\}\) & 90-02 & 1.25 \\
    \hline \(\square \square\) & 90-03 & 1.25 \\
    \hline \(\square \sim 5\) & 90-04 & 1.25 \\
    \hline  & 90-05 & 1.40 \\
    \hline  & 90.06 & 1.40 \\
    \hline  & 90.07 & 1.80 \\
    \hline  & 90-25 & 1.30 \\
    \hline  & 90-26 & 1.80 \\
    \hline  & 90-27 & 1.90 \\
    \hline
    \end{tabular}

    \section*{PRICES}

    All prices listed in The MASTER are subject to change without notice they should not be considered final.

    Get quick on-the-spot quotations from your distributor who subscribes to the up-to-the-minute UNITED PRICING SERVICE.
    

    For complete details and subscription rates write to:
    UNITED PRICING SERVICE
    106-110 LAFAYETTE STREET
    NEW YORK 13, N. Y.

    \section*{DELIVERY}

    Delivery is often dependent on availability of raw materials. Check with your distributor for delivery information at the time you place your order.

    \section*{THERMOSTATIC}

    AMPERITE
    DELAY RFI.AYS

    GLASS ENCLOSED - HERMETICALLY SEALED • A.C., D.C., OR PULSATING CURRENT
    

    \section*{AMPERITE}

    \section*{TECHNICAL CHARACTERISTICS}

    > STANDARD

    CIRCUITS: SPST only-Normally open or normally closed.
    HEATER WATTAGE: 2 W prox.-Heaters can be operated continuously. STANDARD CONTACT RATING: \(115 \mathrm{~V} .-3 A\) A.C. (or 220V-0.5A A.C.)

    Maximum voltage between contacts ard heater-1500V. D.C. MINIATURE CONTACT RATING: 115V-2A A.C., other specifications same as spandard
    AMBIENT TEMPERATURES: Relays are compensated for temperafures of \(-55^{\circ}\) to \(+70^{\circ} \mathrm{C}\). Tolerances given are for \(20^{\circ} \mathrm{C}\).
    LIFE: With \(115 \mathrm{~V}-I A \mathrm{~A} . \mathrm{C}\)., non-induetive, at least 500,000 operations.

    EXCLUSIVEFEATURES
    - Actuated by a heater.
    - Operates on A.C., D.C., or Pulsating Current.
    - Hermetically sealed, Amperite Relays are not affected by altitude, moisture or other atmospheric conditions.
    - Compact, lightweight and inexpensive.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{DelaySeconds} & \multirow{3}{*}{Tolerance Seconds} & \multicolumn{6}{|c|}{NORMALLY OPEN CONTACTS} & \multicolumn{6}{|l|}{NORMALLY CLOSED CONTACTS} \\
    \hline & & \multicolumn{6}{|c|}{HEATER VOLTAGES} & \multicolumn{6}{|c|}{HEATER VOLTAGES} \\
    \hline & & 2.5 V . & 5.0 V . & 6.3V. & 12 V & \[
    \begin{gathered}
    26 \mathrm{~V} \\
    (22.30)
    \end{gathered}
    \] & 115 V & 2.5 V . & 5.0 V . & 6.3 V . & 12 V. & \[
    \begin{gathered}
    26 \mathrm{~V} \\
    (22.30)
    \end{gathered}
    \] & 115 V. \\
    \hline 2 & \(\pm 1\) & 2N02 & 5N02 & 6N02 & 12N02 & 26N02 & 115 NO & 2C2 & 5 C 2 & 6 C 2 & 12C2 & 26 C 2 & 115 C 2 \\
    \hline 3 & \(\pm 1\) & 2N03 & 5N03 & 6N03 & 12N03 & 26N03 & \(115 N 03\) & 2 C 3 & 5 C 3 & \(6 \mathrm{C3}\) & 12 C 3 & \(26 \mathrm{C3}\) & 115 C 3 \\
    \hline 5 & \(\pm 2\) & 2N05 & 5N05 & 6N05 & 12N05 & 26N05 & \(115 N 05\) & 2 C 5 & 5C5 & \(6 C 5\) & 12C5 & \(26 \mathrm{C5}\) & 11565 \\
    \hline 8 & \(\pm 3\) & 2N08 & 5N08 & 6N08 & 12N08 & 26N08 & 115 N08 & 2C8 & 5 C 8 & \(6 \mathrm{C8}\) & 12C8 & 26C8 & 115C8 \\
    \hline 10 & \(\pm 3\) & 2N010 & 5NO1O & 6N01O & 12 NO 10 & 26N010 & 115 N010 & 2 ClO & 5 Cl 10 & 6 Cl 10 & 12 Cl 0 & \(26 \subset 10\) & \(115 C 10\) \\
    \hline 15 & \(\pm 3\) & 2NO15 & 5NO15 & 6N015 & 12NO15 & 26N015 & 115 N015 & 2 Cl 5 & 5 Cl 5 & \(6 C 15\) & 12 Cl 5 & \(26 C 15\) & \(115 C 15\) \\
    \hline 20 & \(\pm 4\) & 2N020 & 5N020 & 6N020 & 12N020 & 26N020 & 115 N020 & 2 C 20 & 5C20 & 6 C 20 & 12C20 & 26C20 & \(115 C 20\) \\
    \hline 30 & \(\pm 8\) & 2N030 & 5N030 & 6 N 030 & 12N030 & 26N030 & \(115 N 030\) & 2 C 30 & 5 C 30 & 6C30 & 12C30 & 26C30 & \(115 C 30\) \\
    \hline 45 & \(\pm 10\) & 2N045 & 5N045 & 6N045 & 12N045 & 26N045 & \(115 N 045\) & 2 C 45 & 5C45 & \(6 \mathrm{C45}\) & 12C45 & \(26 C 45\) & 115645 \\
    \hline 60 & \(\pm 12\) & 2N060 & 5N060 & 6N060 & 12N060 & 26N060 & \(115 N 060\) & 2 C 60 & 5C60 & 6 C 60 & 12 C 60 & 26C60 & 115660 \\
    \hline 75 & \(\pm 15\) & 2N075 & 5N075 & 6N075 & 12N075 & 26N075 & 115 N075 & 2C75 & 5C75 & \(6 \mathrm{C75}\) & 12C75 & 26C75 & \(115 C 75\) \\
    \hline 90 & \(\pm 15\) & 2N090 & 5N090 & 6N090 & 12N090 & 26 N090 & 115 N 090 & 2 C 90 & 5C90 & \(6 \mathrm{C90}\) & 12C90 & \(26 C 90\) & 115C90 \\
    \hline 120 & \(\pm 30\) & 2NOI20 & 5NOI20 & 6NO120 & 12 NO 120 & 26N0120 & \(115 N 0120\) & 2C120 & 5C120 & 6C120 & 12 Cl 120 & 26C120 & \(115 C 120\) \\
    \hline 150 & \(\pm 30\) & 2NOI50 & 5NOI50 & 6NO150 & 12NOI50 & 26N0150 & 115N0150 & 2C150 & 5C150 & 6C150 & 12Cl50 & 26C150 & \(115 C 150\) \\
    \hline 180 & \(\pm 40\) & 2N0180 & 5N0180 & 6N0180 & 12N0180 & 26N0180 & 115N0180 & 2C180 & 5C180 & 6C180 & 12C180 & 26 C 180 & 115C180 \\
    \hline
    \end{tabular}

    \footnotetext{
    MINIATURE TYPES: Designated ty letter T. (e.g. ENO5T) is available in all delays shown atcue bold dotted line. Delays
    } ( 80 secnds are avainacie in cherdard pad crear and
    Flashers available only in low voltage heaters \(6.3-26 \mathrm{~V}\). List - \(\$ 4.00\) each .. Dealers Cost - \(\$ 2.40\) each
    Flash Rate available - pre-set at factory - 5 to 100 fcm .

    \title{
    ADVANCE RELAYS
    }
    

    POWER CONTROL TYPE

    PG SERIES
    (Formerly Series 9000/9100)
    

    Size: H—| \(1 / \mathrm{B}^{\prime \prime}\); W-I \(1 / 2^{\prime \prime}\) : L-I5/8'

    Campact, uniquely-designed general-purpase dauble-pale re lays. High magnetic strength, excellent wiping actian and shart blade structure. The many uses are extended by the small size - allawing practical hermetic sealing in a small enclasure. Vibration and shack are withstaad easily by these relays due to the special armature and frame design. PG types can be built to meet Army-Navy specificatians.

    List Prices:
    \begin{tabular}{llllr} 
    for 24 & V.D.C. & DPDT - order: & PG/2C/24VD & 58.47 \\
    for 6 V.A.C. & DPDT - order: & PG/2C/6VA & 8.47 \\
    for 115 V.A.C. & DPDT - order: & PG/2C/115VA & 9.47 \\
    Max. coil voltage obtainable: 440 & V.A.C. and 230 & V.D.C. & \\
    Confact ratings: 15 amperes @ 115 V.A.C. or 26.5 V.D.C. & (Resistive) \\
    Max. operating power: 4.0 watts & A.C. 2.0 watts & D.C.
    \end{tabular} Max, operating power: 4.0 watts A.C., 2.0 watts D.C.

    \section*{VERY SENSITIVE} TYPE

    SV SERIES
    (Formerly Series 1200)
    

    Size: \(H-1 / 1 / 2^{\prime \prime} ; W-2^{\prime \prime} ; L-20_{0}^{\prime \prime}\)

    SV Series D.C. relays are incomparable for use in any circuit restricted ta a few thausandths of a watt pawer consumptian. Excellent operatian in any pasition, even under extreme vibration and shock. Transparent, malded plastic cavers. Sturdy molded bakelite bases have bath screw and salder terminal connectors, and are easy to maunt. Adjustments are easily made .fith the vernier screws which vary relay sensitivity fram the 5 nilliwott factory setting.
    List Prices:
    for 2200 ohms SPDT - order: SV/IC/22000 .... 510.97
    for 8700 ohms SPDT - order: SV/IC/8700D 11.98
    for 14000 ohms SPDT - order: SV/IC/140000 12.64
    for 20000 ohms SPDT - order: SV/IC/20000D 14.56
    for 40000 ohms SPDT - order: SV/IC/40000 21.63
    Contact rating: 2 amperes @ 115 V.A.C. or 26.5 V.D.C. (Resistive) Contact combination: SPDT only. Max. coil resistance: 40,000 ohms.

    \section*{MIDGET ANTENNA} TYPE

    AM SERIES
    (Formerly Series K(504RF/K1604RF)
    
    

    Space-saving "transmit-receive" antenna relays, ideally suited for hundreds of law-pawer RF applicatians. Efficient, yet inexpensive, these midget antenno units fill the need for 300 -ahm circuit switching in mabile, marine, aircraft, felevision, cammunicatian and fixed-station service. Silicone glass insulation for low RF loss. Canically-shaped silver cantacts assure low resistance paths for either "receive" or "transmit" positions. Beryllium-copper hinge holds armature firmly in place for smooth operatian.
    List Prices:
    far 115 V.A.C. DPDT - order: AM/2C/115VA \(\$ 5.45\) for 6 V.A.C. DPDT - order: AM/2C/6VA 5.45 for 6 V.D.C. DPDF - order: AM/2C/6VD 5.45 Max. coil voltage obtainable: 220 V.A.C. and 120 V.D.C
    Contact rating: 2 amperes @ 115 V.A.C. or 26.5 V.D.C. (Resistive) Contact combinations: DPDT only. Max. operating power: 3.0 watts A.C., 1.5 walts D.C.
    F.O.B. Burbank, or Chicago warehouse for stock items. Prices for relays with over standard range coils will be supplied upon reaues:
    ananace ADVANCE RELAYS

    NGEREAYS

    \section*{SMALL ANTENNA TYPE}

    \section*{AH SERIES}
    (Formerly Sefies 1000/2000)
    

    A changeover relay designed specifically for RF use in fixedstatian operation - aircraft, marine, mabile and portable radio communications equipment. The small size of this relay makes it ideal for use in compact sets where the load does not exceed \(1 / 2 \mathrm{KW}\). For reliable transfer of antenno power, cantacts are one-quarter inch fine silver. Units are fast and positive in action, and will operate in any position.

    List Prices:
    \begin{tabular}{llll} 
    for 115 & V.A.C. & DPDT - order: & \(A H / 2 C / I I 5 V A\) \\
    for & 6 V.A.C. & DPDT - order: & \(A H / 2 C / 6 V A\) \\
    for & 6 V.D.C. & DPDT - order: & \(A H / 2 C / 6 V D\)
    \end{tabular}

    Max. coil voltage obtainable: 440 V.A.C. and 230 V.D.C.
    Contact rating: 10 amperes @ Its V.A.C. or 26.5 V.D.C. (Resistive) Max. operating power: 4.0 watts A.C.; 2.0 watts D.C.

    \section*{MIDGET TYPE}

    \section*{MF SERIES}
    (Formerly Series K(500A/K1600A)
    

    These ADVANCE design originals are general-purpose relays engineered for high efficiency ond low price. The small size of these midgets invites their installation in many cramped locafions. For 2 -ampere contact ratings, specify the MG Series. For 5 -ampere contacts order the MF Series. These relays offer beryllium copper armature hinges for perfect alignment - wiping action for positive contact - operation in any position - a combinatión assuring long, trouble-free life.

    \section*{List Prices:}
    

    \section*{POWER CONTROL} TYPE

    PC SERIES
    (Formerly Series
    9508, 960B, 9708 \& 98008)
    

    Size: \(\mathrm{H}-1{ }^{\circ}{ }^{\prime \prime}{ }^{\prime \prime}\) : \(W-15 / 0^{\prime \prime} ; L-25 / /^{\prime \prime}\)

    These small-size, low-wallage power-cantrol relays are available up to 4PDT. They are fully dependable units for operation on either AC ar DC - as you specify. Thausands of applications for these relays. Adequate armature overtravel provides good wiping action, thus keeping the large confoct surfaces clean. Standard-voltage units are obtainable quickly and af low cost.

    List Prices:
    

    Max. coil voltages obtainable: 440 V.A.C. and 230 V.D.C.
    Contact rating: 15 amperes @ 115 V.A.C. or 26.5 V.D.C. (Resistive)

    \section*{"TINY MITE'" MINIATURE TYPE}

    MM SERIES
    (Formerly Series 000)
    

    Ulifa-small and feather-light ADVANCE "Tiny Mife" D.C. relay: require less than \(1 / 2\) cubic inch mounting space! Peanut-sized, hermetically-sealed enclosures are avoiloble to further expand the uses of these soundly-engineered units. All switching is enlirely above ground. Insulation is silicone glass. Single 2-56 screw mounting. Beryllium copper ormature hinge assures stoble performance under vibration and shock. Platinum-silver alloy contacts.

    List Prices:
    for 6 V.D.C. SPDT - order: MM/IC/6VD \(\$ 3.52\)
    for 24 V.D.C. DPDT - order: \(\mathrm{MM} / 2 \mathrm{C} / 24 \mathrm{VD}\) - 4.24
    for 2000 ohms DPDT - order: \(\mathrm{MM} / 2 \mathrm{C} / 2000 \mathrm{D}+\quad \mathbf{5 . 2 0}\)
    for 3000 ohms DPDT - order: \(M M / 2 C / 3000 \mathrm{D}\)
    for 5000 ohms DPDT - order: \(M M / 2 C / 5000 \mathrm{D}\)
    Max. coil resistance obtainable: 10,000 ohms. Weight: 10 grams.
    Contact rating: \(1 / 2\) ampere. Operating power: 0.7 watt.
    F.O.B. Burbank, or Chicago warehouse for stock items. Prices for relays with over standard range colls will be supplied upon request.

    \title{
    POTTER \& BRUMFIELD • PRINCETON, INDIANA STANDARD RELAYS
    }

    NOTE: Relays shown in this bulletin are standard relays in stock and ready for immediate shipment. From them a type can be chosen to meet the needs of most Electrical or Electronic applications.
    All relay contacts are rated at 115 volt-60 cycle, non inductive load.
    When ordering specify relay type and coil voltage or resistance.
    Example: PR1A, 115 Volts AC, 60 cycles or LB5 \(\mathbf{- 2 5 0 0}\) ohms resistance.
    To operate 110 V DC relays on 220 V DC put a 5 watt wire-wound resistor of a value approximately the relay coil resistance in series with the relay coil.
    CONTACT LEGEND: S-Single; D-Double; P-Pole; T-Throw; N-Normally; O-Open; C-Closed; B-Break; M-Make.

    \section*{KRP Series - ENCLOSED VOLTAGE ACTUATED RELAYS}

    The KRP relay is enclosed in a clear polystyrene, dust and weatherproof cover supplied with a standard octal plug. Contacts rated 5 amperes.
    KRP 11
    Dimensions: \(1^{13} / 32^{\prime \prime} \times 1^{13} / 32^{\prime \prime} \times 2^{\prime \prime}\) high (above socket).
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{gathered}
    60 \text { CYCLEJAC RELAYS } \\
    1-12-24-115 \mathrm{~V} \text { AC }
    \end{gathered}
    \]}} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & & & \multicolumn{2}{|l|}{6-12-24 V DC} & 110 V DC \\
    \hline & Type & Net & Type & Net & Net \\
    \hline SPDT & KRP5A & \$5.20 & KRP5D & \$5.15 & \$5.75 \\
    \hline DPDT & KRP11A & 5.75 & KRP11D & 5.70 & 6.30 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline  & \multicolumn{5}{|l|}{\begin{tabular}{l}
    PW Series-MINIATURE RELAYS \\
    Pure silver SPDT contacts rated 2 amps. Withstands 10 G vibration to \(500 \mathrm{cps} ; 10 \mathrm{G}\) minimum shock. The \(P W\) is small, light weight. Hermetically sealed in deep drawn brass can. Fits standard 7-pin miniature tube socket. \\
    Dimensions: Max. 111/16" high (above socket); \(3 / 4^{\prime \prime}\) diameter.
    \end{tabular}} \\
    \hline \multicolumn{3}{|c|}{PW5DS} & \multicolumn{3}{|c|}{PW5LS} \\
    \hline Nom. Voltage & Pull In \(V\) & Net & Coils Resistance Ohms & Pull In MA & Net \\
    \hline 6.0 & 4.5 & \$ 9.75 & 5000 & 2.8 & \$10.05 \\
    \hline 24.0 & 18.0 & 10.25 & 10000 & 2.0 & 10.50 \\
    \hline
    \end{tabular}

    \section*{LB Series-PLATE CIRCUIT RELAYS}
    

    A low-priced relay designed for use in photo-cell control units and similar plate circuit applications. Pull-in readjustable by bending tail spring. Pure silver, SPDT contacts, rated at 5 amp .

    Dimensions: \(25 / 8^{\prime \prime} \times 1^{\prime \prime} \times 138^{\prime \prime}\) high. Mounted with two \(3 / 16^{\prime \prime}\) diameter holes on \(21 / 4^{\prime \prime}\) centers.
    \begin{tabular}{c|c|c|c|c}
    \hline Contacts & Type & \begin{tabular}{c} 
    Coil \\
    Resistance
    \end{tabular} & \begin{tabular}{c} 
    Factory Adjustment \\
    Pull in MA
    \end{tabular} & Net \\
    \hline SPDT & L85 & 2500 ohms & 9.0 & \(\$ 2.30\) \\
    \hline SPDT & L85 & 5000 ohms & 6.3 \\
    \hline SPDT & L85 & 10000 ohms & 2.50 \\
    \hline & & 4.5 & 2.65 \\
    \hline
    \end{tabular}
    

    KCP 11

    \section*{KCP Series - ENCLOSED plate circuit relays}

    Constructed similar to KRP. Enclosed in polystyrene case with standard octal plug. For plate circuit use. Fine silver contacts rates 2 amps .
    
    \begin{tabular}{c|c|c|c|c}
    \hline Contacts & Type & \begin{tabular}{c} 
    Coil \\
    Resistance
    \end{tabular} & \begin{tabular}{c} 
    Factory Adjustment \\
    Pull in MA
    \end{tabular} & Net \\
    \hline SPDT & KCP5 & 2500 ohms & 7.2 & \(\$ 5.60\) \\
    \hline SPDT & KCP5 & 5000 ohms & 5.0 & 5.70 \\
    \hline SPDT & KCP5 & 10000 ohms & 3.6 & 6.15 \\
    \hline DPDT & KCP11 & 2500 ohms & 10.0 & 6.00 \\
    \hline DPDT & KCP11 & 5000 ohms & 7.2 & 6.10 \\
    \hline DPDT & KCP11 & \(\mathbf{1 0 0 0 0}\) ohms & 5.0 & 6.50 \\
    \hline
    \end{tabular}
    

    \section*{SM Series-MINIATURE RELAYS}

    Silver-rhodium SPDT contacts rated \(1 / 4 \mathrm{amp}\). Withstands 10 G vibration up to 55 cps . Hermetically sealed in deep drawn steel can. Fits standard 7-pin miniature tube socket.

    Dimensions: Height, \(111 / 16^{\prime \prime}\) (above socket); diameter, 3 "
    \begin{tabular}{c|c|c||c|c}
    \hline \multicolumn{2}{c|}{ SM5DS } & & \multicolumn{2}{c}{ SM5LS } \\
    \hline \begin{tabular}{c} 
    Nom. \\
    Voltage
    \end{tabular} & \begin{tabular}{c} 
    Pull \\
    In V
    \end{tabular} & Net & \begin{tabular}{c} 
    Coil \\
    Resistance \\
    Ohms
    \end{tabular} & \begin{tabular}{c} 
    Pull \\
    In MA
    \end{tabular} \\
    \hline 6.0 & 4.5 & \(\$ 4.75\) & Net \\
    \hline 24.0 & 18.0 & 4.75 & 10000 & 3.8 \\
    \hline & & \(\$ 5.10\) \\
    \hline
    \end{tabular}

    FR Series-PHOTO FLASH RELAYS
    

    Contacts designed to carry a high surge current without sticking, burning or pitting. Repetitive accuracy comparable to a precision built camera shutter. For intermittent duty.

    Dimensions: \(2^{31} 32^{\prime \prime} \times 17 / 16^{\prime \prime} \times\) \(15 / 8^{\prime \prime}\) high. Mounted with two \(5 / 32^{\prime \prime}\) diameter holes on \(25 / 8^{\prime \prime}\) centers. When ordering specify voltage.
    \begin{tabular}{c|c|c|c}
    \hline Type & Contacts & \multicolumn{1}{c}{ Coil Voltage } & Net \\
    \hline FR5A & SPDT & 6 Volts, \(50-60 \mathrm{cy}\). AC & \(\$ 3.60\) \\
    \hline FR5D & SPDT & 2 Volts, DC & 3.60 \\
    \hline
    \end{tabular}

    ALL TYPES . . . ALL SIZES

    \section*{BS Series - STANDARD TElePhone relays}
    

    Offered in two versions either voltage or current actuated for many difierent applications, 4PDT Palladium contacts rated 4 amps.

    Dimensions: \(41 / 8^{\prime \prime} \times 11 / 32^{\prime \prime} \times\) \(23 / 4\) "high, mounted with two tapped \#8-32 holes \(3 / 4\) " centers. This relay will be shipped and billed from Laconia, New Hampshire.

    Voltage actuated
    \begin{tabular}{c|c|c|c}
    \hline Contacts & Type & Coil Voitage & Net \\
    \hline 4PDT & BS17D & 6 DC & \(\mathbf{\$ 7 . 6 0}\) \\
    \hline 4PDT & BS170 & 24 DC & \(\mathbf{7 . 9 5}\) \\
    \hline
    \end{tabular}

    CURRENT ACTUATED
    \begin{tabular}{c|c|c|c|c}
    \hline Contacts & Type & \begin{tabular}{c} 
    Coil \\
    Resistance \\
    Ohms
    \end{tabular} & \begin{tabular}{c} 
    Factory \\
    Adjustment \\
    Pult-In MA
    \end{tabular} & Net \\
    \hline 4PDT & BA17L & 10000 & 6.0 & \(\$ 8.95\) \\
    \hline
    \end{tabular}
    

    \section*{GA Series-MULTIPLE leaf relays}

    Multiple leaf, all purpose relays permitting a wide range of contact combinations for many applications. Contacts rated 8 amperes.

    Dimensions: Max. \(1^{\prime \prime} \times 1^{11 / 16^{\prime \prime} \times}\) \(1^{25} / 32^{\prime \prime}\) high. Mounting: Std. \#8-32 tapped core with locating half punch.

    MH Series-MINIATURE TELEPHONE RELAYS
    

    MH 17
    Open Dimensions: \(176^{\prime \prime} \times 25 / 32^{\prime \prime} \times 13^{\prime \prime} \mathrm{g}^{\prime \prime}\) high.

    Extremely versatile, either voltage or current actuated. Fits hundreds of electrical or electronic circuits. 4 Form C pure silver contacts rated 5 amps. Open relay size: Max. \(15 / 8^{\prime \prime} x^{25} / 32^{\prime \prime}\).x \(19 / 16^{\prime \prime}\) high, mount with four \#3-48 tapped holes on \(3 / 8^{\prime \prime} \times 3.8^{\prime \prime}\) centers. Enclosed relay: Hermetically sealed to resist all climatic conditions. Size: \(1^{11} / 16^{\prime \prime} \times 11 / 3{ }^{\prime \prime}\) \(x 27 / 32\) " high. Mounts with three \#6-32 studs on \(1 / 2^{\prime \prime} \times 114^{\prime \prime}\) centers. Both open or sealed DC units withstand better than 10 G vibration shock.

    VOLTAGE ACTUATED
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{3}{|r|}{60 CYCLE AC RELAYS} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline \multicolumn{3}{|c|}{6-12-24-115 V AC} & \multicolumn{3}{|c|}{\(6-24 \vee\) DC} \\
    \hline \multicolumn{2}{|c|}{Type} & Net & \multicolumn{2}{|r|}{Type} & Net \\
    \hline \multicolumn{2}{|l|}{MH17A open} & \$ 6.15 & \multicolumn{2}{|r|}{MH170 open} & \$ 5.30 \\
    \hline \multicolumn{2}{|l|}{MHI7AM sealed} & 12.10 & \multicolumn{2}{|r|}{MH170M sealed} & 11.60 \\
    \hline \multicolumn{6}{|c|}{CURRENT ACTUATED} \\
    \hline Contacts & \multicolumn{2}{|c|}{Type} & Coil Resistance Ohms & Factory Adjustment Pulli-in MA & Net \\
    \hline DPDT & \multicolumn{2}{|l|}{MHIIL open} & 10000 & 4.5 & \$5.05 \\
    \hline DPDT & \multicolumn{2}{|l|}{MHIILM sealed} & 10000 & 4.5 & 9.70 \\
    \hline
    \end{tabular}

    \section*{MB Series-MINIATURE DC CONTACTOR}
    

    Designed for very high current applications. Pure silver contacts and contact-shorting bar rated at 60 amperes. Contact arrangement is 1 Form X (SPST-NO-DM). Contact arms are heavy brass with large, tinned solder terminals.
    Dimensions: \(15 / 8^{\prime \prime} \times 13 / 16^{\prime \prime} \times 13 / 8^{\prime \prime}\) high. Mounted with four \#3-48 tapped holes on \(3 / 8^{\prime \prime}\) centers.
    \begin{tabular}{|c|c|c|c|}
    \hline Type & Coil Voltage & Coil Resistance & Net \\
    \hline MB3D & 6 VDC & 13.3 ohms & \$4.50 \\
    \hline M83D & 12 V DC & 62.3 ohms & 4.50 \\
    \hline M83D & 24 V DC & 245 ohms & 4.50 \\
    \hline MB3D & 110 V DC & 3670 ohms & 4.95 \\
    \hline
    \end{tabular}
    

    \section*{MC Series - CERAMIC INSULATED RELAYS}

    Intei-cuntact capacitance, 1.5 mmfd. maximum. Ceramic contact spacers minimize losses at high frequencies. Pure palladium contacts, rated 1 amp., DC types withstand 10 G vibration up to 300 cps and 25 G shock.

    Dimensions: Max. \({ }^{25} / 32^{\prime \prime}\) wide \(x\) \(11 / 2^{\prime \prime}\) high \(\times 15 / 6^{\prime \prime}\) long.
    \begin{tabular}{|c|c|c|c|}
    \hline Contacts & Type & Coil Voltage & Net \\
    \hline SPDT & MC5A & 6,115 V. AC & \$3.90 \\
    \hline SPDT & MC5D & 6,24 V. DC & 3.45 \\
    \hline
    \end{tabular}

    SS Series-DC SUPER SENSITIVE RELAYS
    

    For circuits requiring low energy operation. Pure silver contacts rated 2 amps. Operates with 10 G vibration resistance an 10 MW . Armature ptecision balanced on needle-point bcarings; virtually friction-free movement. Dual series coils give greater sensitivity.
    Dimensions: \(111 / 16^{\prime \prime} \times 15 / 16^{\prime \prime} \times 111 / 16^{\prime \prime}\) high. Mounted with two \#6-32 tapped holes on \(23 / 32\) " centers.
    \begin{tabular}{c|c|c|c|c}
    \hline Type & Contacts & Coil Resistance & Max, Pull In & Net \\
    \hline SS5D & SPDT & 10,000 ohms & 1.0 MA & \(\$ 10.45\) \\
    \hline
    \end{tabular}

    \section*{KL Series-MULTIPLE CONTACT RELAYS}
    

    Varied contact combinations and high dielectric phenolic insulation affords extreme versatility and utility.

    Dimensions: KL5: \(115 / 16^{\prime \prime} \times 17 / 2^{\prime \prime} \times 115 / 16^{\prime \prime}\) high; KL11: \(1^{15 / 16^{\prime \prime} \times 13 / 8^{\prime \prime} \times 17 / 8^{\prime \prime} \mathrm{high} ; ~}\) KL14: 15/16" \(\times 17 / 16^{\prime \prime} \times 115 / 16^{\prime \prime}\) high; KL17: \(15 / 16^{\prime \prime} \times 111 / 16^{\prime \prime} \times 15 / 16^{\prime \prime}\) high. Mounted with two \#6-32 tapped holes on \(17 / 16^{\prime \prime}\) centers.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{60 CyCLE AC RELAYS
    \[
    6-12-24-115 \vee A C
    \]}} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & & & \multicolumn{2}{|l|}{6-12-24 V DC} & \multirow[t]{2}{*}{\[
    \frac{110 \vee \mathrm{DC}}{\mathrm{Net}}
    \]} \\
    \hline & Type & Net & Type & Net & \\
    \hline SPDT & KL5A & \$3.20 & KL50 & \$3.10 & \$3.70 \\
    \hline DPDT & KL11A & 4.15 & KL11D & 4.00 & 4.80 \\
    \hline 3PDT & KL14A & 4.75 & KL14D & 4.55 & 5.15 \\
    \hline 4PDT & KL17A & 8.90 & KL17D & 5.60 & 6.20 \\
    \hline
    \end{tabular}
    

    \section*{LM Series - PLATE CIRCUIT RELAYS}

    Fine Silver contacts, rated 5 amps. Tail spring adjustment screw provided to re-set pull-in.

    Dimensions: LM5 \(25 / 16^{\prime \prime} \times\) \(11 / 4^{\prime \prime} \times 27 / 16^{\prime \prime}\) high. Mounted with two \#6-32 tapped holes on 1 13 16 " centers. LM11 \(23 / 16^{\prime \prime} \times 253^{\prime \prime} \times\) \(21 /{ }^{\prime \prime}\) high. Mounted with two \#6-32 tapped holes on \(113 / 16^{\prime \prime}\) centers.
    \begin{tabular}{c|c|c|c|c}
    \hline Contacts & Type & \begin{tabular}{c} 
    Coil \\
    Resistance
    \end{tabular} & \begin{tabular}{c} 
    Factory Adjustment \\
    Pult in MA
    \end{tabular} & Net \\
    \hline SPDT & LM5 & 2500 ohms & 6.3 & \(\$ 3.20\) \\
    \hline SPDT & LM5 & 5000 ohms & 4.5 & 3.35 \\
    \hline SPDT & LM5 & 10000 ohms & 3.2 & 3.80 \\
    \hline DPDT & LM11 & 2500 ohms & 8.0 & 5.05 \\
    \hline DPDT & LM11 & 5000 ohms & 6.3 & 5.25 \\
    \hline DPDT & LM11 & 10000 ohms & 4.5 & 5.75 \\
    \hline
    \end{tabular}

    MS Series-MOTOR STARTING RELAYS
    

    For hermetically sealed, ex-plosion-proof or other capacitor start, induction-run motors. Operates on back EMF of running winding. Armature gap can be altered to change pull-in; 115 -volt relay pulls in at 140 volts, releases at 40 volts; 230 -volt relay pulls in at 255 volts, releases at 80 volts.

    Dimensions: Max. \(23 / 4^{\prime \prime} \times 21 / 16^{\prime \prime} \times 2^{\prime \prime}\) high. Mounted with two \(5 / 3^{\prime \prime}\) diameter holes on \(19 / 16^{\prime \prime}\) centers.
    \begin{tabular}{lr}
    \hline Type MS2A: SPST-NC (1 form B), pure silver contacts for motors up to 1 HP. \\
    \hline For 115 -volt 60 cy . motor & Net \(\$ 2.75\) \\
    \hline For 230 -volt 60 cy . motor & Net \(\$ 2.90\) \\
    \hline
    \end{tabular}

    Type MS4A: SPST-NC-DB (1 form Y). silver cadmium oxide contacts for motors up to 3 HP.
    \begin{tabular}{ll}
    \hline For 115 -volt 60 cy, motor & Net \(\$ 3.60\) \\
    \hline For 230 -volt 60 cy motor & Net \(\$ 3.70\) \\
    \hline
    \end{tabular}

    \section*{AP Series-RATCHET, IMPULSE RELAYS}
    

    For equipment requiring accurate repetitive switching. Stop mechanism assures positive positioning regardless of speed. Phenolic cams, wearresistant nylon pawl and ratchet with pin-hinged armature. Fine silver contacts rated 5 amps.
    Dimensions: Max. \(3^{25} / 32^{\prime \prime} \times 2952^{\prime \prime} \times 2{ }^{\prime \prime} 1^{\prime \prime}\) high. Mounted with three \(5 / 32^{\prime \prime}\) diameter holes on \(33 / 8^{\prime \prime \prime} \times 7 / 8^{\prime \prime}\) triangular centers.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{3}{|l|}{60 CYCLE AC RELAYS} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & \multicolumn{2}{|l|}{6-12-24-115 V AC} & \multirow[t]{2}{*}{\[
    \frac{230 \mathrm{~V} \mathrm{AC}}{\text { Net }}
    \]} & \multicolumn{2}{|l|}{6-12-24 V DC} & \multirow[t]{2}{*}{\[
    \frac{110 \mathrm{VDC}}{\text { Net }}
    \]} \\
    \hline & Type & Net & & Type & Net & \\
    \hline DPDT & AP11A & \$7.90 & \$8.30 & AP110 & 57.90 & \$8.50 \\
    \hline 4PDT & AP17A & 9.50 & 9.90 & AP170 & 8.50 & 10.10 \\
    \hline
    \end{tabular}

    \section*{LK Series-LATCHING RELAYS}
    

    LK 17

    Electrical latch, electrical release for automatic control. Fine silver contacts rated 5 amps. Coils withstand 500 V RMS breakdown.

    Dimensions: \(2^{29} 92^{\prime \prime} \times 134^{\prime \prime} \times\) \(125 / 32^{\prime \prime}\) high. Mounted with two " 62 " diameter holes on \(13,8^{\prime \prime}\) centers. When ordering, specify coil voltage. (Available only with coils of the same voltage. Example: LK17A, two 6 V \(50-60 \mathrm{cy}\). coils; LK17D, two 6 V DC Coils).
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{3}{|l|}{60 CyCle Ac relays} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & \multicolumn{2}{|l|}{6-12-24-115 V AC} & \multirow[t]{2}{*}{\[
    \frac{230 \mathrm{VAC}}{\mathrm{Not}}
    \]} & \multicolumn{2}{|l|}{6-12-24 V DC} & \[
    110 \mathrm{VDC}
    \] \\
    \hline & Type & Net & & Type & Net & Not \\
    \hline 4PDT & LK17A & \$9.50 & \$10.30 & LK17D & \$8.40 & 58.60 \\
    \hline
    \end{tabular}
    
    

    PS 11

    CONTACTORS
    For use on power circuits where small overall dimensions are essential. All contacts are mounted on specially designed phenolic moulding assuring high insulations resistance and long creepage paths. Contacts rated at 15 amperes.

    Overall dimensions maximum: \(11 / 2^{\prime \prime} \times 1 \frac{5}{8 \prime \prime} \times 113 / 16^{\prime \prime}\) high. This relay will be shipped and billed from Laconia, New Hampshire.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{3}{|l|}{60 CYCLE AC RELAYS} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & \multicolumn{2}{|l|}{6-24-115 V AC} & \multirow[t]{2}{*}{\[
    \frac{230 \mathrm{~V} \mathrm{AC}}{\mathrm{Net}}
    \]} & \multicolumn{2}{|r|}{\(6-24 \mathrm{~V} D \mathrm{C}\)} & \(110 \mathrm{~V} D \mathrm{C}\) \\
    \hline & Type & Net & & Type & Net & Net \\
    \hline DPDT & PS11A & \$4.90 & \$5.50 & PS11D & \$4.90 & \$5.70 \\
    \hline
    \end{tabular}

    \section*{SP Series-HEAVY DUTY, SHOCK-PROOF RELAYS}
    

    SP 11

    For industrial equipment control circuits, transmitter keying circuits or any application requiring fast and positive repetitive action. Balanced armature withstands shock and vibration. Fine silver contacts rated 8 amp., double break, 5 amps., single break.
    Dimensions: Max. \(27 / 6^{\prime \prime} \times 15 / 8^{\prime \prime} \times 121 / \sqrt{2 \prime}\) high. Mounted with two \#6-32 tapped holes on \(13 / 16^{\prime \prime}\) centers.
    \begin{tabular}{c|c|c|c|c}
    \hline \multirow{3}{*}{ Contacts } & \multicolumn{2}{|c}{\begin{tabular}{c} 
    AC RELAYS \\
    6-12-24-115 Volts 60 cy.
    \end{tabular}} & \multicolumn{2}{c}{\begin{tabular}{c} 
    DC RELAYS \\
    6-12-24 Volts
    \end{tabular}} \\
    \cline { 2 - 5 } & Type & Net & \begin{tabular}{c} 
    Type \\
    \hline DPDT
    \end{tabular} & SP11A \\
    \hline
    \end{tabular}

    \section*{ABC Series - APPLIANCE RELAYS}
    

    Enclosed in dust cover, designed for appliance applications where long life and quietness of operation is required. This rugged relay meets all Underwriter Laboratory requirements. Contacts rated 12 amperes. Overall dimension 1716 " wide \(\times 3^{\prime \prime}\) long \(\times 2 \frac{3}{3} 2^{\prime \prime}\) high above chassis. Mounting \#8-32 stud \(3^{3 \prime}\) long.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{3}{|l|}{60 CYCLE AC RELAYS} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & \multicolumn{2}{|l|}{6-12-24-115 V AC} & \multirow[t]{2}{*}{\[
    \frac{230 \mathrm{~V} \mathrm{AC}}{\mathrm{Net}}
    \]} & \multicolumn{2}{|l|}{6-12-24 V DC} & 110 V DC \\
    \hline & Type & Net & & Type & Net & Net \\
    \hline DPDT & ABC11A & \$6.40 & \$6.80 & ABC11D & \$6.40 & \$6.90 \\
    \hline
    \end{tabular}
    

    PR Series-HEAVY DUTY POWER RELAYS
    Heavy duty, fast acting relays designed for high contact capacity. Fine silver contacts rated 20 amperes double break and 15 amperes single break, moided phenolic base, contact carrier and coil bobbin. Spacing and creepage paths all to UL. specification.

    Dimensions: All PR relays \(21 / 2^{\prime \prime}\) wide, PR1, 3 \& 5 are \(21 / 2^{\prime \prime}\) long \(\times 27 / 32^{\prime \prime}\) high, PR7 \(21 / 2^{\prime \prime}\) long \(\times 27 / 16^{\prime \prime}\) high, PR11 \(33 / 8^{\prime \prime}\) long x \(27 / 16^{\prime \prime}\). Mounting two \(3 / 16^{\prime \prime}\) diameter holes \(\times 17 / 8^{\prime \prime}\) centers.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{3}{|l|}{60 CYCLE AC RELAYS} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & \multicolumn{2}{|l|}{6-12-24-115 V AC} & \multirow[t]{2}{*}{\[
    \frac{230 \mathrm{VAC}}{\text { Net }}
    \]} & \multicolumn{2}{|l|}{6-12-24 V DC} & \multirow[t]{2}{*}{\[
    \frac{110 \mathrm{~V} \mathrm{DC}}{\mathrm{Net}}
    \]} \\
    \hline & Type & Net & & Type & Net & \\
    \hline SPST-NO & PR1A & \$3.70 & \$4.10 & PRID & \$3.70 & \$4.30 \\
    \hline SPST-NO-DB & PR3A & 3.80 & 4.20 & PR3D & 3.80 & 4.40 \\
    \hline SPST & PR5A & 4.00 & 4.40 & PR5D & 4.00 & 4.60 \\
    \hline DPST & PR7A & 4.50 & 4.90 & PR7D & 4.50 & 5.10 \\
    \hline DPDT & PR11A & 6.00 & 6.40 & PR110 & 6.00 & 6.60 \\
    \hline
    \end{tabular}

    \section*{MR Series-MEDIUM DUTY POWER RELAYS}
    

    Designed of a medium duty fast acting power relay, applicable to many requirements. Silver contacts rated 8 amps.

    Dimensions: Single pole relays \(2^{31} / 52^{\prime \prime} \times 1 \frac{1}{16}{ }^{\prime \prime} \times 15 / 8^{\prime \prime}\) high. Double pole relays \(219 / 32^{\prime \prime} \mathrm{x}\) \(23 / 16^{\prime \prime} \times 1^{15} / 16^{\prime \prime}\) high. Two 5/32" mounting holes. MR1, MR5 and MR14, \(25 / 8^{\prime \prime}\) centers, MR7 and MR11 \(21 / 4^{\prime \prime}\) centers.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Contacts} & \multicolumn{3}{|l|}{60 CYCLE AC RELAYS} & \multicolumn{3}{|c|}{DC RELAYS} \\
    \hline & \multicolumn{2}{|l|}{6-12-24-115 V AC} & \multirow[t]{2}{*}{\[
    \frac{230 \mathrm{~V} \mathrm{aC}}{\mathrm{Net}}
    \]} & \multicolumn{2}{|l|}{6-12-24 V DC} & \multirow[t]{2}{*}{\[
    \frac{110 \text { V DC }}{\mathrm{Net}}
    \]} \\
    \hline & Type & Net & & Type & Net & \\
    \hline SPST-NO & MRIA & \$2.85 & \$3.25 & MRID & \$2.70 & \$3.20 \\
    \hline SDST-NO-DB & MR3A & 3.20 & 3.60 & MR3D & 2.95 & 3.45 \\
    \hline SPDT & MR5A & 2.90 & 3.30 & MR5D & 2.65 & 3.15 \\
    \hline DPST-NO & MR7A & 3.80 & 4.20 & MR7D & 3.50 & 4.00 \\
    \hline DPDT & MR11A & 3.90 & 4.30 & MR11D & 3.75 & 4.25 \\
    \hline 3PDT & MR14A & 4.95 & 5.35 & MR14D & 4.60 & 5.10 \\
    \hline
    \end{tabular}

    \section*{75A047-COIL BOBBIN KIT}
    

    Twenty-four assorted molded phenolic ( \(85^{\circ} \mathrm{C}\) rise- 1000 V RMS) bobbins-three each of 8 different sizes; core diameters from \(7 / 32^{\prime \prime}\) to \(7 / 16^{\prime \prime}\). For industrials, experimenters and amateurs. Net \(\$ 1.50\).

    \section*{ELECTRONICALLY OPERATED RELAYS} MODEL 63

    Especially de-
     isned for use with a correct combination of the standardized Worner Ploto-Cell and Exciter Lamp 181its shownat right. However, this Electronically Operated Relay will operate also from light sources such as daylight, artificial lights, radiant energy from metallic processing, etc.
    Model 6.3 Electronically Operated Relay is a spedialty enginecred, highest fluality unit. It enfors wide preference as it efficiently meets exacting requirements and replaces the need of costly individually engineered equipment. Technical details on request.

    \section*{ELECTRONICALLY OPERATED RELAYS}

    Model 63, Described Above
    Model 63-A, combines Model 63 and \(T\) ima Dela \(\$ 115.00\)

    Circuit giving delay from zero to 45 seronds.
    \(\$ 150.00\) Model 63-B, same as Model 63 with ardlitional anplification to operate on less active change of light
    \(\$ 150.00\)

    \section*{ELECTRONICALLY OPERATED RELAY MODEL 64}

    \section*{EXCITER LAMP \& PHOTO-CELL RECEIVER UNITS}

    \author{
    For Use With Models 63, 63-A, 63-B and 64 Electronically Operated Relays
    }
    
    Model 33
    
    Model 23
    
    Model 31

    The lexciter Lamp unit is designed to project the light beam and the Photo-Cell Receiver is designed to pick up the bean and convert its light into clectrical energy through the Electronically. Operated Relay unit.

    Model 33 Exciter Lamp is "standard" for general applications and is most gencrally recommended. Its light bean covers a distance from a few inches to 10 feet from Exciter Lamp to Ihoto-Cell. Heavy duty cast iron min with \(/\)-inch conduit ittings. Gray finish.
    Model 23 Photo-Cell Receiver is engineered for ust with Morel 33 Esciter Lamp. Same case speciücations.

    For use in damp Surroundines. Models 3.3 and 23 can be made moisture-proof at sliglit additional cost.

    Morlel 31 Exciter Lamp is "standard" where a lighter werght case is matotical. Its light heam covers a distance from a few inches to 15 feet irom Exciter Lamp to Phom-Cell. (ane is 18 gange steel, pras wrinkle ainish, Itan theinch linocknt.

    Model 21 Photorell Receiver is engineered for use with Mole S S Exciter Lamp. Same case specifications.
    Model No. Description Size, Inches Price, Each
    \begin{tabular}{|c|c|c|}
    \hline 33 & Ex & \$16.00 \\
    \hline 23 &  & 21.60 \\
    \hline 31 & Faciter i amp & 12.40 \\
    \hline 21 & Photo-Cll Receiver 6 6six \(2 \times 1\). & 19.00 \\
    \hline
    \end{tabular}

    FOTOLECTRIC ANNOUNCER SET
    Automatically Announces the Entrance or Passing of Any Person

    \section*{COMPLETE WITH MIRROR AND CHIME}
    

    The Fotolectric Announcer is a complete three-piece set. It is designed to project a beam of light atross any entrance to any roon or buikling. Breaking of this light beam by person entering activates a pleasant chime. antomatically anmonncing the entrant. Chime can be located wherever signal is desired.

    The unit has efficient grid controlled rectifier circuit which insures maximum stability. The Unit combines Exciter Lamp and sensitive Photo-C'dl in metal case, size \(81 / 4^{\prime \prime} \times 61 / 2^{\prime \prime} \times 23 / 4^{\prime \prime}\), beautifully finished in gray hammerloid. Buth) has long lamp-life rating of 1000 hours. Operates on 110-120ㅇ: S(0-60 cycle. A.C.

    Model 61 Fotolectric Anmonncer, three-piece set including L'nit. Mirror and Chime.........Sct. each \(\$ 34.80\)

    MODEL 62 R \& L

    \section*{ELECTRONICALLY OPERATED RELAY} AND EXCITER LAMP SET
    

    Model 62-R Electronicaliy Operoted Relay
    

    Model 62-L Exciter Lamp

    This "two-unit" set has specially designed Exciter Lamp) ('nit and an Electronically ('perated Relay unit that includes the lhoto-Cell Recoiver. Relay and other electrical componcots. This combination hat proved efficient for combless simple applications for distances from a iew inche to 75 feet or where Relay is not required to operate in exces oi 300 times a minute. Supervises efficiently on simple applications such as Counting or sorting large objects; limit switeles; start and stop operations; opening loors, etc.
    Model 62 R \& L "「wo-L"nit Set"..............per set \(\$ 85.00\) Model 62.R Electronically. Operated Relay...each 69.75 Model 62-L Exciter Lamp.
    each 21.75

    \section*{FOTOLECTRIC BURGLAR ALARM SYSTEMS}

    An invisible light beam is projected by the Exciter Lamp to the Photo－cell contained in the Electronically Operated Relay．These two units constitute the＂Foto－ lectric Set．＂The units are illustrated below．
    MODEL 9000－R SERIES The Worner Master Con－ trol Systen consists of a Master Control Panel used in combination with 1．2．3．or \(f\) Fotolectric Sets．Op－ crates alarms the user installs．May be used with foil systems．ctc．Sets off alarm if wiring of Fotolectric Set is tampered with．
    Model 9000－R Master Control Panel prevents false alarm if power flactuates 5 volts or more．If power fails completely，the mint automatically resets super－
    
    vision when power is restored．
    Relays controlled by a key－switch．For \(110-120 \mathrm{l}\) ．Panels are supplied with phese rave for the mumber of Foto－ lectric Sets ordered．Should Fotolectric Sets be added later．plate relays are supplied with Fotolectric Sets ordered． 9000－R Master Control Panel．．ea．\(\$ 74.00\)
    Sets for \(150^{\prime}, 250^{\prime}\) ，and \(500^{\prime}\) have unvanted light rejector which increases day－light range．Ranges listed are for infra－red light．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Model No． & \multicolumn{3}{|c|}{Fotolestric Set} & Ronge & \\
    \hline 9100 & Master & Prespass & Trap & 100 ft ． & \＄ 88.00 \\
    \hline 9150 & Master & Trespass & Trap & 1.50 ft ． & 108.00 \\
    \hline 9250 & Master & Trespass & Trap & 250 ft ． & 145.00 \\
    \hline 9500 & Master & Prespass & Tral & 500 ft ． & 195.00 \\
    \hline
    \end{tabular}

    MODEL 7000 SERIES operates with burglar alarm company＂s central office control，police signal or local alarm．＂The Relay may be connected either in series or parallel to meet circuit repuirements．One or more Fotolectric Sets can be used and can be operated by an existing control pancl．Can be used with foil sys－ tems．etc．For 11（1－120）or 2tV．
    \begin{tabular}{|c|c|c|c|c|}
    \hline & & & & \\
    \hline & Remote & ）a & & \＄ \\
    \hline 50 & R & cras & & 108.00 \\
    \hline 250 & Rembote & t．Trespas & rap． & 145. \\
    \hline 7500 & Rer & （－17t Tr & 11） 500 & 195.0 \\
    \hline \multicolumn{5}{|l|}{MODEL 5000 SERIES for \(100^{\prime}\) range and \(150{ }^{\prime}\) range} \\
    \hline \multicolumn{5}{|l|}{for interior use where a single beath is ample pro－} \\
    \hline \multicolumn{5}{|l|}{tection．Not intended for use with foil systems．ete．} \\
    \hline \multicolumn{5}{|l|}{The Electromically：Operated Relays of this series are equiped with lock and key．For 110 V ．} \\
    \hline & & & & \\
    \hline 00 & & & ．．．． 100 ft ． & 94.00 \\
    \hline 5150 & Single & & 150 ft ． & 114.00 \\
    \hline
    \end{tabular}

    \section*{fotoelectric sets for above systems}
    

    Electronically Oper． ated Relay for 100 it．Range．
    

    Electronically Oper． oted Reloy for 150 it．Range．
    
    \(\longleftarrow\)
    Fociter Lamps and Electron－ がally（）perated Relays for 250 amd Eno ranges are ex－ termally the same and are weatherproni．

    \section*{FOTOLECTRIC COMBUSTION SUPERVISOR}

    Athree－piece sut consisting of Exciter Lamp．Photo－ cell Receiver and a choice of three Electronically Operated Relay units．Operates on the smoke detection principle．Dependably sets into operation the controls that maintain combustion efficiency．Fotolectric units are mounted opposite each other on the boiler breech－ ing．so that the beam of light traverses the flow of smoke．A predetermined increase in density of smoke operates whatever alarm or antomatic control equip－ ment is used．
    Electronically Operated Relay and Contrcl Cabinets available in three models：
    MODEL No． 71 A －For use where no time delay is necessary：lisually used as an alarm device and to actuate automatic combustion control equipment．
    MODEL No．71B－ Frgupped with innut time delay circuit to pre－ vent needless operation of control equipment from voltage frop or －hort puffs of smoke． MODEL No．71C Same as Model 71 B plus additional time delay holding circuit 10 con－ tinue operation of com－ bustion control equip－ ment ior a predetermined period of time．Prevents cyeling of equipment．

    \section*{FOTOLECTRIC FIRE PROTECTION}

    The Worner Fan Motor Stop installed on ventilating ducts detects smoke．gives alarm，stops fan to prevent fan－elriven fire to a succession of outbreaks．Approved by l inderwriters．Lahoratories．For full details．write for bulletin 650．

    \section*{WORNER COMMUNICATING SYSTEMS}
    

    Models P－359，P－353
    

    Model P－360
    － 11 WORNER mits operate efficiently as far as 2001 ieet apart．I＇ersons at or near Sub－stations when called may answer without leaving their work，from as fir away as 25 iect．＂Silent feature＂shuts out noise in vicinity at Station， 110 volt to 120 volt，A．C．or D．C． MODEL P－359 Selective Master Station．Handles 1 to 5 Sub－stations．Has 3 －tulse amplifier． 1 watt output． Contains 5 －inch speaker for maximum input without talking directly into unit．All－metal cabinet：size 9 x 614x 6 inches．Frinished in hammered walnut lacquer finish．
    each \(\$ 34.75\)
    MODEL P－353（＂ombination Master Station． 2 to 5 units may be used．in any combination of Masters to Masters．or Manters to Sub－stations．Contains 3－tube amplifier． cach \＄47．50 MODEL P－360 suh－－tation．Has 5－inch speaker，＂loalk－ linten ：witel lned by Suh tu uriginate call；not used after Master abswer：Nll－metal cabinct：size： 7 夅 \(x 4\) \(\therefore 6\) incher：fimshed in attractive hammered malnut lacyuer finish．
    cach \＄11．50

    PHOTOELECTRIC RELAYS AND ACCESSORIES
    

    \section*{CR7505-K100G3 Relay}

    The CR7505-K゙100G: photoelectric relay and accessories provide a complete line of inexpensive, but thoroughly reliable. appararis for getioralpurpose indoor applications which include counting. diverting, controlling, signaling, limiting. and protecting. Underwriters' Laboratories approved.
    The CR7505-K100G3 includes phototube and thyratron, has a contact rating of \(10 \mathrm{amp} a-c\), may be used to start f-hp motors directly, and can operate all motor starters up to and including NEMA Size 4.

    \section*{Accessories for Use with -K100G3}

    Cat. No. 71 G 620 light-
     source transformer. rated 115 volts. En! 60 cycles, primary: 4.8 volts secondary: lens-barrel assembly CR7505-B207G1, 3 in . in diameter, for mounting directly on relay: two light sources, C201G1 with \(11 / 2-\mathrm{in}\). lens and -C203G1 with 3 -in. lens: two phototube holders with six feet of special phototube cable and a plug for connecting to tube sorket in the relay, -P211G1 with \(11 / 2-i n\). lens, and the -P212G1 with 3 -in. lens. With \(11 / 2-i n\). lens, maximum operating distance is 12 ft ; with 3 -in. lens. maximum operating distance is 30 ft . Sensitivity of -K100G3 may be increased five times by use of -B207G1 lens-barrel assembly.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Maximum Distance between Light Source and Phototube, Feet & Maximum Operating Rate per Min & Type of Relay Contacts & \begin{tabular}{l}
    Minimum Light Level \\
    to Operate Relay Foottandles*
    \end{tabular} & Nominal Voltage & Line Frequency &  & \begin{tabular}{l}
    Enclosure. \\
    NEMA \\
    Type
    \end{tabular} & \begin{tabular}{l}
    Minimum \\
    Resuired Duration Light Change (Seconds)
    \end{tabular} & Voltamperes Required (excluding Light Source) & \begin{tabular}{l}
    Nomen- \\
    clature CR 7505.
    \end{tabular} \\
    \hline 30 & 150 & DPOT & 40 fc & 115 & 50/60 & Yest & 1 & 0.2 & 10 & K100 \\
    \hline 1000 & 300 & SPDT & - & 115/230 & 60 & Yes & 111 & 0.1 & 40 & 8100 \\
    \hline 70 & 450 & DPDT & 2 fc & 115/230 & 50/60 & Yest & \[
    111 / v
    \] & 0.07 & 10 & \[
    1 \times 203
    \] \\
    \hline 70 & 450 & DPDT & 2 fc & 115/230 & 50/60 & Yest & IV or VII & 0.07 & 10 & K202 \\
    \hline 210
    210 & 600
    600 & OPDT
    DPDT & 1
    1
    1 fc
    fc & \(115 / 230\)
    \(115 / 230\) & 50/60 & No
    No & \[
    \begin{aligned}
    & 111 / \mathrm{V} \\
    & \text { IV or VII }
    \end{aligned}
    \] & \(0.001 \ddagger\) & 60
    60 & N2`
    N 211 \\
    \hline 210 & 600 & DPDT & 1 fc & 115/230 & \(25^{25}\) & No & III/V & \(0.001 \ddagger\) & 60 & N 212 \\
    \hline
    \end{tabular}

    \footnotetext{
    
     short as 0.001 sece, and may be adjusted to keep relay encreised up to 0.5 sec.
    
    }

    \section*{ELECTRONIC TIMERS AND DEVICES}

    Photoelectric Accessories for Use with -K201 and -N210 Series
    
    1. The CRT505-C200G1 light source is for general indoor application.
    2. The following light sources are of die-cast aluminum construction. The \(-\mathrm{C} 201 \mathrm{G1}\) light source has a \(11 / 2-\mathrm{in}\). lens, focusable from 2 feet to infinity. The - C202G1 has a double lens for short focus, for a concentrated spot approximately \(1 / 4 \mathrm{in}\). in dianeter at a distance of \(21 / 2 \cdot t \mathrm{in}\). in front of the lens. The -C203G1 lishlt source has a 3 -in. Jens, with high-intenaity lecarm for loma dietannm nppration. The
     in operation with the G1 group, but have rubber gaskets between the front and back covers which makes them weather-resistant and dust-tisht in accordance with NEMA Standards.
    4. 8 volts is ropuired for all the above light sources and the following transiormires aro recommended:

    Light-source transformers. The 9TY51A1 is pnclosed in a conduit box with knockouts for conduit connections. It is rated \(115 / 230\) volte, 50 tin cucles. The 9TM321A1 is of open-type construction, but has same rating as gTY:51A1. The 92G34 for 25/50/80 cycles is of Weather-resistant ronstruction; except for size and type of construction, rating is ilentical with 9TY51A1.
    
    3. The -C208 light source is explosion-proof and can be made watertight by applying a rubber gasket which is furnished. It has a 3 -in. lens and a self-contained step-down transformer for \(115 / 230\)-volt operation.
    4. The phototube holders are similar in construction to the light sources. The -P202G2 has a \(11 / 2-\mathrm{in}\). lens and the -P203G2 has a 3 -in. lens. Roth come with a 9 -ft phototube cable with spade terminale.

    \section*{CR7504-A142 Electronic Timer}

    \section*{CR7504-A142}
    

    \section*{Electronic Timer}

    The - 1142 timer is for tinsing applications of short time duration (-A142G1, 0,06 to 1.2 spec ; \(\mathrm{A} 1420 \mathrm{E}, 0.8\) to 12 sec; and -A142G3, 6 to 120 sec ) where long life, low maintenance, and high repetitive accuracy is required.

    The A142 has double-pole, doublethrow contacts; can be used to start thp motors directly. Time-range dials read directly in seconde.
    Two different types oi operation available; immediate-start for timing operations or delayed-start for providing a time delay. Power supply, 115/230 volts, \(50 / 60\) cycles; power consumption, 15 watte.
    

    \section*{CR7511-A126 \\ Resistance-sensitive \\ Relay}

    This relay is used to obtain a reliable watast from tha touch of twn cimiductors through which only small currente flow. It wili operate noturn. lights, contactors, and solenoids whenever there is sufficient chango in the resistance of a circuit, inin the resistance of a circuit, ind cludini In this way larsc amounts of power can be controlled from a low. current high-resistance input.
    It has \(10-\mathrm{amp}\) a-c contact ratine, twa ainglo-polo, double-throw. rontacts for cuntrolling twa independent. circuits. Fnclosure is weather- resistant and dust-tight.

    CR7505-R201G1 Smoke-density Indicator
    

    This control and associated equipment can be used to indicate smoke density, gas density, or the density of any fluid where density is directly related to the liphtit transmission throurh the fluill. It can be used to warn furnace operators be used to warn furnace operatirs of excessive smoke conditions, turn on blowers or relevant pquipment at any smoke.density ceve, and when used with a suitalle record of smoke density is always record of

    The indicator has a semi-duct-tight enclosure (NEMA Type 1A) and an industrial-type relay, i5 amp an industrial-type relay,
    make-break and 10 amp
    carrs, at 115 or 230 volts, a-c. Simple calibration adjuatments are made with four lorking type knobs on the panel, while indicating lichts and a smoke-density instrument are on the front cover of a panel.

    \section*{CR7505-B100 Photoelectric Relay and -C105 Light Source}
    

    The ORTE05-B100 inenrporaten a tuned circuit which allows the relay to be rebrenaive ro! ! to a light beam modulatod at approximately 900 cycles por second. Hence, it is insensitive to changes of natural or artificial light.

    The CRTEOECDRE containe ? light-source lamy, a trambformer, and a motor-triven slotted diak which "chops," or modulates, the light beam at approximately 900 cycles per second.

    When operating at distances of 1000 ft . or less, this equipment in ceneral has sufficient sensitivity so that the light from the sulur... must be reduced twenty times before the relay will drop out. This helps reduce false operation caused by adverse weather conditions. Both unita are mounted in outdoor enclosures.
    The units operate on \(115 / 230\) volts, 60 cycles, a-c. Contacts ar rated 10 volts, \(15 / 230\) volts, a-c. The relay is provided with a sensitivity control for adjustment for particular light-path distance.

    For complete information, consult your nearest G-E Apparatus Sales Office or Distributor, or write direct to Section 640-418, General Electric Company. Schenectady 5, New York.

    \section*{Sme. R MIIT RIPLEY GQMPANY, INC.}

    \section*{L-R BLOWERS - "Mighty-Mites"}

    The L-R Blowers are designed for applications requiritg the movement of large air volumes where space and weight are prime factors. These small blowers can be adapted to many applications such as the dispersion of heat generated by electronic equipment, induction heaters tube cooling in morie projectors. instrument cabinets, drying operations. photographic darkrooms and in other contined enclosures. Available in CW and CCW Rotation. Rotation determined by viewing from motor side
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Model & Blower Size & Input Voltage & R.P.M. & Output (free air) C.F.M. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 8437 & 116 & 115 V .60 C\%. 10 & \(\because .150\) & 4 & \$13.29 \\
    \hline 8446-E & \(1 \%\) & 115 F .60 C . 1 CH 1 C & 8.000 & 19 & 17.96 \\
    \hline 8446-D & \(1^{1} 2\) & 115 V .60 C'V. A'-D( & 11.000 & 17 & 17.96 \\
    \hline 8446-C & \(1{ }^{1}\) & 115 SH .60 C . \(\mathrm{MC} \cdot \mathrm{DC}\) & 1-1100 & 23 & 17.96 \\
    \hline 8438 & \(\stackrel{\square}{2}\) & 11示, 60 (\% 16 & \(5.100 r\) & 10 & 13.48 \\
    \hline 8444 - E & 2 & 11.5 V .60 y (1)-I) & 6. \(\mathrm{I}_{\text {(10) }}\) & \(\leq 0\) & 18.14 \\
    \hline 8444-D & 2 & 11.5V. 60 crs AC.In & \(111.1681)\) & 30 & 18.14 \\
    \hline 8444-C & 2 &  & \(2 . .10110\) & 40 & 18.14 \\
    \hline 8433 & \(2 \%\) & 1156. 600 (\% & - - +00 & 17 & 13.60 \\
    \hline 8445-E & 21. & 1155.60 C\% IC.DC & 6.000 & 35 & 18.26 \\
    \hline 8445-D & 24 & 115\%, 60 C*. IC-DC & 9.000 & 58 & 18.26 \\
    \hline 8445-C & \(2{ }^{1}\) & \(115 \mathrm{~V} .60 \mathrm{C}, 1 \mathrm{CDC}\) & 12.000 & 70 & 18.26 \\
    \hline 8472 & 3 & 11.5 V .60 (\%) & 8.100 & 77 & 16.05 \\
    \hline 8473 & : & 11.5V. 60 Cs , M & 1 5s\% & 40 & 16.78 \\
    \hline 8452 & 3 &  & 6,000 & 145 & 22.40 \\
    \hline
    \end{tabular}
    

    No. \(21 / 2\)
    Weirht, less motor, \(5 \frac{1 / 2}{2}\) ounces. Wheel is \(2^{\prime \prime}\) in diam. Standard shaft hores, \(1 / 4^{\prime \prime}\) or \(3^{3} \sigma^{\prime \prime}\). Overall eirht \(43^{\prime \prime \prime}\) ". Overall widih \(37 / 8 "\). Inepth 7\%. Rlower openine 1 \% wide by 1\%" high. List Price \(\$ 4.43\) each
    

    No. 11/2
    Weight, less motor, \(21 / 2\) ounces. Wheel is \(11 / 2\) in diam. Standard shaft bores, \(1 /{ }^{\prime \prime}\) or \({ }^{3}{ }^{3 \prime \prime}\). Overall heirht \(3^{\prime \prime}\). Overall width \({ }^{\prime \prime} 7 / \mathbf{R}^{\prime \prime}\). Depth \(1^{\prime \prime}\); Blower opernin! \(1^{\prime \prime}\) wide ly \(11^{3} \mathbf{B}^{\prime \prime}\)

    No. 2
    Weight, las motor, 5 ounces. Wheel is \(2^{\prime \prime}\) in dian. Standard shatt bores,
     Overall widh \(31 \leq 1 \leq\), lemh \(13 \mathrm{~s}^{\prime \prime}\). blower opening \(1 \frac{1}{8}\) " diameter. List Price \(\$ 4.31\) each

    No. 3
    Weipht, less motol, \(121 / 2\) ounces. Wheel is \(3^{\prime \prime}\) in diam. Standard shaft hores, \(1 /\) " \(^{\prime \prime}\) or \({ }^{76}{ }^{\prime \prime}\). Overall height
     \(3{ }^{2} \%\). Blower opaning \(23 / 8\), wide by 2. \(1 / 4^{8}\) high. List Price \(\$ 5.08\) each

    \section*{SUNSWITCH LIGHT CONTROL}
    

    The S['SolliT('H user an ampl fiere and photombe that respond (1) The foot cantlle valtere of das isht. When illumination fall olow a pretetermined walue, th bight: are turned on. When th illamination has increased to th correct batue, the light- are sut matically turn J atf. Aprlication for the si't-llith il are numer
     Factortes, Cobsiruction Wark Airports. Ratrilruads, Street Lishts cic. Jominted in simandard weathes proof watthelur melor cane ryins loads up, to go imps.

    \section*{ELECTRONIC TIMERS}
    

    The Riyles Timer- are of the flout interval period, stop cycle. type. Buile to control industrial processe=, they meet the nost exactinge retpiorements of this sirctiry \(1, y\) delivering dopendable, aourate. and long-lived par formance: Busie Models cover the ranges of from . 05 to \(.5, .1\) to 10., and 1. to 100. Esconde and are availadle with any one of three different circuits. Principle of operation is eleetronic, assur ing frecdom fuen twulde catheel? the mechanical late or wear

    \section*{ELECTRONIC RELAYS AND SWITCHES}

    Fnginecred for exceptional relialility loner life wilh minimum maintenance. These Relans are hirbin sensitive and tilize no vaxial cahle. Inesigned for uplications necding a very short or medium impulac . . . as short as 0005 eceronds, and will furnish pulse to (Iferate a reset, look or predetermined countar. The Ripley Iltototule Relays hatbe counules liste such as etarting and atoppine Iishted displass, drinking (rimtains and maclinery, Controls duthatic paint spays, amounces the antrance and passing of entomers.
    

    \section*{ELECTRONIC Phototube COUNTERS}

    These sturds, well huilt Elec tronic Counters are furnished with 5 -digit counters. Available with cutside lisht source as well as a tuill-it lirht biource. The model with huilt-in light source mocruorates a reflector mirror which directs the beam hack into the whoteture. thus eliminating the need for an extra pair of wircs. Operates on 110 or 220
     Gjons: "11" \(\times 6^{\prime \prime \prime} \times 61,{ }^{\prime \prime}\) high.
    

    PORTABLE "A" TYPES
    

    \section*{PORTABLE "B" TYPES}
    

    PORTABLE '‘A-B’' BATTERY PACKS
    

    DEALER OR DISTRIBUTOR PRICES AVAILABLE UPON REOUEST
    

    COMPLETE LINE SPECIFICATIONS
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline －Eveready＂ Battery Number & NEDA
    Number & voltage & \(\qquad\) &  & \[
    \begin{aligned}
    & \hline \text { W6ifity } \\
    & \text { of Unit } \\
    & \text { Package } \\
    & \text { in Lbs. } \\
    & \hline
    \end{aligned}
    \] & Battery
    Weight & Terminals & Liot
    Price
    Each \\
    \hline \multicolumn{9}{|c|}{＇A－B＇＇PACKS FOR PORTABLE RADIO} \\
    \hline ††729 & ＊ &  &  & 1 & \(2{ }^{1 / 2}\) & 2 lb .7 oz ． & \[
    \text { socket-"A" } 11 /{ }^{\prime \prime} A^{\prime}
    \] & S 5.25 \\
    \hline 752 & 400 & 9＂A＂ 902 ＂B＂ &  & 1 & 61／4 & if lb． 2 oz ． & Recessed Plut－\({ }^{\text {a }}\) ， & ． 5.25 \\
    \hline 752－W & 416 & \(101 / 2\)＂\(A\)＂ 90 ＂B＂ &  & 1 & 7 & （5il）． 8 aiz． &  & 6.65 \\
    \hline & 416 & 7 \(1 / 2\) \＆ 9 ＇\(A^{\prime \prime} 90\)＇\(B^{\prime \prime}\) &  & 1 & ， & 4 lb .12 az &  & 7.10 \\
    \hline 753 & 401 &  &  & 1 & & 4lb．120． &  & 6.25 \\
    \hline 754 & 402 & 71／2 \＆ \(9^{\prime \prime} \mathrm{A}^{\prime \prime} 90{ }^{\prime} \mathrm{Cl}^{\prime \prime}\) & 10 弱＂\(\times 34 / 4 \times 4\)＂ & 1 & \(6{ }^{1}\) & 6 ib .1 loz ． &  & 6.75 \\
    \hline 755 & 403 & b \＆ 7 71／2＂A＂ \(75 \times B \times\) &  & 1 & \(3 *\) & 3 lb ． 4112 &  &  \\
    \hline 756 & ＊ &  &  & 1 & 3 & 2 mb .11 mz & Sorket－\({ }^{\text {a }}\) ，\({ }^{+\prime}+71 / 2\). & \[
    5.50
    \] \\
    \hline 756－P & 428 & 9－90 &  & 1 & 3 & 2 lb .14 oz ． &  & 5.95 \\
    \hline 757 & \(\rightarrow\) &  &  & 1 & 5 & 9 ib 12 oz． &  & 6.25 \\
    \hline 776 & ＊ & \(71 / 29^{\prime \prime}{ }^{\prime \prime}{ }^{\prime \prime} 90 \cdot 1{ }^{\prime \prime}\) &  & 1 & 15\％ & 14 lb .12 oz &  & 6.25
    10.95 \\
    \hline \multicolumn{9}{|c|}{＇B＇＇BATTERY FOR RADIO \＆MISC．APPLICATIONS} \\
    \hline 487 & ＊ & 1．5 &  & 1 & \(26^{1 / 2}\) & 4 lb .29 ya & Surket－－，\(-221 / 2,+45\) & 3.65 \\
    \hline \multicolumn{9}{|c|}{＂A－B＇PACKS FOR FARM RADIO} \\
    \hline 758 & 414 & \(11 / 2{ }^{\prime \prime} \mathrm{A}^{\prime} 90{ }^{\text {c }}\) B＂ &  & 1 & \(14^{3}\) & \(1 / \mathrm{lm} .4 \mathrm{oz}\) &  & 8.95 \\
    \hline 759 & ＊ & \(11 / 2{ }^{\prime \prime} A^{\prime \prime} 90{ }^{\prime \prime}{ }^{\prime}{ }^{\prime}\) &  & । & 17 & 16 mb .10 c &  & \[
    8.95
    \] \\
    \hline \multicolumn{9}{|c|}{＂\(A\)＂EATTERY FOR HOME RADIO} \\
    \hline ＋1740 & 711 & \(11 / 2\) &  & 1 & 61／1 & 6 lb & SWket－．＋1．5 & 5.15 \\
    \hline \multicolumn{9}{|c|}{LANTERN BATTERIES} \\
    \hline 409 & － & 8 &  & 12
    12 & \[
    111
    \] &  &  & 0.90
    0.90 \\
    \hline \multicolumn{9}{|c|}{NO． 6 DRY CELLS} \\
    \hline ＂tgnifor＂G Cien．I＇urpozir & － & \(13 / 2\) &  & 12 & 2i & 2 1b． 2 （cz． & ＊Screw & 0.90 \\
    \hline Label＂\({ }^{*}\) ； Telephone & － & 112 & 2S＂Diatn．\(x\) tis， & 12 & 2614 & \(2 \mathrm{lb} . \geq \mathrm{oz}\) & \(\cdots \mathrm{Sprlng}\) & 0.85 \\
    \hline \({ }^{6}\) R Madustrial & － & \(11 / 2\) & 25＂Diam v \(\mathrm{hto}^{\text {a }}\) & 12 & \(27^{1}\) & \(2 \mathrm{lb} \mathrm{S}^{2} \mathrm{O}\) & ＊Screw & 0.95 \\
    \hline \multicolumn{9}{|c|}{＂HOT SHOT＇＂BATTERIES} \\
    \hline 1461 & － & \({ }^{1}\) &  & & 58， &  & Ins．sc－二，\({ }^{\text {di }}\) & 3.75 \\
    \hline 14462
    1562 & 二 & \％ & 8\％＂， & 4 & 3911 &  & Lns．\({ }_{\text {se，}}\) & \begin{tabular}{l}
    3.75 \\
    4.75 \\
    \hline
    \end{tabular} \\
    \hline 1682 & 二 & &  & ， & 501： & \(11 \mathrm{j1} \mathrm{\%} 113 \%\) & Ins．Ne：－\({ }^{1 / 2}\) & 5.50 \\
    \hline \multicolumn{9}{|c|}{HIGH VOLTAGE BATTERY} \\
    \hline 193 & 122 & 300 &  & 1 & 1 & \(11_{2} \mathrm{l}\) \％ & P＇in Tarks－，＋ 300 & 11.00 \\
    \hline \multicolumn{9}{|c|}{SHOT FIRING BATTERIES} \\
    \hline 702
    701 & 二 & \[
    11 / 2
    \] &  & & 碞 & \[
    \begin{array}{r}
    5 \mathrm{oz} \\
    11 今 \mathrm{oz} .
    \end{array}
    \] & Recessed Plum－，＋41／2 & 0.90
    1.05 \\
    \hline 7 IIx & 二 & \[
    23_{2}
    \] &  & 1 & \％\({ }^{\text {a }}\) &  & 19lug－\(-221 / 2\) & 2.85 \\
    \hline \multicolumn{9}{|c|}{MISCELLANEOUS TYPES FOR EMERGENCY LIGHTING，EXIT LIGHTS，IGNITION} \\
    \hline 510 F & \(\cdots\) & &  & & &  & spring－．+6 & 0.90 \\
    \hline \({ }_{706}^{510} \mathrm{~S}\) & & ！ &  & 1 & 14 &  &  & 0.90
    3.60 \\
    \hline 715 & 二 & \％ &  & 1 & \％ & 7 lm .10 cz & lato－\(+71 / 2\) & 4.50 \\
    \hline 7115 & － & 4， &  & 1 & & ＊in．y oz． & \(\mathrm{I}_{1 \times \mathrm{s}} \mathrm{s}\)－ \(4^{1 / 2}\) & 5.25 \\
    \hline 735 & 900 & \(11 / 2\) &  & 12 & 1\％12 & 1 lb .1 nz ． & ＋rrew－+1 1／2 & 0.90 \\
    \hline \multicolumn{9}{|c|}{＂C＂BATTERIES \＆TYPES USED IN INSTRUMENTS．TELEPHONE \＆OTHER APPLICATIONS} \\
    \hline 703 & ＊ & \(41 / 2\) &  & & & & String－，＋ \(41 / 2\) & 0.60 \\
    \hline 71.4
    750 & － & 11／2 &  & 1 & 11 &  & Srew－\(+41 / 2\) & 0.60
    0.50 \\
    \hline \({ }_{751}^{750}\) & － & 136 &  & 110 & \(\underline{12}_{1 / 2}\) & \({ }_{3}{ }_{3} \mathrm{oz}\) oz． &  & 0.50 \\
    \hline 760 & － & \(41 / 2\) &  & \({ }_{6}\) & \({ }_{1}\) & \(4{ }^{1 / 2} 808\). & Wirent \(+1 / 2\) & 0.60 \\
    \hline 7617 & ＊ & \(41 / 2\) &  & \％ & 5 & 1402 & screw－－ \(10,03,-41 / 2\) & 1.15 \\
    \hline 762 S
    763 & ＊ & 481／2 & 4．1．＂，\(x^{\text {a }}\) & 1 & 3 & \[
    \because \mathrm{hb} \begin{aligned}
    & 1402 \\
    & 120 \\
    & 120 \\
    & 102
    \end{aligned}
    \] &  & 4.50
    1.95 \\
    \hline \({ }_{7}^{763}\) & ＊ & 221／2 &  & 1 & 1 & 9 ib． 110 oz &  & 3.85 \\
    \hline 768 & 721 & 201／2 &  & 1 & \(11 / 2\) & \(1 \mathrm{lb} .81 / 2 \mathrm{oz}\) ． &  & 3.65 \\
    \hline & & & \(3{ }^{\text {zon }} \times 1^{a_{4} \prime \prime} 3^{2}\) & 5 & 41／2 & 113． \(21 / 202\) &  & 2.15
    1.25 \\
    \hline 773 & ＊ & \(1{ }^{1 / 2}\) &  & 5 & \(3_{3}^{41 / 2}\) & 13
    13
    182
    122 & 5 kerew；＇1 wire + ． \(1 / 21 / 2,-3\) ． & \\
    \hline 774
    788 & － & &  & 5 & & & －\({ }^{1 / 2}\) & 1.20
    1.75 \\
    \hline 778 & － & \(2.21 / 2\) &  & 5 & \(61 / 2\) & 1 fb .8 oz ． & \[
    \text { Fahnstork } 101,-161 / 2,-21 / 2,6
    \] & \\
    \hline 781 & ＊ & &  & 5 & \(13_{3}\) & 5 Hz & \[
    \text { जrew- - } 1 / 2
    \] & 0.65 \\
    \hline 7818
    799 & 二 & 13112 &  & 1 & 11： & \[
    \begin{array}{lll}
    1 & 1 \\
    1 & 1 b . & 12 \\
    \hline
    \end{array}
    \] & \[
    \text { Flat- }{ }_{\text {Sprinx- }}^{2}-29 \frac{1}{2},+45,+49^{1 / 2}
    \] & 1.10
    9.50 \\
    \hline \multicolumn{9}{|c|}{＂EVEREADY＇•＂AIR CELL＇＂BATTERIES} \\
    \hline & － & &  & 1 & 1231 & \(11 \% \mathrm{~Hz}\) 11y & Surins－，＋1．25 & 8.35 \\
    \hline \begin{tabular}{l}
    T－2；00 \\
    T． 1300
    \end{tabular} & 二 & \％ &  & ， & 20， & 2ill 12.3 bry &  & 14.50
    6.25 \\
    \hline T． 1300
    T－ 2300 & 二 & 1.25 &  & 1 & 63
    120 &  &  & 6.25
    11.25 \\
    \hline
    \end{tabular}

    \footnotetext{
    
    }

    DEALER OR DISTRIBUTOR PRICES AVAILABLE UPON REQUEST

    \section*{ \\ FLASHLIGHTS and BATTERIES}
    
    
    

    No 1251A-2-('ell Heavy Buty Spotlitht. Rarifed Insulated Case.
     \%hard. strean
    lisis wrice atich (Witheut liatteries)
    \(\$ 2.50\)
    

    No. 1259A-2-(cell Safety Plashlight. Apurowed he linitem sitates
    
    
    
    
    
     "hard ami matching rear cap watra.
    

    Display Package No. 73 6 Spot Floorl Flashlirlits. Two loams; long range givotlisht and
     hancerv: List price (itcli................. \(\mathbf{\$ 2} 70\)
    

    Display Package No. 72P-6 Contains finmous "Masterlite" No
    
     list wier atch, \$1.95
    (Without Rallevites)
    (W1.95
    

    Display Package No. 25
     hoist price fath \(\$ 1.85\) Rist price fath ....... \$1.85

    No. 15
    "I.ittle Jim" Miniature lowket-lite Ruplica of ambus "Everearly" "Masterlite square Flashlisht. Thbreakable lens-grtard chows red tor greater light and matery price each \(\$ 0.69\)
    (With Ratteries)
    

    Display Pockage No. 22
    G No. 220 heavy*duty Penlites in all-chrome finikh, List price cach......... \(\$ 0.98\) (Without Matteries)
     (Without la, therixa) +
    

    The MASTER \(\rightarrow 20 \mathrm{ll}\) Edition
    

    Disploy Package No. 21 C
    12 No. 212 small Penliter in ascorted colors and stripes.
    list price each ....... \(\$ 0.89\) (Without hatterims)
    

    \section*{BURGESS BATTERIES}
    AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES
    

    TW1
    
    

    No. 1.
    No. 2.
    No. 2.
    No. \({ }^{7}\).
    F4II.
    4F2H.
    No. 210 N (Bare) 530 TWI

    Tel.
    4FH.
    4F2H.
    4F4H.
    4F5H.
    4F6H.
    2Z2PI

    No. 6 R. R. and Ind. No. 6 IGN. No. 6 TEL. S 461. No. 6 Alarm
    

    \section*{BURGESS FLASHLIGHT \& LANTERN BATTERIES}
    \(11 / 2\) volts. Size. \(63 / 4^{\prime \prime} \times\)
    \(15 / 16^{\prime \prime}\)
    Standard package 12
    \(11 / 2\) volts. Size. \(121 / 4_{4}^{\prime \prime} \times 23 / 8^{\prime \prime}\). Standard package 48.
    \(11 / 2\) volts. Size. \(35 / 4^{\prime \prime} \times 131 / 32^{\prime \prime}\). Standard package 24
    \(11 / 2\) volts. Size, \(13 / 32^{\prime \prime} \times 13 / 4^{\prime \prime}\). Standard package 24 .
    6 volts. Size. 25 n " \(^{\prime \prime} \times 25 / 8^{\prime \prime} \times 315\) 化". Standard package \(12 \ldots\).
    3 volts. Size, \(3^{229} / 2_{2 \prime}^{\prime \prime} \times 21 / 16^{\prime \prime} \times 513 / 32^{\prime \prime}\). Standard package \(8 .\).
    \(11 / 3\) volts. Size, \(121 / 64^{\prime \prime} \times 23 / 8^{\prime \prime}\). Standard package 50 .
    \(11 / 2\) volts. Size. \(1 / 6_{6}{ }^{\prime \prime} \times 111 / 4^{\prime \prime}\). Standard package 24
    45 volts. Size. \(41 / 6^{\prime \prime} \times 217 / 3{ }^{\prime \prime} \times 55 / 6^{\prime \prime \prime}\). Standard package 2.
    6 volts. Size, \(55^{\prime \prime} \times 27 / 8^{\prime \prime} \times 415,6^{\prime \prime}\). Standard package 1
    For use with Radar-Lites.

    \section*{BURGESS IGNITION BATTERIES}
    \(11 / 2\)
    3
    6
    7
    9
    3
    3 volts. Size. \(329 / 32^{\prime \prime} \times 211 / 6^{\prime \prime} \times 5132^{\prime \prime}\). Standard package 8 .
    6 volts. Size, \(85 / 16^{\prime \prime} \times 213 / 6^{\prime \prime} \times 513 / 16^{\prime \prime}\). Standard package \(6 . . . .\). . . .ist price. 3.60
    \(71 / 2\) volts. Size, \(7311^{\prime \prime} \times 31 / 32^{\prime \prime} \times 5 \times 3 / 16^{\prime \prime}\). Standard package \(4 \ldots \ldots\). . . . . ist price, 4.50
    9 volts. Size, \(81 / 2^{\prime \prime} \times 3^{31 / 32^{\prime \prime}} \times 5^{13 / 16^{\prime \prime}}\). Standard package \(4 \ldots . .\). . . ist price, 5.20
    3 volts. Size, \(15 / 32^{\prime \prime} \times 1 \frac{5}{32^{\prime \prime}} \times 213 / 32^{\prime \prime}\). Standard package \(12 \ldots \ldots .\). . . . .
    

    \section*{FOR INDUSTRIAL APPLICATIONS BURGESS "A" HATTERIES}

    No. 2F2H.
    No. 2FBP.
    No. B2BP.
    No. F2BP.
    No. F413P.
    5R
    8R
    9R
    27
    422
    432
    532
    

    2 3 多
     \(\times 13 / 6^{\prime \prime} \times 211 / 2^{\prime \prime}\). " \(\times 13 / 8^{\prime \prime} \times 413_{32}^{\prime \prime}\).

    Standard package 5 5.

    List price. 1.30
    List price. 95
    List price. 1.40
    List price, .95
    List price, . 90
    List price, 125
    List price. . 40
    List price, . 17
    List price. . 34
    List price, . 50
    List price. . 60
    List price, . 60
    List price. 2.13

    \section*{A QUALITY DRY BATTERYFOREVERY PURPOSE}

    \footnotetext{
    Tho MASTER - 20th Edition
    }

    Page M-6

    \section*{■ URGESS BATTERIES}

    \section*{AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES}
    

    530 A
    

    FOR INDUSTRIAL APPLICATIONS (Cont'd.)
    No. W30.
    W30PBXX.
    No. Z30NX.
    K10
    K15
    K20
    I10
    V15
    Y20
    YX15
    XX22
    YX30PI
    Y10
    Y20
    Y20S

    \section*{burgess "B" batteries}
    

    \section*{BURGESS "C" BATTERIES}
     No. W5IBI'. \(71 / 2\) volts. Size, \(2^{21 / 32 "} \times 23 / 32^{\prime \prime} \times 13 / 8^{\prime \prime}\). Standard package \(6 \ldots . .\).

    \section*{BURGESS FARM RADIO \& INDUSTRIAL "B" BATTERIES}

    No. 10308 SC or PI. 45
    No. 21308 SC or Pl. 45
    No. 2308 SC or Pl. 45
    No. 5156 SC.
    No. 51561 I.
    No. 5308.
    volts. Size, \(81 / 2_{2}^{\prime \prime} \times 41 / 22^{\prime \prime} \times 73 / 6^{\prime \prime}\). Standard package 6. . List price, volts. Size, \(81 /{ }^{\prime \prime} \times{ }^{\prime \prime} \times 15 / 2_{2}^{\prime \prime} \times 792^{\prime \prime}\)., Standard package 6 . . List price.
     \(211 / 2\) volts. Size. \(4^{1 / 1 x^{\prime \prime}} \times 22^{\prime 2 \prime \prime} \times 23 / 4^{\prime \prime \prime}\). Standard package 5. List price, 2.30 \(225 / 2\) volts. Size, \(47 / \mathrm{m}^{\prime \prime} \times 23 / 8^{\prime \prime \prime} \times 255 / \mathrm{m}^{\prime \prime}\). Standard package 5. . List price, 2.30 45 volts. Size. \(4 \mathrm{~K}_{6}{ }^{\prime \prime} \times 2 \mathrm{~K}_{6}^{\prime \prime} \times 51 / \mathrm{s}^{\prime \prime}\). Standard package 5... List price, 3.35

    \section*{BURGESS RADIO "B" \& "C" BATTERIES}

    No. 2156 . \(22^{1 / 2}\) volts. Size, \(6^{21 / 32^{\prime \prime}} \times 41 / 6_{6 \prime \prime}^{\prime \prime} \times 231 / 32^{\prime \prime}\). Standard package \(6 \ldots .\). . List price, 3.85
    No. 2370. \(41 / 2\) volts. Size, \(315 / 6^{\prime \prime \prime} \times 13 / 8^{\prime \prime} \times 278^{\prime \prime}\). Standard package 5...... List price, 90
    No. 2370PI. \(41 / 2\) volts. Size, \(41 / 6_{4}^{\prime \prime \prime} \times 127 / \mathrm{m}^{\prime \prime} \times 263 \mathrm{~m}^{\prime \prime}\). Standard package 5...... List price, 96
    No. \(4156 . \quad 221 / 2\) volts. Size, \(311^{1 / 2 \prime \prime} \times 2^{1 / 2 \prime \prime} \times 2293^{\prime \prime}\). Standard package \(5 . .\).
    No. 5360 . \(\quad 4^{1 / 2}\) volts. Size, \(213 / 32^{\prime \prime} \times 27 / 32^{\prime \prime} \times 221 / 32^{\prime \prime}\). Standard package \(10 \ldots\). . .ist price. .15
    No. 5540. \(71 / 2\) volts. Size. \(4^{\prime \prime} \times z^{\prime \prime} \times 234^{\prime \prime}\). Standard package \(5 \ldots . .\). . list price. 1.12

    \section*{BURGESS FARM RADIO "A" BATTERIES}

    No. 20F.
    \(11 / 2\) volts. Size, \(75 / 8^{\prime \prime} \times 29 / 6^{\prime \prime} \times 615 / 6^{\prime \prime}\). Standard package 3
    List price, 5.45
    

    251
    

    2508
    

    F4BP

    No. 20F2.

    \section*{BURGESS QUALITY FLASHLIGHT CASES \& IANTERNS}
    146. 2 eell preformed Maroon \& Chrome. Standard package 6
    152. New slim Penlight Chrome. Standard package 12.
    248. Scoll I'reficused Chrome. Standard package 1
    250. Kangefimer 2 cell focusing Chrome. Standard package 4
    251. Zobra Liglt with cells. Standard package 12.
    2.22. 3 cell prefocused Marom \& Chrome. Standard package 1

    TW3. R゚-\DAR-IITE (with flasher) Spotlight lieam. Stand. package 1.
     (withont flasher) spotight Peam. Stand pack. (...-ist price. (o.リ:
    

    \section*{A QUALITY DRY BATTERYFOREVERY PURPOSE}

    \section*{BURGESS BATTERIES}

    \section*{AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES}
    

    G6B60
    

    T6Z60
    

    \section*{FLASHLIGHT CASES (cont'd)}

    2 cell Baby Prefocused Maroon \& Chrome.
    Standard package 6. . List price, \$1.70 2 cell Tough Industrial Light. Stand. package 6..List price. 1.90 Penlight Maroon Chrome. Standard package 6..List price, . 88 Key Chain Zebra Light with Cells. Std. pkg. 12. .List price, . 79 3 Cell Tough Industrial. Standard package 6.... List price. 2.15 2 Cell Prefocused-Chrome. Standard package 6. List price, 1.45 2 Cell Industrial-Safety Liglit. Std. package 1..List price, 5.00 2 Cell-Chrome. Standard package \(6 . . . . .\). .....List price, 1.75 2 Cell Chrome Bullet End. Standard package 1..List price, 1.55 2 Cell Baby. Chrome Bullet End. Std. package 1.List price, 1.40 3 Cell Chrome-Bullet End. Std. package 1...... List price, 1.75 Lens Display Kit (32 Popular Lenses).

    Standard package 1.. List price, 3.20

    \section*{BURGESS FARM "A \& B" BATTERIES}

    No. 17GD60. \(11 / 2\) volt " \(A\) ", 90 volt " \(B\) ". Size \(151 / 16\) " \(\times 43 / 8\) " \(\times 7 / / 6\) ". Standard package 1. List price, \(\$ 8.95\) No. 4 SD60. \(11 / 2\) volt "A", 90 volt " \(B\) ". Size \(1011 / 6\) " x \(4 / 16\) " x \(613 / 16\) ". Standard package 1. No. S6D60. \(71 / 2\) volt "A", 9 "A" 90 volt " \(B\) ". Size \(97 / 8\) " x \(41 / 8\) " \(\times 71 / 16\) ". Standard package 1 . List Price, \(\$ 10.95\)

    BURGESS PORTABLE "A" \& "B" BATTERIES
    \begin{tabular}{|c|c|c|c|}
    \hline No. & Voltage & Size & List Price \\
    \hline 2TXX40. & \(1^{1 / 2} \mathrm{~A}, 60 \mathrm{~B}\) & \(213 / 32^{\prime \prime} \times 11 / 32^{\prime \prime} \times 75 / 32^{\prime \prime}\) & 4.45 \\
    \hline 4GA42. & 11/2-A. 63 B & \(99 / 6^{\prime \prime} \times 21 / 8{ }^{\prime \prime} \times 43 / 4{ }^{\prime \prime}\) & 6.70 \\
    \hline 6TA60. & \(11 / 2.4,90 \mathrm{~B}\) & 931/32" \(\times 21 / 4 " \times 47 / 10^{\prime \prime}\) & 6.25 \\
    \hline F4A50. & \(6 \mathrm{~A}, 75 \mathrm{~B}\) &  & 6.25 \\
    \hline F6A60. & 71/2.9A, 90B & 9 \(1 / 66^{\prime \prime} \times 221 / 32^{\prime \prime} \times 4 / 16^{\prime \prime}\) & 6.25 \\
    \hline F6A60P. & 9A, 90B & 97/1" \(\times 234^{\prime \prime} \times 41 / 327\) & 6.25 \\
    \hline T5Z50. & \(6.71 / 2 \mathrm{~A}\). 75 B & \(81 / 2^{\prime \prime} \times 311 / 32^{\prime \prime} \times 23 / 8 "\) & 5.50 \\
    \hline T5250P. & \(71 / 2\) A. 75 B & \(81 / 2{ }^{\prime \prime} \times 311 / 1^{\prime \prime} \times 28 / 8{ }^{\prime \prime}\) & 5.95 \\
    \hline G6B60. & 9A, 90B & \(132932^{\prime \prime} \times 21316^{\prime \prime} \times 421 / 32^{\prime \prime}\) & 6.65 \\
    \hline G6M60. & 71/2.9.A, 90B &  & 6.75 \\
    \hline T6Z60 or P. & \(71 / 2,9 \mathrm{~A}, 90 \mathrm{~B}\) & \(23 / 16^{\prime \prime} \times 815 / 10^{\prime \prime} \times 311 / 6^{\prime \prime}\) & 6.25 \\
    \hline 4 4Z60. & \(11 / 2 \mathrm{~A}, 90 \mathrm{~B}\) & \(75 / 8{ }^{\prime \prime} \times 21 / 8 " \times 33 / 4^{\prime \prime}\) & 5.25 \\
    \hline
    \end{tabular}

    \section*{PHOTO-FLASH BATTERIES}
    \begin{tabular}{|c|c|}
    \hline &  \\
    \hline volts. Size. 1" (diam.) 13/16". Standard package 12. & 20 \\
    \hline \(1^{1 / 2}\) volts. Size, \(1^{11 / 32 \prime \prime}\) ( diam.) \(22 / 64^{\prime \prime}\). Standard package 12. & . 20 \\
    \hline 11, volts. Size. \(35 / 4^{\prime \prime}\) ( diam.) \(1^{31 / 32^{\prime \prime}}\). Standard package & . 15 \\
    \hline \(221 / 2\) volts. Size. \(31 / 32^{\prime \prime} \times 9 / 16^{\prime \prime} \times 131 / 32^{\prime \prime}\). Standard package 20 & 1.25 \\
    \hline 15 volts. Size. \(1^{\prime \prime} \times 29 / 4^{\prime \prime} \times 17 / 6^{\prime \prime}\). Standard package 20. & 95 \\
    \hline 30 volts. Size. \(1^{\prime \prime} \times 3964^{\prime \prime} \times 27 / 32^{\prime \prime}\). Standard package 20. & 1.50 \\
    \hline \(22^{1}=\) volts. Size. \(9133^{\prime \prime} \times 1932^{\prime \prime} \times 131 / 2^{\prime \prime}\). Standard package 12 & 1.25 \\
    \hline 671,2 volts. Size. \(23 / 4 \times 141 / 33^{\prime \prime} \times 343 / 64^{\prime \prime}\). Standard package 6. & 2.95 \\
    \hline 90 volts. Size, \(311 / 6^{\prime \prime} \times 1932^{\prime \prime} \times 319 / 32^{\prime \prime}\). Standard package & 3.60 \\
    \hline \(41 / 2\) volts. Size, \(37 / 8\) " \(\times 15 / 10^{\prime \prime} \times 21 / 16^{\prime \prime}\). Standard package 6 & . 75 \\
    \hline 225 volts. Size, \(41 / 4^{\prime \prime} \times 25 / 8{ }^{\prime \prime} \times 4^{1 / 7^{\prime \prime} .}\) Standard package 1. & 1.16 \\
    \hline 240 volts. Size, 2916 " \(\times 15150^{\prime \prime} \times 413 / 32^{\prime \prime}\). Standard package 1. & 7.95 \\
    \hline 225 volts. Size, \(3916^{\prime \prime} \times 23 / 4^{\prime \prime} \times 4.44^{\prime \prime}\). Standard package & 7.95 \\
    \hline \(671 / 2\) volts. Size, \(211 / 6^{\prime \prime} \times 15 / 10^{\prime \prime} \times 21 / 4\) ". Standard package & 2.75 \\
    \hline 45 volts. Size, \(3 \% / 6^{\prime \prime} \times 13 / 4^{\prime \prime} \times 51 / 2^{\prime \prime}\). Standard package & 2.75 \\
    \hline
    \end{tabular}

    120
    220
    920
    U15PF
    U10
    U20
    115
    XX45
    N60
    D3
    XX150
    U160
    N 150
    K45
    M30

    Voltage
    \(11 / 2 \mathrm{~A}, 60 \mathrm{~B}\)
    1-A. 63 B
    \(6 \mathrm{~A}, 7 \mathrm{~B}\),
    9 A .90 B
    A, 90B
    \(71 / 2 . \mathrm{A} .7\). B
    71/2. 9.A, 90B
    1/2,
    \(75 / 8^{\prime \prime} \times 21 / 8^{\prime \prime} \times 33 / 4^{\prime \prime}\)
    25
    \(11 / 2\) volts. Size. \(1^{\prime \prime}\) (diam.) \(115 / 1_{10 \prime \prime}\). Standard package 12.. . 20 \(11 / 2\) volts. Size, \(1^{11 / 32^{\prime \prime}}\) (diam.) 225/4". Standard package 12.. . 20 tols. .i.e. b4 (diam.) 132 . Standard package 24. 15 volts. Size. \(1^{\prime \prime} \times 29 / 4^{\prime \prime} \times 1 / 16^{\prime \prime}\). Standard package 20.... 95 30 volts. Size. \(1^{\prime \prime} \times 3 \% 4^{\prime \prime \prime} \times 21 / 32^{\prime \prime}\). Standard package \(20 \ldots\). \(22^{1}=\) wolts. Size, \(19 / 32^{\prime \prime} \times 1932^{\prime \prime} \times 131 / 32^{\prime \prime}\). Standard package 12 .. 1.25
     90 rolts. Size, \(311 / 16^{\prime \prime} \times 19 / 32^{\prime \prime} \times 319 / 32^{\prime \prime \prime}\). Standard package \(6 \ldots .\). \(41 / 2\) volts. Size. \(3 / \%^{\prime \prime} \times 15 / 10^{\prime \prime} \times 215 / 0^{\prime \prime}\). Standard package \(6 . .75\) 225 volts. Size, \(41 / 4^{\prime \prime} \times 25 / 8^{\prime \prime} \times 4^{1 / 4 " \text {. Standard package } 1 \ldots 11.16}\) 240 volts. Size, \(2916^{\prime \prime} \times 1516^{\prime \prime} \times 413 / 32\). Standard package \(1 . . .87 .95\) \(671 / 2\) volts. Size, \(2^{11 / 10^{\prime \prime} \times 15 / 6^{\prime \prime} \times 21 / 4 " \text {. Standard package } 6 \ldots . .2 .75}\) 45 volts. Size, \(396^{\prime \prime} \times 13 / 4^{\prime \prime} \times 51 / 2^{\prime \prime}\). Standard package \(6 \ldots 2.75\)

    \section*{A QUALITY DRY BATTERY FOR EVERY PURPOSE}

    \section*{BURGESS BATTERIES}

    AMERICA'S MOST COMPLETE LINE OF DRY BATTERIES
    

    G3
    

    F3

    \section*{BURGESS PORTABLE "A" BATTERIES}

    No. 2F.
    No. 2 F4.
    No. 2R.
    No. 4F.
    No. 4FL.
    No. 6F.
    No. 8F.
    No. F4PI.
    No. 63.
    No. T5.
    No. D3.
    No. 2D.
    No. 24.
    No. \(\mathrm{B5}\)
    No. C5.
    No. F3.
    No. 21 R.
    No. 37
     6 volts. Size, \(4^{\prime \prime} \times 2136_{6}^{\prime \prime} \times 57 / 6^{\prime \prime}\). Standard package \(1 \ldots . . .\). . List price, 2.60 \(11 / 2\) volts. Size, \(121 / 4^{\prime \prime} \times 22564^{\prime \prime}\) diameter. Standard package \(48 \ldots\). . . List price, .15 \(11 / 2\) volts. Size, \(25 / 8^{\prime \prime} \times 258^{\prime \prime} \times 43 / 32^{\prime \prime}\). Standard package \(6 \ldots . .\). . . List price, 1.15 \(11 / 2\) volts. Size, \(47 / 8^{\prime \prime} \times 138^{\prime \prime} \times 5 \% 6^{\prime \prime}\). Standard package \(1 \ldots . . .\). . List price, 1.93 \(11 / 2\) volts. Size, \(43 / 22^{\prime \prime} \times 23 / 4^{\prime \prime} \times 41 / 6^{\prime \prime}\). Standard package \(3 \ldots . .\). . . List price, 1.75 \(11 / 2\) volts. Size, \(329 / 32^{\prime \prime} \times 223 / 32^{\prime \prime} \times 5^{1 / 2 "}\). Standard package \(1 \ldots . .\). . . List price, 2.22 6 volts. Size, \(2^{21 / 32^{\prime \prime}} \times 221 / 32^{\prime \prime} \times 4 / /^{\prime \prime}\). Standard package \(6 . .\). . . . . List price, 1.15 \(41 / 2\) volts. Size, \(4 / 16^{\prime \prime} \times 1 / / 8^{\prime \prime} \times 41 / 16^{\prime \prime}\). Standard package \(6 \ldots . .\). . . List price, .95 \(71 / 2\) volts. Size, \(217 / 32^{\prime \prime} \times 219 / 32^{\prime \prime} \times 329 / 32^{\prime \prime}\). Standard package \(3 \ldots .\). ... List price, 1.38 \(4^{1 / 2}\) volts. Size, \(37 / 8^{\prime \prime} \times 15 / 6^{\prime \prime} \times 215 / 6^{\prime \prime}\). Standard package \(6 \ldots . . .\). . Iist price, .75 \(1 \frac{1}{2}\) volts. Sizc, \(2 \% \%_{6}^{\prime \prime} \times 1 \% / 32^{\prime \prime} \times 231 / 2^{\prime \prime}\). Standard package \(12 \ldots .\). . . . List price,.\(~ 65\) 6 volts. Size, \(11_{6}{ }^{\prime \prime} \times 1 \%_{10}^{\prime \prime} \times 27 / 2_{2}^{\prime \prime}\). Standard package \(12 \ldots . .\). .. List price, .75 \(71 / 2\) volts. Size, \(329 / 32^{\prime \prime} \times 7 / 8^{\prime \prime} \times 227 / 32^{\prime \prime}\). Standard package \(6 \ldots . .\). . List price, 1.10 \(71 / 2\) volts. Size, \(27 / 32^{\prime \prime} \times 15 / 6_{6}^{\prime \prime} \times 31 / 32^{\prime \prime}\). Standard package \(6 \ldots . .\). . List price, 1.00 \(41 / 2\) volts. Size, \(4^{\prime \prime} \times 1 / / 6^{\prime \prime} \times 41 / 8^{\prime \prime}\). Standard package \(6 \ldots . . .\). . List price, .87 \(11 / 2\) volts. Size, \(121 / 64^{\prime \prime}\) (diam.) \(41 / 8^{\prime \prime}\). Standard package \(24 . \ldots\). . . . . List price, .30 \(11 / 2\) volts. Size, \(15 / 6^{\prime \prime}\) (diam.) \(61 / 8^{\prime \prime}\). Standard package \(1 \ldots . .\). ... List price, .85

    \section*{BURGESS PORTABLE "B" BATTERIES}

    No. \(\mathbf{A 3 0}\).
    No. B30.
    No. M30.
    No. XX30.
    No. XX45.
    No. XX50.
    No. 230.
    No. U200.
    No. N60.
    No. K45.
    No. XX69.
    No. P45.
    No. U30.
    P45M
    P60

    45 volts. Size, \(391_{6}^{\prime \prime} \times 21 / 4\) " \(\times 45 / 6^{\prime \prime}\). Standard package \(2 \ldots . .\). . . List price, 2.50 45 volts. Size, \(41 / 6_{6}^{\prime \prime} \times 21 / 32^{\prime \prime} \times 55 / 6^{\prime \prime}\). Standard package \(2 \ldots . .\). . List price, 3.50 45 volts. Size, \(396^{\prime \prime} \times 13 / 4^{\prime \prime} \times 51 / 2^{\prime \prime}\). Standard package \(6 . . . . .\). . List price, 2.75 45 volts. Size, \(277 / 2^{\prime \prime} \times 31 / 32^{\prime \prime} \times 321 / 32^{\prime \prime}\). Standard package \(6 \ldots . . .\). . . ist price, 2.10 \(671 / 2\) volts. Size, \(23 / 4^{\prime \prime} \times 111 / 2^{\prime \prime} \times 343 / 4^{\prime \prime}\). Standard package \(6 \ldots . .\). . . List price, 2.95 75 volts. Size, \(12 / / 2_{2}^{\prime \prime} \times 15 / 6^{\prime \prime} \times 65 / 6^{\prime \prime}\). Standard package \(6 . . . . . .\). . List price, 3.50 45 volts. Size, \(3^{\prime \prime} \times 25 / 6^{\prime \prime} \times 41 / 6^{\prime \prime}\). Standard package \(2 \ldots . . . .\). . . List price, 3.50 300 volts. Size, \(2334^{\prime \prime} \times 2 \frac{1}{32} 1{ }^{\prime \prime} \times 37 / 8^{\prime \prime}\). Standard package \(6 \ldots . .\). . List price, 11.00 90 volts. Size, \(311 /_{6}^{\prime \prime} \times 19 / 32^{\prime \prime} \times 311 / 2_{2}^{\prime \prime}\). Standard package \(6 \ldots . .\). . . List price, 3.60 \(671 / 2\) volts. Size, \(211 / 6^{\prime \prime} \times 15 / 6^{\prime \prime} \times 2 \frac{1}{4}\) ". Standard package \(6 \ldots . . . .\). . List price, 2.75 \(103^{1 / 2}\) volts. Size, \(111 / 32^{\prime \prime} \times 111 / 32^{\prime \prime} \times 11^{23 / 32 "}\). Standard package \(6 \ldots\). . List price, 5.38 \(671 / 2\) volts. Size \(1293_{2}^{\prime \prime} \times 1^{\prime \prime} \times 59_{3}^{\prime \prime}\). Standard package \(6 \ldots . .\). . List price, 2.50 45 volts. Size \(13 / 32^{\prime \prime} \times 19 / 32^{\prime \prime} \times 317 / 33^{\prime \prime}\). Standard package \(1 \ldots . .\). . . List price, 2.25 \(671 / 2\) volts. Size \(129 / 32^{\prime \prime} \times 1^{\prime \prime} \times 593^{\prime \prime}\). Standard package \(6 \ldots . . .\). . List price, 3.35 90 volts. Size, \(1^{129 / 32^{\prime \prime}} \times 1^{\prime \prime} \times 7132^{\prime \prime}\). Standard package \(6 . . . . .\). . List price, 3.25
    

    M30
    

    XX45
    

    \section*{A QUALITY DRY BATTERY FOR EVERY PURPOSE}
    

    GENERAL dry botteries cantain many outstanding advancements such as extra heavy seamless extruded zinc cups, the famaus paper thin seporotor permitting more mix and more active zinc area by utilization of the cell bottom, the curled rim lock seal which seals each cell individually. These features, found only in Generals, assure long shelf life as well as the maximum in dry batfery performance.

    \section*{GENERAL A \& B RADIO FARM PACKS}

    General A-B packs are made with \(L\) size cells in the \(A\) section. These cells are \(40 \%\) longer than the largest conventional \(11 / 4^{\%}\) diameter cell. This construction ossures the perfect balance between these " \(A\) " and " \(B\) " sections for current drains established by the Radio Industry.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type & Voltage & Standard Package & Pkg. Lbs. Weight & Eveready & Interchangeable With Burgess & Ray-O.Vac & Price \\
    \hline 60DLIIL & 11/2-90 & 1 & 24.5 & 759 & 17GD60 & & \\
    \hline 60D 12L6 & \(9-90\) & 1 & 24 & 8 & 3G6D60 & A8982 & 8.95
    10.95 \\
    \hline 6086 L & \(11 / 2-90\) & 4 & 39 & 758 & - & A885 & 8.95 \\
    \hline 318 & \(11 / 2-90\) & I & 22.5 & 1 & 18GD60 & A885 & 8.95 \\
    \hline
    \end{tabular}

    \section*{GENERAL ABC HOME RADIO BATTERIES}

    All cells used in General batteries are filled with active mix by loading equip. ment developed by General which automatically puts the right amount of mix into each cell and packs it uniformly. General home radio batteries are accepted for their uniformity, dependability and long service.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Trpe & Voltage & Standard Package & Phg. Lbs. Weight & Eveready & Interchangeable With Burgess & \(\widehat{\text { Ray-O-Vac }}\) & Price \\
    \hline 12 LIL
    P 2412 & \(11 / 2\) & 4 & 34 & 740 & 20 F & P9203 & \$ 5.15 \\
    \hline P24L2 & & & 17 & \(\times 125\) & 20 F2 & & 6.95 \\
    \hline V300 & 45 & 8 & 45 & & 2308 & P5233 & 3.65 \\
    \hline \(\bigcirc 30 \mathrm{~F}\) & 45 & 6 & 68 & - & 10308 & P5933 & 4.70 \\
    \hline V30FL & 45 & 3 & 39 & - & 21308 & P9303 & 5.30 \\
    \hline ref385
    V 58 & \(41 / 2\) & 10 & 3 & 781 & 5360 & 531 R & . 65 \\
    \hline V58 & & 10 & 6.3 & 773 & 5540 & S51R & 1.20 \\
    \hline H1588
    \(H 158\) & \(221 / 2\) & 10 & 15.4 & 768 & 5156 PI & P5151 & 2.45 \\
    \hline HI5A & 221/2 & 10 & 10 & 763 & 4156 & 4151 & 1.95 \\
    \hline
    \end{tabular}

    \section*{GENERAL PORTABLE A \& B PACKS}

    The small size cells used in portable batteries greally reflect the benefits deived from General's patented construction. General Batteries deliver more service hours per dollar, therefore you will find them used as original equipment in more battery radias than any other brand.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type & Volfage & Standard Package & Phg. Lbs. Weight & Eveready & Interchangeoble With Burgess & Ray-O.Vac & \\
    \hline 40N2CF & 11/2-60 & 6 & 8.7 & Eveready & & Ray-O.Yac & Price
    \(\$ 3.60\) \\
    \hline 41A4FL & \(11 / 2.611 / 2\) & 6 & 25.5 & 二 & 4GMA4I & AB419 & 3.60
    5.20 \\
    \hline 60A6F6-5
    \[
    362
    \] & 71/2-9.90 & 1 & \({ }^{6}\) & 753 & F6A60 & AB994 & 3.20
    6.25 \\
    \hline Z6086H8 & 71/2-9-90 & 6 & 24 & 756 & T5260 & & 5.95 \\
    \hline 26086H6 & 9-90 & 6 & 24 & - & G4850 & A8670 & 6.65 \\
    \hline 50AA5CE45
    S0A6F6 & \(6-71 / 2-75\) & 6 & 21.5 & 755 & T5250 & A8775 & 6.50 \\
    \hline 80A6F6 & 9.90 & 6 & 36.75 & - & F6A60P & A8909 & 6.25 \\
    \hline
    \end{tabular}

    GENERAL PORTABLEABATTERIES
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Typs & Voltage & \multicolumn{5}{|l|}{ 3td. Plig. Lits. Evaresily Eurgore Ray.O.Vac} & Price \\
    \hline D & 11/2 Radio A & 50 & 12 & \(\bar{\square}\) & \(\overline{7}\) & - & \$.15 \\
    \hline 4 FI & \(11 / 2\) & 6 & 9 & 742 & 4 F & P94A & 1.15 \\
    \hline \(3 \mathrm{H}_{3}\) & 41/2 & 6 & 8 & 746 & G3 & P83A & . 95 \\
    \hline 454 & 6 & 6 & 9 & 744 & F4PI & P694A & 1.15 \\
    \hline G & \(11 / 2\) & 25 & 11 & 964 & 21 R & 8R & . 30 \\
    \hline 5 C 5 & 71/2 & 12 & 7 & 717 & C5 & P751 & 1.00 \\
    \hline 3 F 3 & \(41 / 2\) & 6 & 7 & 736 & F3 & P93A & . 90 \\
    \hline \multicolumn{8}{|c|}{NERA} \\
    \hline Typ: & Voltage & \multicolumn{5}{|l|}{Std. Pkg. Lbs. \(\qquad\) Interchangeable With \(\qquad\) Phge. Weight Eveready Burgess Ray-O.Vac} & Price \\
    \hline V30A & 45
    45 & 6 & 11.4
    17 & 二 & A30
    B30 & \[
    \begin{aligned}
    & \text { P4yo } \\
    & \text { P5303 }
    \end{aligned}
    \] & \(\$ 2.50\)
    3.50 \\
    \hline \(\checkmark\) 30AA & 45 & 6 & 9 & 738 & 230 & P7R30 & 3.50 \\
    \hline V30AA2 & 45 & 6 & 9 & & 230 N & \(\overline{\text { P7830 }}\) & 3.10 \\
    \hline W308 & 45 & 6 & 12 & 482 & M 30 & P7830 & 2.75 \\
    \hline
    \end{tabular}

    \section*{GENERAL ''DuroMite'' BATTERIES}

    New General DuraMite batteries are the finest in battery design and assembly. Thin, well-balanced fat cells are stacked like a rall of wafers. Each stack af cells sealed in its awn well-balanced fat cells are stacked like a rall of waters. Each stack af cells sealed in its awn
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type & Voltage & \multicolumn{5}{|l|}{Std. Pkg. Lbs. \(\qquad\) Interchangeable With \(\qquad\) Pkge. Weight Eveready Burgess Ray-O-Vac} & Price \\
    \hline W45A & \(671 / 2\) & 12 & 10 & 467 & \(\mathrm{X} \times 45\) & 4367 & \$2.95 \\
    \hline W30A & 45 & 12 & 7 & 455 & XX30 & P3A30 & 2.10 \\
    \hline W60A & 90 & 12 & 13.5 & 490 & - & 946 & 3.60 \\
    \hline W-46A Paper & 671/2 & 12 & 6.25 & 477 & P45 & 4375 & 2.50 \\
    \hline W.50A & 75 & 6 & 6.25 & 437 & XX50 & - & 3.50 \\
    \hline \#150 & 45 & 24 & 4 & 415 & & - & 2.25 \\
    \hline \#172 & 671/2 & 12 & 6 & 457 & K45 & - & 2.75 \\
    \hline W-46A Metal & 671/2 & 12 & 14 & & & & 3.25 \\
    \hline
    \end{tabular}
    

    \section*{GENERAL "FlashLite" \& LANTERN BATTERIES}

    The New General "Flashlife" cell cames ta the market ta fulfill the demand af practically every user. This demand is far extra lang service, years af shelf life and pratection against corrosion damage. The Industrial cell is recammended when light is needed frequently and for lang periads.
    All General batteries are designed ta use the mast efficient cells available. The 641 is made with 12 L cells and this canstruction has praven ta praduce exceplianal perfarmance when used an Electric Fence cantrals and ather ignitian applicatians.
    
    

    \section*{fram minimum af space used.}
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type & Voltage & Std. Pkge. & Pkg. Lbs. Weight & Everead & & \[
    \begin{aligned}
    & \text { With } \\
    & \text { Ray-O-Vac }
    \end{aligned}
    \] & Price \\
    \hline \# 6 & \(11 / 2\) & 24 & 60 & \#6 lg & - & \(\pm 6 \mathrm{lg}\) & \$0.90 \\
    \hline \# 6 Tele & \(11 / 2\) & 24 & 60 & \# 6 Co. & - & \# 6 Tele & . 85 \\
    \hline 641 Multiple & 6 & 6 & 54 & 1461 & - & 641 & 3.75 \\
    \hline
    \end{tabular}

    \section*{GENERAL DRY BATTERIES, ING.}

    BRANGH OFFICES \& WAREHOUSES • NFW YORK, CHICAGQ, DALLAS, SAN FRANCISCO, LOS ANGELES, PORTLAND, MEMPHIS, MINNEAPOLIS

    \title{
    Mutuerclectricto \\ CLEVELAND, OHIO
    }

    MUELLER BATTERY AND TEST CLIPS

    \author{
     For use in making quick, temporary electrical connections. Serew connections.
    }
    WEE-PEE-WEE No. 88
    EACH NET
    \begin{tabular}{|c|c|}
    \hline \multirow[t]{2}{*}{} & NEW * MINI-GATOR (Smallest Insulated Clip Ever Made) \\
    \hline &  \\
    \hline Mini-Gator & \begin{tabular}{l}
     \\
    
    \end{tabular} \\
    \hline  & \begin{tabular}{l}
     insulator (suld stuataty) mbers completely - has \\
    
    \end{tabular} \\
    \hline &  \\
    \hline Mini-Gator &  \\
    \hline & No. 30 (Steel, cadmium plated) \\
    \hline EACH NET & \$0.07 LOTS OF 10 . \({ }^{\text {d }} 0.046\) \\
    \hline & o. 30.C (Solid Copper) \\
    \hline EACH NET & \$0.08 LOTS OF 10 . \(10 . . . . . . . .\). \$0.056 \\
    \hline EACH NET & 32 (insulator for Nos. 30 and 30-C) \(\$ 0.076\) \\
    \hline EACH NET & \$0.11 LOTS OF 10 ......... \$0.076 \\
    \hline
    \end{tabular}

    NEW INSULATED ALLIGATOR CLIPS
    
    l:atent Pewding
    No. 63 or 63-c Clip Sohl only as a unit, with factorntaplited insulators.
    
    
    
    
     phete protection against shorts in enen the tightest sints. These
    
     sulator Ionwartl.
    No. 63 INSULATED ALLIGATOR CLIP (STEEL)
    
     EACH NET.... \(\$ 0.30\) LOTS OF 10...... \(\$ 0\). No. 63-C INSULATED ALLIGATOR CLIP (COPPER)
     EACH NET \(\$ 0.33\) LOTS OF \(10 \ldots \ldots . . \$ 0.23\)

    \section*{ALLIGATOR CLIPS}

    No, 60-CONVENTIONAL TYPE Accurately made. slim jaws. fith ruerehime teeth. Consentiont. round thumb grip, bar rel comnection for batha plus. Fiphippes
    
     EACH NET .......... \(\$ 0.07\) LOTS OF 10
     Eliminates necessity for solderithe. Other. wise satue as
    EACH NET \(\$ 0.08\) LOTS OF \(10 \$ 0.058\)
    No. 60-CS-COPPER R.F. ALLIGATOR CLIP
    
    

    \section*{No. 62 FLEXIBLE VINYL \\ \section*{INSULATOR}}

    Sew: Red and hlack insulatoms for Allikator (lips bos, dinco
    and and 60 .
    

    EACH NET \(\qquad\) \(\$ 0.05\)
    No. 60.HS-STEEL ALLIGATOR CLIP
    WITH INSULATED HANDLE
    Same as Nus \(60-\mathrm{S}\) "xempt raluipped with mod and black insubating slece"s on end. Very convenient for distin. ruishing leads. Has screw enrinection "ilso. (admiun plated. \({ }^{2 n+1}\) lons. shipped half rell, hatf black
    EACH NET ............. \(\$ 0.14\) LOTS OF 10................... \(\$ 0.095\)
    No. 60-CHS-COPPER ALLIGATOR CLIP. INSULATED HANDLE Solid colprer version of No. \(60-\mathrm{HI}\). Brase screw. Shilped with half
     tif on one jaw, otherwise same as No. 8i. Jutal for use as a prod, for ordinary clip conncctions and for comnertions to insulatad binding posts having non-remorable heads. \(25 / 8\) " lung.
    EACH NET ................... \(\$ 0.20\) LOTS OF 10
    \(\$ 0.14\)
    Ise No. 87 Insulators for clips 85, 85.C and 85.T. Red and Black.
    red, half thack insulating pleesums. LOTS OF 10.
    EACH NET................ \(\$ 0.18\) LO

    Copyright by U. C. P., Inc.
    The MASTER - 20th Edition
    Net corer entire clip except nose. Protect apainst sloort and shock. Holp to distinguish leads.
    0.18

    Page M-1 2
    PRICES SUBjECT TO Change without notice

    \title{
    Mucullerclectricto
    }

    FLEXIBLE INSULATORS FOR CLIPS
    Insulator
    For Use with Clip No.
    Each Net
    Lots of 10
    

    A convenient protection awainst slowt circuit and electric shock. Packed half red and half hack to imbeate polarity. lamer tail pevents 13
    23
    26
    \(29^{*}\)
    32
    35
    \(37^{*}\)
    \(49^{*}\)
    \(62^{*}\)
    \(87^{*}\)
    93
     \(\$ 0.77\)
    .42
    .25
    .17
    .11
    2.12
    .07
    .10
    .07
    .07
    10 \(\$ 0.54\) .54
    .29
    .18
    .12
    .076
    1.50
    .05
    .07
    .05
    .07 Wrakabe of wire fombluctm so that clit is him

    No. 24-A
    

    No. 24-C—Solid! (enller.
    EACH NET

    A madium sizmi hattory elip. Stamde prect on hattary fosit latad enated, rubpur bhunt pro. trats sprintr. \(27 / 8\) lone. Jaw EACH NET \(\quad \$ 0.18\) LOTS OF 10 LOTS siza af No. \(24-A\) LOTS OF 10 \(\$ 0.12\)
    \(\$ 0.22\)
    Ese No. 26 Insulator for Clips \(24 \cdot A\) and \(24 \cdot C\).
    

    No. 21-A-Siteel, Lead Plated-4" I.nnir Each Net
    No. 21-A-Heavy Juty Sterel, lead plated, 4"
    long \(\mathbf{\$ 0 . 3 6}\)
    \(\$ 0.25\)
    \[
    2
    \]
    

    No. 21-C-100 1 mp . Solirl Conper, \(41 / 2\) " lonir \(\$ 0.83\) No. 11-A- 100 . Imp . Stend. loid paided, \(s^{\prime \prime}\) long .88
    

    \section*{THE SNAPPER}

    A Long insulnted Test Clip and
    A "Triple Threat" Radio Tool
    C. S, Patent

    No. 99
    7' Long Insulałed
    The long tute is mi insulating material and is fitterl with suritu comtact jaws on the tar encl. The jaws are oprrated lis a pueh of the thumb an the near ema. Wire is dforky and easmy con netermi in a hald in the insulator knols binding fost on the near ennly May the userl as (1) A "Deep Sea" Electric Test Clip-test contacts With case. dorp in the recrases of radio chassis with no danger "t short "incuil-: (2) An Electric Contact Prod-Gip jaws maty
    
     into inareewilla plare PRICE .. \$1.20. EACH Dealers" Wholesale Prire, each....\$0.72 Net

    \section*{CLAMPIPE GROUND CLAMP}
    

    No. 58

    THe exclusive patented feu. ture of a V-shaped coss ture of a C-shaped coss
    sortion in combination with sertion in combination with a Coshaped clamp crives a rigidity and effectiveness 10 the Clampipe that ranmot be found in any other
    make. The ClamPine will not bent or lop over when applied to a pipe. The point of the large case hardened screw, cuts through rust, paint or corrosion into clean, fresh metal, insuring a mond eron tact. The Clamp may be installed on a pipe lyine flush arrainst a wall. Will not spread open.
    The liw- "enoum rlamp value on the market. Applicable to pipe "多" in 1 "a" witcile diampler. 10 in a box
    EACH NET \(\$ 0.18\) LOTS OF 10 \$0.125

    \section*{THE "TENNA-CLAMP"}

    \section*{A New 3-in-1 Stand-off Insulator Clamp!}

    Supports TV and FM Lead-ins on MASTS. PIPES, GUTTERS and GUY-WIRES
    
     alove excont siffannot type manmb channeled on and to take stambaril gus-wire in addition to jopes.
    HAS THESE USEFUL FEATURES -- One standard size solves many lead-in problems - far more useful than straps or wire bands.
    - Brings lead-in to edge of roof - right where you want it - no more "draping"
    of wire across the roof.
    - On those high jobs, come right down a guy-wire - and get around the gutter in the clear. \(\qquad\)

    \section*{LOW PRICES!}

    All packed 100 in a carton
    No. 135-For all types of Cables, EACH NET, \$0.14 LOTS OF \(10, \$ \mathrm{C} .10\) LOTS OF 100, \$0.084
    

    \section*{ATR Replacement Vibrator Specifications}

    Base Diagrams
    

    55
    
    

    \section*{ATR VIBRATORS have Ceramic Stack Spacere}

    裡
    ATR Replacement Vibrator Specifications
    requency: 115 Cycles except as noted.
    N.S.-Non Synchronous
    S.-Synchronous
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & Voltage & Type & Hase Dia. & \[
    \begin{gathered}
    \text { Can } \\
    \text { Style }
    \end{gathered}
    \] & Dimensions & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Type } \\
    & \text { NNo }
    \end{aligned}
    \] & Volt-
    age & Type & Base Dia. & \[
    \begin{aligned}
    & \text { Can } \\
    & \text { Style }
    \end{aligned}
    \] & Dimenalons & List
    Price \\
    \hline 303 & 6 & N.S. & 17 & J & \(13 / 2^{\prime \prime} \times 18 / 8^{\prime \prime} \times 21 / 2^{\prime \prime}\) & \$6.35 & 523 & 6 & S. & 22 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 5.70 \\
    \hline 320 & 6 & N.S. & 10 & A & \(11 / 4^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 6.35 & 524 & 6 & S. & 23 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 7.70 \\
    \hline 324 & 6 & N.S. & 1 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 4.90 & 525 & 6 & S. & 24 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 7.80 \\
    \hline 324A & 6 & N.S. & 2 & A & \(15 / 6^{\prime \prime} \times 35 / 3^{\prime \prime}\) & 4.90 & 529 & 4 & s. & 21 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 7.70 \\
    \hline 3248 & 6 & N.S. & 1 & A & \(1{ }^{15 / 66^{\prime \prime} \times 31 / 2^{\prime \prime}}\) & 4.90 & 540 & 6 & S. & 27 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 7.70 \\
    \hline 324C & 6 & N.S. & 2 & A & \(13 / 6^{\prime \prime} \times 4{ }^{\prime \prime}{ }^{\prime \prime}\) & 4.90 & 541 & 4 & S. & 19 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 8.25 \\
    \hline 325 & 6 & N.S. & 51 & A & \(11 / 2^{\prime \prime} \times 27 / 8^{\prime \prime}\) & 6.35 & 5411 & 4 & S. & 19 & A & \(115 / 44^{\prime \prime} \times 31 / 2^{\prime \prime}\) & 8.25 \\
    \hline 328 & 6 & N.S. & 4 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 4.90 & \(544!\) & 6 & S. & 28 & A & \(13 / 8^{\prime \prime} \times 27 / 8^{\prime \prime}\) & 7.70 \\
    \hline 335 & 6 & N.S. & 9 & A & \(13 / 8{ }^{\prime \prime} \times 35 /{ }^{\prime \prime}\) & 4.90 & \(545 \ddagger\) & 6 & S. & 28 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 7.70 \\
    \hline 337 & 6 & N.S. & 14 & A & \(115 / 16^{\prime \prime} \times 31 / 2^{\prime \prime}\) & 6.3.3 & 547 & 6 & S. & 29 & C & \(115 / 4{ }^{\prime \prime} \times 31 / 2^{\prime \prime}\) & 7.70 \\
    \hline 338 & 6 & N.S. & 9 & C & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 4.90 & - 548 & 6 & S. & 24 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 8.55 \\
    \hline 340 & 6 & N.S. & 1 & A & \(11 / 2^{\prime \prime} \times 236^{\prime \prime}\) & 4.45 & *549 & 6 & S. & 21 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 8.15 \\
    \hline -344 & 6 & N.S. & 3 & A & \(11 / 2^{\prime \prime} \times 31 / 818\) & 8.55 & 550 & 6 & S. & 32 & K & \(47 / 6^{\prime \prime} \times 11 / 4^{\prime \prime} \times 12 / 4^{\prime \prime}\) & 9.15 \\
    \hline 345 & 6 & N.S. & 9 & A & \(11 / 2^{\prime \prime} \times 278^{\prime \prime}\) & 4.90 & 561 & 6 & S. & 24 & A & \(11 / 2^{\prime \prime} \times 27 /{ }^{\prime \prime}\) & 7.70 \\
    \hline \(347 \dagger\) & 6 & N.S. & 1 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 6.35 & 562 & 6 & s. & 21 & A & \(11 / 8^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 7.70 \\
    \hline -348 & 6 & N.S. & 54 & A & \(11 / 2^{\prime \prime} \times 27 / 8^{\prime \prime}\) & 8.95 & 564\% & 6 & S. & 23 & A & \(11 / 2^{\prime \prime} \times 27 / 6^{\prime \prime}\) & 7.70 \\
    \hline -349 & 6 & N.S. & 55 & A & \(11 / 2^{\prime \prime} \times 278^{\prime \prime}\) & 8.95 & -574 & 6 & S. & \(2: 3\) & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 8.95 \\
    \hline 350 & 6 & N.S. & 1 & A & \(11 / 4^{\prime \prime} \times 23 / 8^{\prime \prime}\) & 4.90 & -575 & 6 & S. & 24 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 8.95 \\
    \hline 380 & 4 & N.S. & 1 & A & \(11 / 2^{\prime \prime} \times 27 / 8^{\prime \prime}\) & 4.90 & 900 & 2 & S. & 52 & A & \(15 / 6^{\prime \prime} \times 21 / 8^{\prime \prime}\) & 9.80 \\
    \hline 503 & 6 & S. & 43 & A & \(113 / 16^{\prime \prime} \times 41 / 2^{\prime \prime}\) & 9.15 & 902 & 2 & S. & 53 & 3 & \(11 / 2^{\prime \prime} \times 21 / 8^{\prime \prime} \times 11 / 2^{\prime \prime}\) & 10.70 \\
    \hline ADAPTER & & & & & & 1.50 & 1340 & 12 & N.S. & 1 & A & \(11 / 2^{\prime \prime} \times 27 /{ }^{\prime \prime}\) & 5.50 \\
    \hline 506 & 6 & S. & 40 & A & \(1{ }^{151610}{ }^{\prime \prime} \times 41 / 2^{\prime \prime}\) & 9.15 & 1343 & 12 & N.S. & 56 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 4.90 \\
    \hline 507 & 6 & S. & 44 & A & \(1{ }^{13} / 16^{\prime \prime} \times 41 / 2^{\prime \prime}\) & 9.15 & *1344 & 12 & N.S. & 3 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 9.95 \\
    \hline 508 & 6 & S. & 42 & A & \(115 / 66^{\prime \prime} \times 41 / 2^{\prime \prime}\) & 0.15 & -1348 & 12 & N.S. & 54 & A & \(11 / 2^{\prime \prime} \times 27 / 8^{\prime \prime}\) & 9.95 \\
    \hline 520 & 6 & S. & 19 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 7.70 & 1520 & 12 & S. & 13 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 9.95 \\
    \hline 520A & 6 & S. & 19 & A & \(1{ }^{15} / 6^{\prime \prime} \times 31 / 2^{\prime \prime}\) & 7.70 & 1524 & 12 & S. & 23 & A & \(13 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 8.35 \\
    \hline 521 & 6 & S. & 20 & A & \(11 / 2^{\prime \prime} \times 31 /{ }^{\prime \prime \prime}\) & 7.70 & -1548 & 12 & S. & 24 & A & \(11 / 2^{\prime \prime} \times 313^{\prime \prime}\) & 9.95 \\
    \hline 522 & 6 & S. & 21 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\circ}\) & 7.70 & 2324 & 32 & N.S. & 1 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 7.15 \\
    \hline 522A & 6 & S. & 21 & A & \(155 / 16^{\prime \prime} \times 312^{\prime \prime}\) & 7.70 & 2401 & 32 & S. & 22 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) & 8.55 \\
    \hline
    \end{tabular}
    ;140 Cycles \(\$ 180\) Cycles tWith 5 Ohm Resistors "Communications Type Vihrator for Super Service.

    \section*{Recommended Substitutions for Discontinued Vibrators}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Discontinued Type & Recommended Replacement & Discontinued Type & Recommended Replacement & Discontinued Type & Recommended Replacement \\
    \hline 305........ & & 330. & 324C & 543. & 522A (Refer Note 3) \\
    \hline 307. & 303 (Refer Note 1) & 332.... & 522 (Refer Note 8) & 5434. & 522A (Refer Note 3) \\
    \hline 314. & & 342. & & 546...... & 522 (Refer Note 6) \\
    \hline 316... & & 504. & & 551....... & 550 (Refer Note 14) \\
    \hline 317..... & & 505........ & 503 (Plus Adapter) & 553....... & 550 (Refer Note 11) \\
    \hline 323........ & 340 & 531....... & 550 (Refer Note 13) & 591....... & 524 (Refer Note 9) \\
    \hline 326. & & 536........ & 524 (Refer Note 10) & 2327. & 2324 (Refer Note 12) \\
    \hline 327. & 325 & 537...... & 525 & 2403... & 2324 \\
    \hline
    \end{tabular}

    \footnotetext{
    - The Installation Notes listed above are shown in Section I.
    }

    ATR Vibrator Equivalent Charts
    by Vibrator Manufacturers＇Replacement Part Number
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Part No． & ATR Part No． & Papt No． & ATR Part No． & Part No． & ATR Part No． & Part No． & ATR Part No． \\
    \hline CORNELL． & OUR11．IER & CORNE1L & －－D（＇BILIER（Cont．） & DELCO－G & M－（Cont．） & DELCO．G & M－（Cont．） \\
    \hline COO． & 340 & \％i342．．．．． & 340 （ \({ }^{\text {a }}\) & 8520．．．．． & 324 H & 1208174．．． & No Rep． \\
    \hline COO－32． & 2324 & 53.43 & 324 & 8521. & 32413 & 1208239．．． & 550 \\
    \hline COI． & 340 & 5363 & 303 & 8.522 & 324 C & 1208920. & 2401 \\
    \hline C03． & 345 & 5316. & 32．7 & 8523 & 340 & 1209280. & 508 \\
    \hline C04．．． & 32.4 & 53677－32 ．． & \(232+\)（ Refor Note 12） & 8524 & 340 & 1209282. & 508 \\
    \hline C 07. & Nolker． & \(5370 \ldots\). & 380 & 8.525 & 344 & 1209810. & 340 \\
    \hline C 08. & 347
    328 & \(5400 \ldots .\). & 524
    540 & \(8526 \ldots\) & 340 & 1209811．．． & 340 \\
    \hline C14．\(\quad .\). & 358 & 5404．．．．． & 540 & 8527．．．．．． & 340
    345 & 1209812．．． & 340
    340 \\
    \hline C20P & \(32+1\) H & 5407 & 545 & 8529．．．．．．．． & 340 & 1211375．．． & 520 A \\
    \hline C21． & 340 & 5408. & 564 & 8530. & 328 & 1211573．．． & 520 A \\
    \hline C23P & 340 & 5409. & 520 & 8531. & 338 & 1211594．．． & 345 \\
    \hline C26P． & 340 & \(5409-4\) & 541 & 8532 & 340 & 1211595．．． & 345 \\
    \hline C28P－32． & No Rap． & 5410 & 521 & 8533 & 340 & 1212660．．． & 345 \\
    \hline C31． & 328 － & \(5+11\). & 522 & 8534. & 340 & 1212966．．． & 340 \\
    \hline C33． & 338 & 5＋13－4．．． & 5．11．4 & 8538．．．．．． & 522 & 1213446．．． & 525 \\
    \hline C35． & 34.5 & 54.5 ．．．． & 508 & 8539．．．．．． & 347 & 1213655．．． & 340 \\
    \hline C42M． & 340 & 54.6 ．．．．． & 517 & \(8540 . . . .\). & 340 & 1213671．．． & 345 \\
    \hline C43M． & 324 & 5429. & \({ }^{507}\) & 8541. & 340 & 1213732．．． & 345 \\
    \hline C63． & 303 & \(5+31-4\). & No Rep． & 8542．．．．． & 340 & 1213881．．． & 340
    561 \\
    \hline \(\mathrm{CC6F}_{\text {C67－32 }}\) & 32.5
    2324 & 5434.
    5435. & 522 （3Pfar Nute 3） & 8543. & \(3: 50\)
    32.5 & 1214832．．． & 561
    340 \\
    \hline CS03－12 & 13.4 & 5435－4 & No Repl． & 8550. & 1343 & 1215009．．． & 340 \\
    \hline Cs03－32 & 1344 & 5436. & No Repr． & 8501. & No Rep． & 1220155. & 1343 \\
    \hline Cs04P． & 337 & 5437 & 54．7 & 8602. & 550 & 5035120. & 550 \\
    \hline Cs06． & No \(11+\mathrm{l}\) & 5438. & 5.4 & 8603. & 5.50 （Refer Note 11） & 5037400．．． & 508 \\
    \hline CS10．．． & No R R ＋1． & 5440 & 524 （Refer Nute 10） & 8604．．．．． & 550 （Refer Note 13） & 5037916．．． & 550 \\
    \hline CSI1－12．．． & Nohtil． & 5443． & \(\stackrel{523}{\text { No lkp }}\) & 8605．．．．．． & No Rep． 550 （Refer Note 14） & 5038055．．． & 508
    508 \\
    \hline D00．． & 524 & 5454 ．．． & \(561{ }^{\text {5 }}\) & 8607. & No Rep． & 5039757．．． & 508 \\
    \hline D04 & 6． 40 & 5463 & 5，50 & 8608. & No Rep． & 5040000. & 324 \\
    \hline D0t． & 52.7 & 5464 & 503 （Refar Note 2） & 8609．．．．．． & No Rej． & 5040700．．． & 508 \\
    \hline D07． & 54.5 & 5498－2 & 902 & 8610．．．．． & 520 & 5041125．．． & 520A \\
    \hline D08． & \(5 \mathrm{ti4}\) & \(5469-2\) & 900 & \(8611 . .\). & 520 A & \(5041245 . .\). & 508 \\
    \hline D09． & 520 & 5503－12． & 13.4 & 8912. & 521 & \(5041376 .\). & 507 \\
    \hline D09－4．．． &  & 5.704 & 337 & 8613．．．．．． & 522 & 5042240．．． & 340 \\
    \hline D10． & 521 & 5506 & No Rep． & 8614．．．．． & 562 & 5042703．．． & 324 B \\
    \hline D11． & 528 & 5510 & No Rep． & 8615. & 523 & 5043025．．． & 324 \\
    \hline D13．．．． & 520 A & \(5.511-12\). & No Rep． & 8616. & 524 & 5050050．．． & 547 \\
    \hline D13－4．．． & \(\mathrm{Na}_{503} \mathrm{Re} \mathrm{\%}\) ． & 5．513－12． & No Rep． & 8617．．．．． & 525 & 5050498．．． & 547 \\
    \hline D16． & 503 & \(5.14-4\)
    5515. & No Rep．
    \(34+/ 3+8\) & \(8618 . . .\).
    8619 & 503
    503 & 5050651．．． & 520
    335 \\
    \hline D22． &  & 5.516. & 324 & 8620. & 506 & 5051301 ． & 335 \\
    \hline D25． & 508 ． & 55517－12． & No Hep． & 8621. & 508 & 5052370．．．． & 503 （Relet N才062） \\
    \hline D26． & 6.47 & 5.518. & 349 & \(8622 . .\). & 507 & \(5052374 . .\). & 325 （Reles \\
    \hline D29． & 067 & 5519 & 348 & \(8823 . . .\). & No Rep． & 5052378．．． & 324 \\
    \hline D31． & No Rell． & 5.560. & No Rep． & \(8624 . . .\). ． & 524 （Refer Note 9） & 5052525．．． & 522 \\
    \hline D34． & 522 & 5614． & 506 & 8625. & No Rep． & 5052538．．． & 324 \\
    \hline D35． & 5 & Sifli & 548 & 8826. & 522 （Refer Note 6） & 5052869．．． & 524 \\
    \hline D35－4．．．． &  & iffue
    ifios－32 & 1548
    No Rep， & 8827. & 524 （12efer Not．10） & 5053141．．． & 503
    523 \\
    \hline D36．．．．． & \({ }_{\text {Nor }}\) & 50， & No Rep．
    No Rro． & 8628. & 525
    547 & 5053179．．． & 523
    521 \\
    \hline D38． & 524 & \(5 \mathrm{Stin7}\)－12 & No Rep． & 8630. & 547 & 50．53183．．．． & 525 \\
    \hline D40 & 524 & 51077－32 & No Rep． & 8631 & 522 （Refer Note 3） & 5053185．．．． & 520 \\
    \hline D43．．．． & 52.3 & 5timilic & 15：20 & 8632. & in 8 （Reler Noto & 5053501．．． & 524 \\
    \hline D43－32．．． & 2401 & 5610．．．． & 562 & 8633. & 522 A （Refer Note 3） & \(5053699^{\circ}\) ． & 303 \\
    \hline D54．．．．． & 561 & 5610－12．．． & No Rep． & 8634. & 522 2 & 5054500．．． & 547 \\
    \hline D63 & 580 & 361－12．． & 1.488 & 8835. & 54.5 & 5057220．．． & 340 \\
    \hline D64． & 50.3 & 5115 & 54， & 8636. & 545 & \(5059777 .\). & 345 \\
    \hline DS04． & 5 & 5615－12．
    \(561.5-24\). & No Rep．
    No Rep． & 8637.
    8638. & 540
    345 & 5060845．．．． & 345
    340 \\
    \hline Droj－12．： & 1．j48 & 5616. & No Reps． & 8639. & 345 & 7232741．．．． & 547 \\
    \hline D－0．j－32．． & \(\mathrm{N}, 18 \cdot \mathrm{l}\) 。 & 5616－12． & No Rep． & 8642. & 561 & \(7233419 . .\). & 547 \\
    \hline D＊07． & No krb． & 5820 & 574 & \(8643 . .\). & 524 & 7233427. & 335 \\
    \hline Ds07－12． & Norrip． &  & 549 & 8701 & No Rep． & 7235951．．． & 547 \\
    \hline D807－32． & No liep． & 5622．．．．． & No Rep． & 8702. & No Rep． & 7236066. & 547 \\
    \hline DSO9－12．． & \({ }_{5}^{1520}\) & 5623． 6.3. & 57.5
    13.4 & 8703．．．．． & No Rep． & 7237244. & 345 \\
    \hline DS10－12． & No llep． & 6370. & 340 & 8704．．．．．． & \({ }^{2324}\) & 7237245. & 345 \\
    \hline DS14－12．． & No Rep． & & \(3+0\) & 8706．．．．．．． & \({ }_{2324}{ }^{\text {O }}\) Rep． & 7237246．．． & 345
    345 \\
    \hline DS15－12． & Nolpr． & DELCO－G & M & 8707. & 2324 （Refer Note 12） & 7237499．．． & 338 \\
    \hline DS15－24．． & Nolter． & \(8500 . . .\). & No Rep． & 8708．．．．． & No Rep． & \(7237500 .\). & 338 \\
    \hline DS16－12．． & Noktep． & \(8801 . . . . .\). & No Rep．
    No Rep． & 8709．．．．．\({ }_{8}\) & No Rep． & 7237501．．． & 338 \\
    \hline DS20． & 524 & 8503. & 303 \％ep． & \(8731 .\). & No Rep． & 7237663．．． & 338 \\
    \hline 6YL10－2．．． & No，R＂P。 & 8504 & 32.4 & 8732. & No Rep． & 7237664．．． & 338 \\
    \hline \＄300－32 & \(3 \% 4\)
    23 & 8505．．．．． & 324 & 8733．．．．．． & 2401 & 7237665．．． & 338 \\
    \hline 5300－32．．． & 2324
    340 & 8506．．．．． & \begin{tabular}{l}
    324 \\
    303 \\
    \hline
    \end{tabular} & \(8751 . . .\).
    8752 & No Rep． & 7237666．．． & 338 \\
    \hline 3303. & 34.7 & 8508. & 324 & 8753. & No Rep． & 7238685．．．． & 345 \\
    \hline 5307. & Nu Rer． & 8509. & \(3+5\) & 8754. & No Rep． & \(7238829 .\). & 345 \\
    \hline 5308．．．．． & \(3+0\) & 8510，．．．． & 328 & \(8757 . . .\). & 1548 & 7239123．．． & 340 \\
    \hline 5309．．．．． & 328
    350 & \(8511 . . .\). & 325 & 605664．．．． & 335 & 7239124．．． & 340 \\
    \hline 3320. & \(32+13\) & \(8812 . . . . .\). & 325 & 605665．．．． & 550
    508 & 7239439．．． & 347 \\
    \hline \＄321． & 340 & \(8514 . . . .\). & No Rep． & 1206048．．． & 303 & & \\
    \hline 5323. & 340 & \(8515 \ldots .\). & No Rep． & 1207758．．． & 303 & & \\
    \hline 5326．．．．．． & 340 & 8516．．．．． & 324 C & 1207849．．． & 303 & & \\
    \hline 5331． & 328 & \(8517 . . .\). & 324 A & 1208000．．． & 550 & & \\
    \hline 5333．．．． 533. & 338
    34.5 & \(88518 . . . . .\). & 303 （Refer Note 7） & 1208115．．． & No Rep． & & \\
    \hline 2335．．．．． & 34. & 8519．．．．．． & 522 （Refer Note 7） & 1208152．．． & 550 & & \\
    \hline
    \end{tabular}

    Note：－For racnmmanded replacement fefer to liatinge by recelver name and model number lo Section A．

    \title{
    ATR Vibrator Equivalent Charts
    }
    by Vibrator Manufacturers' Replacement Part Number
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Part No. & ATR Part No. & Part No. & ATR Part No. & Part No. & ATR Part No. & Part No. & ATR Part No. \\
    \hline ELECTRON & ICS & JAMES-(C & ont.) & MALLORY & -(Cont.) & MEISSNER & (Cont.) \\
    \hline 491...... & No Rep. & PJ16..... & 340 & 253Y.... & 324 & 452....... & 325 \\
    \hline 1703. & 340 & P.J17. & 340 & 264. & 522 & 454........ & 340 \\
    \hline 1824 & No Rep. & PJ18. & 340 & 2708. & 503 & 464..... & 324 B \\
    \hline 2041. & 3.50 & PJ19. & 325 & 271 & 503 & 495...... & 340 \\
    \hline 2088. & 345 & PJ50 & 530 & 271 HD & 506 & 500....... & No Rep. \\
    \hline 2089. & 529 & P) \({ }^{\text {P1 }} 51\). & 5.50 (Refer Nute 11) & 273 C . & 508 & 542....... & No Rep. \\
    \hline 2090. & 328 & PJ54.... & 308 & 273 D & 507 & 549....... & 2324 (Refer Note 12) \\
    \hline 2092...... & 547
    524 & P.5.5.5 & 503 (12eler Vote 9) & 275. & 503 (Refer Vote y) & \(554 . . . . .\). & 2324 \\
    \hline 2507....... & No Rep. & PJ57......', & 525 (Reter Note 9) & 28005 & 524 (Refer Nute 9) & 561......... & 2401
    2324 \\
    \hline 2805. & 340 & PJ58. & 522 & 28791 & 524 & 372...... & No Rep. \\
    \hline 2606. & No Rep. & PJ59.... & 523 & 289 Y & 525 & 573....... & No Rep. \\
    \hline 2682. & \({ }_{308} 308\) & PJ60.... & 521 & 292. & 303 & 574....... & 2324 \\
    \hline 2687. & 525 & PJ62......'. & 507 & 24.48 & 32.5 & 575........ & No Rep. 550 (Refer Note 14, 11) \\
    \hline 2688. & 520 & P.J63 & 525 & 2948 W . & 328 & 702....... & 503 (Refer Note 2), \\
    \hline 2689. & 338 & PJ64 ..... & 522 (Refar Note \({ }^{\text {b }}\) ) & 296. & 325 & 704....... & 508 (Rer Note \\
    \hline 2715. & No Rep. & PJ63...... & 524 24 & 297. & 325 & 705....... & 503 \\
    \hline & & PJ66...... &  & \(\stackrel{298 .}{ }\) & 325 & 706....... & 524 (Refer Note 9) \\
    \hline & & & 524 (Refer Note 9) & 299. & 325 & 708....... & 523 \\
    \hline JAMES & & PJ68...... & 522 (Refer Note 3) & 500P & 340
    340 & 710. & No Rep. \\
    \hline J1... & 340 & 2 J 70. & 902 & S03. & 303 & 714....... & 521 \\
    \hline JIA. & 303 & 2 J 71 & 900 & 0 OH & 522 (Refer Note 8) & 715....... & 520 \\
    \hline 12. & 347 & +J2sw. & No Rep. & 40.p & 324 B & \(717 . . .\). & No Rep. \\
    \hline J?A. & 340 & 4J58. . . . . & No Hep. & . 506 P & 337 & \(718 . .\). & 507 . \\
    \hline J2H. & 32413 & 4 J 61. & 541 & 307 P & 340 & 719...... & 525 \\
    \hline J2S. & 349 & 4 J 61 A & 541 & 208P & 340 & 720. & 522 (Refer Note 6) \\
    \hline J2SM & 340 & 12J15ST. & 13.4 & \(509 P\) & 340 & 722....... & 550 (Refer Note 13) \\
    \hline Jesp. & 340 & 1252 & 13.4 & 510P & 340 & 723....... & 524 (Rer \\
    \hline JVSX & No Rep. & 12,22.... & 1.224 & 514. & 547 & 726...... & 547 \\
    \hline J2S8. & No Rep. & 12J24W... & No Rep. & 716. & 547 & 727....... & No Rep. \\
    \hline J3SP. & \({ }^{340} \mathrm{No}\) Rep & 12J58W. & No Rep. & 722A.. & 522 (Refer Note 3) & 728....... & 524 (Refer Note 10) \\
    \hline J6S. & 325 & \(12 \mathrm{Jta3}\). & 1.548 & 782. &  & 731....... & 522 (Reser Note 3) \\
    \hline 58 s & 328 & 12372W. & No Rep. & 743. & 562 & 780. & 545 \\
    \hline J8SP. & 328 & 12PJ21 ... & 1344 & 748. & 564 & 781. & 525 \\
    \hline J9. & 34.5 & 24J58W. & No Rep. & 825. & 324 & 782...... & No Rep. \\
    \hline J9S. & 338 & 32 J 2. & 2324 & 825 C & 344 & 785....... & 522 . \\
    \hline fusa & 34.7 & 32 J 15 ST . & 2324 & 839. & 347 & 786....... & 562 \\
    \hline 31.5 ST & 32415 & 32 j 19 N . & 23.3 & 850. & 340 & 787....... & 520 A \\
    \hline 116. & 337 & \(32 \mathrm{JF9}\). & 2324 & 852. & 345 & 800....... & 541 \\
    \hline J19S. & 325 & \(32 \mathrm{J63} 3\) & No R?p. & 853. & 340 & 801....... & No Rep. \\
    \hline 121. & 3.50 & 32PJ3S.... & 2324 , 23 & 854. & 328 & 815...... & No Rep. \\
    \hline 322. & 324 & 32PJ19.... & 2321 'Ru..fer Note 12) & 8.39. & 340 & & \\
    \hline 123....... & 340 & 32PJ50.... & No Rapp. & 810. & 338 & & \\
    \hline .125, ....... & 349 & & & 85.3 . & 345 & & \\
    \hline J,0. & 5.3 & & & 818. & 345 & National & UNION \\
    \hline J. 2. & 345 & MALLORY & & 810. & 340 & 402. & 345 \\
    \hline J54. & 508 & 8247... & 2401 & 870. & 34.5 & 404. & 340 \\
    \hline 15.5. & 503 & F-2.51. & 23.24 & 901 M . & 340 & 406. & 340 \\
    \hline \(J 38\). & 522 & F294. & 2.24 & (102M & 340 & 408. & 328 \\
    \hline , 158A. & 522 & 1097 & \(2: 324\) (Refer Note 12) & 90311 & 340 & 500. & 547 \\
    \hline \({ }^{158 P}\) & 522 & 1.826 C & 2324 & \(4.51{ }^{1}\) & 522 & 600. & 522 \\
    \hline J.58W.... & No Rajn & (i) \({ }^{\text {a }}\) & 1.520 & Gisw & 545 & 602. & 524 \\
    \hline 359....... & 523 & (12 28. & 1524 & \[
    953 \mathrm{~W} . .
    \] & 545 & & \\
    \hline Jtio....... & 508 & (i249. & 1548 & \[
    954 . . .
    \] & 540 & & \\
    \hline J61....... & 520 & (i23.3 \({ }^{\text {a }}\) & 1344 & \[
    1100 .,
    \] & 350 & & \\
    \hline J161A..... & 520.1 & (:725C... & 1548 & 1:501..... & 348 & OAK & \\
    \hline J61C...... & 503 & (1749C. & 1520 & 1502...... & 349 & D.7...... & 522 \\
    \hline J62....... & 507 & \({ }^{18286 C}\) & 1344 & \$01..... & 348 & 352H.... & 562 \\
    \hline  & 52.5 & \({ }_{\text {( } 88.09 .0 .}\) & 1344
    1340 & \(4.02 . . . .\). & 349
    549 & 2098...... & No Rep, \\
    \hline J63SP...... & 561 & (;374. . . . & 1343 & 4.548. & 374 & V5064..... & \({ }_{522}\) Rep. \\
    \hline J65. & 524 & (11.21 & 1348 & 4.549 & 575 & V5105..... & 340 \\
    \hline J65M.... & 524 & T40, & 900 & & & V5107.... & 328 \\
    \hline ,16.iSP.... & 564 & 'Jtorr2, & 902 & & & V5108.... & \\
    \hline 166....... & 547 & T4003. \({ }^{\text {che }}\) & 900 & & & V5118.... & 522 \\
    \hline J678i̊. . . . . . & 524 & Wedin... & i+1 & MEISSNER & & V5123.... & \({ }_{502}\) Rep. \\
    \hline J69....... & 540 & W246.... & No Rep. & M06...... & 524 (Refer Note 10) & V5133..... & 340 \\
    \hline . \(173 . . . . .\). & 52.5 & W759.... & \$41 & 310. & 1.548 (1) & V5143.... & No Rep. \\
    \hline PJ1....... & 340 & W8.59.... & 380 & 311. & 1344 & V5179.... & 340 * \\
    \hline PJ2....... & 340 & 221. & 303 & 400....... & 303 & V5193.... & 340 \\
    \hline PJ3. & 324 & 222. & 5500 & 401....... & No Rep & V5208..... & 322 \\
    \hline PJ3S...... & 324 & 223...... & 8.50 (Refer Nute 11) & 402. & 324 & V5247.... & No Rep. \\
    \hline PJ4........ & 325 & 224........ & \({ }_{50}^{250} 50\) (Refer Note 13) & 103...... & 324
    340
    3 & V5259..... & 522 \\
    \hline PJ5....... & No Rep. & 245...... & 220 & 407...... . . & 340 & V5359..... & 340
    340 \\
    \hline PJ6....... & 325 & 24.3A..... & 320A & \(409 . . .\). & 324 & V5369.... & 522 \\
    \hline PJ6S...... & 325 & 245C.... & \(5 \geqslant 1\) & 413....... & 345 & V5392..... & 328 \\
    \hline PJ7....... & 345 & 245SW . . & 50 & 414....... & 340 & V5410.... & 340 \\
    \hline PJ8...... & 328 & 446 & 522 & 415...... & 340 & V5413.... & 522 \\
    \hline PJ88...... & 328
    335 & 2464... . . \({ }^{2}\) & 522 & 435....... & \begin{tabular}{l}
    345 \\
    345 \\
    \hline
    \end{tabular} & V5416..... & No Rep. \\
    \hline PJ9....... & \({ }_{522}^{335}\) (Refer Note 7) & 2.461
    \(247 . . . . . . . ~\) & 563 & 436....... & 345
    328 & V5447..... & No Rep, \\
    \hline PJ11...... & 324 (Reler Note \({ }^{\text {\% }}\) & 248. & 524 & 441........ & 522 (Refer Note 7) & V5495..... & 325 Nep. \\
    \hline PJ12..... & 324 & 249. & 52.3 & 442...... & 325 & V5522..... & No Rop. \\
    \hline PJ148.... & 325 & 253. & 324 & 449....... & 325 & V5527..... & 340 \\
    \hline PJI5S..... & 340 & 2j3T..... & 324 & 450...... & 340 & V5530.... & 340 \\
    \hline
    \end{tabular}

    Note:-For recommended replacement refer to listings by recelver name and model number In Section A.

    \section*{ATR Vibrator Equivalent Charts}
    by Vibrator Manufacturers' Replacement Part Number
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Part No. & ATR Part No. & Part No. & ATR Part No. & Pari No. & ATR Part No. & Part No. & ATR Part No. \\
    \hline OAK- (Cont & ) & RADIART- & (Cont.) & RADIART- & (Cont.) & RADIART- & (Cont.) \\
    \hline V'5570..... & 340 & 3850.... & 534 (Refer Note 3) & 5341M & \(3 \pm 0\) & 5415-24 & No Hep. \\
    \hline V5608. & No Rep. & 3865 & 340 & . 34.3 & \(34^{\circ}\) & 5616. & No Rep. \\
    \hline \(\checkmark 5624\). & No Rep. & 3880 & 303 & 5342 M . . & 340 & 5616-12 & No Rep. \\
    \hline V.5641..... & 340 & 3883 & 524 'Refer Note 10) & 5343.1 & 324 & 5620 & \\
    \hline V5645.. & 522 & 3888 & 340 & 3355.... & No Rep. & 5621 & 549 \\
    \hline V5670.. & 522 & 42.1 H.... & 324 & 535.5-14... & No Rep. & 5622 & N\% Rep. \\
    \hline V5704. & No Rep. & 42.33. 425.3 & 31:4 & 5356-14... & No Rep. & \$623. & 575
    1343 \\
    \hline V 5745. & 340 & 4254. & No Ren. & 5363. & 303 \%. & 6370. & 340 \\
    \hline V5770.. & 328 & \$2.74-12 & No Rep. & 5365. & 32.5 & & \\
    \hline V5868.. & 522 & 42:4-32... & Noker. & 5366. & 325 & & \\
    \hline V6027. & No Rep. & 42.55 . . . & 548 & 5.367-32 & 2324 ( Refer Note 12) & & \\
    \hline V6087. & 1344 & 420.5-12 & 1.548 & 5370 & 380 n (10) & TURNRR & \\
    \hline V6248. & 1344 & 4255-32. & No Rep. & 5400 & 524 & T1. & 340 \\
    \hline V6270. & 522 & 4255 H . . . & 548 & 5404. & 540 & T1A. & 303 \\
    \hline Y6347. & No Rap. & 4256 ¢ \({ }^{\text {c }}\) & No Rep. & 5405. & 521 & T3. & 324 \\
    \hline Y6605. & No Rep. & \(4256.12 \ldots\) & 13.4 & 5408 . . . & 525 & T3S & 324 \\
    \hline V6633-32.. & No Rep,
    No Jep. & 42:06-32
    4257. & \({ }^{2324}{ }^{\text {No }}\) Rep. & \(5406-12 .\).
    5407 & 1.548
    545 & T3SP..... & 340
    325 \\
    \hline 7い-37216. & 328 & 42:57-12... & N: frep. & 5408. & 564 & T5 & No Rep. \\
    \hline & & 42.57-32. & No Repo & 5409. & 520 & T6S & 325 - \\
    \hline & & 42.88. & Nor Rep. & 5409-4. & 541 & T8S & 328 \\
    \hline & & 4258-12.. & 1.518 & 5409-12.. & 1.520 & T9. & 345 \\
    \hline & & 4258-32 . & Norem. & 5409-32 & No Rep. & T9S & 345 \\
    \hline RADIART & & +260.. & 340 & 5410. & 521 & T108 & 522 (Refer Nole 7 \\
    \hline 2742...... & 303 & 4301..... & 324 & 2411. & 522 & T11. & 324 \\
    \hline 2743. ..... & 303 & 4306. & No Rep. & 5413 ... & 520.1 & T12...... & 324 \\
    \hline 2747..... & 303
    303 & 43066-12... & Nolien. & 5413-4. . . & 541.1 & T148.... & 325 \\
    \hline 2884. . . . . & 303 & 4313. & Notep. & \% 516. & 503 & T198 & 345 \\
    \hline 2867..... & 303 & 4314 & 2324 (Raler Note 12) & . 5118 & 720 & T50..... & 550 \\
    \hline 3200.. . . & 303 & 4318 ... & 522 (Refer Note 7) & 5418-12. & 320 & T51. & 550 (Refer Note 1t) \\
    \hline 3223. .... & 325 & 4319. . . . . & No Rep. & 5420P.. & 522 & T54...... & 508 (Rer Now \\
    \hline 3225. . . 32. & No Rep, & 4320.... & \({ }_{\text {Nir }}^{325}\) Rera. & it2l & \({ }^{522}\) Rep. & T55....... & 503 (Refer Noto 9) \\
    \hline 32:27. .. & \({ }_{303}{ }^{\text {Nop. }}\) & 4402. & \(5: 0\) & 5425. & 508 Rep. & T58........ & 522 (Reler Nole \({ }^{\text {a }}\) \\
    \hline 32\%0. & 340 & 4403. & 520.4 & 5426 & 547 & T59. & 523 \\
    \hline 3261. & 325 & 4404. & 2401 & 5427 . & 529 & T60. & 521 \\
    \hline 3262. & 340 & 4414..... & 525 & 5428. & 522 (Refer Note 6) & T81. & 520 \\
    \hline 3263 & 325 & 4415..... & 5.50 (Refer Nuty (3) & 5429. & 507 & T62...... & 507 \\
    \hline 3264. & 324 & 4415-12., & No Rep. & 5430. & 322 (Refer Note 3) & T63. & 525 \\
    \hline 3283. & 503 & 4416... & 522 & 5431. & No Rep. & T84. & 522 (Refer Note 6) \\
    \hline \(3290 . . .\). & No Rep. & 4417.... & 541 & 5, \(5131-4\) & No Rerr & T65....... & 524 \\
    \hline 3299 . . . & 325 & 4.500. . . . & 5.75 & 5434 & 522 (Refer Note 3) & T68....... & \\
    \hline \(3300 \ldots .\). & 303
    325 & 4501. . . . & 524
    503 & 5435
    \(5435-4\) & 522 Rep. & T87....... & 524 (Refer Noto 10) \\
    \hline 3308. & 550 (Refer Note 14) & 4504.... & 507 & 5437. & 54.5 Rep. & TU3S & 324 \\
    \hline 3310. & No Rep. & 4505. & 506 & 5438 & 524 & 12 T 21. & 13.4 \\
    \hline \(3311 . .\). & No Rep. & \(4607 . .\). & No Rep. & 5439 & 562 & 12T63.. & 1548 \\
    \hline 3312.... & No Rep. & 4608. . . & No Rep. & 5439-12. & No Rep. & 32 Tl A & No Rep. \\
    \hline 3313.... & 303 & 4610... & No Rep. & 5440 & 524 (Refer Note 10) & \(32 \mathrm{~T} 38 . .\). & 2324 \\
    \hline 3314.... & No Rep. & 4611... & 507 & 5443. & 523 & 32T8S . . . & 2324 \\
    \hline \(3315 .\). & 550 & \(4612 .\). & 522 & S443-32. & No Rep. & 32T19S... & 2324 (Refer Note 12) \\
    \hline \(3316 \ldots\) & No Rep. & 4613.... & 508 & 5454. & 561 & \(32 \mathrm{~T} 50 . . .\). & No Rep. \\
    \hline 3317.... & 550 (Refer Note 11)
    No Rep. & 4614..... & 508 & 5463. & 550 (Refer Note & 32T59..... & No Rep. \\
    \hline ,3319... & 503 (Refer Note 2) & 5300. \({ }^{\text {a }}\). & 3.4 &  & H00 (Reter Note a) & 32T61..... & No Rep. \\
    \hline 3320.... & 340 & .5300-12. . & 13.4: & .7488-2 & 90:2 & & \\
    \hline 3356. & 325 & 5300-32. & 23:4 & -465022 & 900 & & \\
    \hline 3375. & 303 & 5301. & 340 & 5 S (0) & 324 & UTAH & \\
    \hline 3395. & 2324 & 5303. & 315 & 5.301 & 324 & NL3.... & 303 \\
    \hline 3397. . . . & 2324 (Reter Note 12) & 5304-32, & No Rep. & 5.308 & 244 & NL3M & No Rep. \\
    \hline 3398.... & 303 & 5305. & 340 & 3:03-12. & 13.4 & NP4. & 324 \\
    \hline 3399.... & 324 ( \({ }^{3}\) & 5306. & 325 & .300:3-32 & \(\underline{2324}\) & NP6...... & 325 \\
    \hline \(3407 . .\). & 2324 (Refer Note 12) & 5307. & No Rep. & 5.014 & 337 & NP40.... & 324 \\
    \hline \(3442 . .\). & No Rep. & 5308.... &  & 85048 & No Repr. & \({ }_{\text {NP4 }} \mathrm{NP}_{42} \ldots \ldots\) & 340
    324 \\
    \hline 3443. & No Rep. & 5310. & 340 & 5.510 & No Rer. & NP43. & 328 \\
    \hline 3444.... & No Rep. & . 3312 . & 325 & -5.71-12. & No Rep. & NP44. & 340 \\
    \hline \(3+45\). & No Rep. & 5313. & 324 & 2.13-12. & No Refr. & NP46.... & 345 \\
    \hline 3460. & No Rep. & 5314. & 350 & . \(3.514-4\). & No Reb. & NP46. & 340 \\
    \hline 3461.... & 508 & 5320. & \(3: 18\) & 5.515 & \(34+/ 348\) & NP47.... & 324 \\
    \hline 3462.... & No Rep. & -3,20P... & \(32+\mathrm{B}\) & 5.816. & 344 & NP48... & 324 \\
    \hline 3463.. & No liep. & -7321 & 340 & Sist-12 & No Rep. & NP49... & 324 B \\
    \hline 3481.... & 2324 (Refer Note 12) & S322. & 340 & 5.518 ... & 349 & NP51..... & No Rep. \\
    \hline 3503..... & 2324 (thefer Note 12)
    No Rep. & 5322P... & 340
    340 & 5j19. . . . . & 348
    No Hell. & NP661..... & 325 (Refer Note \(\overline{7}\) \% \\
    \hline 3588...... & No Rep. & -5323. 323. & 340 & S.60\%
    5604 &  & NP623..... & \({ }_{325}^{522}\) (Refer Note 7) \\
    \hline 3608. & No Rep. & 5324.... & 337 & 360] & 548 & NP64, & 3248 \\
    \hline 3651..... & No Rep. & 5324 P .... & \(33 \%\) & 510.7-12 & 1548 & NP65.... & 325 \\
    \hline \(3679 . . .\).
    \(3741 .\). & 521 & 5325P.... & 340 & 560.-32... & No Her. & NP476.... & 340 \\
    \hline \(3741 . . . . . . ~\) & 340
    1344 & 5326P. . . . & 340
    340 &  & No R+f.
    Nu Re\%. & NP480.... & 345
    324 \\
    \hline 3782. & 340 & 5328P-32. & No Rep. & \(5607-32 .\). & N゙orpr. & NP482. & 324 \\
    \hline 3786. & No Rep. & 5330. & 340 & 58.09 .12 & 1:120 & NP483. & 340 \\
    \hline 3789. & 523 & 5331. & 328 & 5410 & \(56 \%\) & NP484... & 340 \\
    \hline 3806. . . . . & 340 & 53333. . . . & 338 & \(5610-12\). & Nu Reb. & NP485.... & 340 \\
    \hline 3815...... & 324
    340 & \$3.3.4..... & 345
    345 & 5614-12.. & \(\sum_{545}^{54}\) & NP487.... & 345
    324 \\
    \hline 3842.... & 324 & . 3339 & 345 & 5615-12... & No Rep. & NP490. & 350 \\
    \hline 3848.... & 550 (Refer Note 14) & 5340M ... & 340 & & & SLH...... & No Rep. \\
    \hline
    \end{tabular}

    Note:-For recommended replacement refer to listings thy receiver name and model number in Section A.

    \section*{ATR Vibrator Equivalent Charts}
    by Vibrator Manufacturers' Replacement Part Number
    

    Section F

    \section*{THESE 12 POPULAR ATR VIBRATORS MEET \(\mathbf{9 0 \%}\) of Your Service Needs}
    
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline N.S.- & ah & & & \multicolumn{2}{|r|}{S.-Synchronous} \\
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & Voltage & Type &  & \[
    \begin{aligned}
    & \text { Can } \\
    & \text { Style }
    \end{aligned}
    \] & Dimensions \\
    \hline 32.4 & \({ }^{6}\) & N.s. & 1 & A & \(11 / 2^{\prime \prime} \times 31 / 8^{\prime \prime}\) \\
    \hline 328 & 1 & As. & 4 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) \\
    \hline 340 & \(1 ;\) & N.s. & 1 & A & \(11 / 2^{\prime \prime} \times 27 / 8^{\prime \prime}\) \\
    \hline 34.5 & \({ }^{19}\) & N.s. & 9 & A & \(11 / 2^{\prime \prime} \times 27 / 8^{\prime \prime}\) \\
    \hline 350 & ; & Ns. & 1 & A & \(114^{\prime \prime} \times 23 / 8^{\prime \prime}\) \\
    \hline 508 & ; & S. & 42 & A & \(115 / 1 / 6^{\prime \prime} \times 41 / 2^{\prime \prime}\) \\
    \hline 520 & fi & \(s\). & 19 & A & \(11 / 2^{\prime \prime} \times 31 / s^{\prime \prime}\) \\
    \hline 522 & 1 & S. & 21 & A & 11/2" \(\times 3 / 3^{\prime \prime}\) \\
    \hline 521 & \({ }_{6}\) & S & 23 & A & \(11 / 2^{\prime \prime} \times 3!88^{\prime \prime}\) \\
    \hline 52 j & ¢ & S. & 21 & A & \(11 / 2^{\prime \prime} \times 31 / 3^{\prime \prime}\) \\
    \hline 517 & ; & S. & 29 & C & \(11 / 16^{\prime \prime} \times 31 / 2^{\prime \prime}\) \\
    \hline 1:31:3 & 12 & Ns. & 51 & A & \(11 /{ }^{\prime \prime} \times 31 /{ }^{\prime \prime \prime}\) \\
    \hline
    \end{tabular}

    TIIE BIG 12 ATR YIBRITOR TEAM, as listerd above, meets \(90 \%\) of your replacement merels. (iive your customers tuick service and real satisfaction by keeping on hand at least one carh of these 12 popular ATR vibrators.
    ATll Yibrator are preceision luilt, featuring Cerami- stack Spacers, and are baded ly more than 23 years of vibrator design and research, development and manu-farturing-ATR Pioneered in the vibrator Field.

    Let THE BIG 12 ATR VIBRATOR TEAM
    Help You Win Satisfied Customers.
    

    \section*{TAPE RECORDER INVERTERS}

    Specially Designed for Operating Standard A.C. Tape Recorders, Wire Recorders, Dictating Machines, Radios, Public Address Systems, Amplifiers, Electric Razors, Record Players, Mixmasters, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, and Planes. Ideal for Emergency Lighting.

    This group of ATR Inverters is especially recommended for use with standard A.C. operated tape or wire recorders, dictating machines, radios, amplifiers, and similar electronic equipment, being exceptionally well filtered to insure interference free radio reception. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-ife operation. All models indicated are equipped with ATR plug-in Inverter Vibrators. These Inverters also come equipped with four-point voltage regulators which make passible the correct output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is in excess of \(75 \%\). To figure approximate current consumption from storage battery, divide the rated input wattage of the recorder (or load) being operated by the storage battery voltage and further divide this answer by .75 which will give the actual current consumption based on the actual load and efficiency. The battery current consumption required for a tape recorder is normally less than that drawn by ordinary automobile headlight(s). These Tape Recorder Inverters are recommended only for use with loads having power factors in excess of \(70 \%\). ATR Inverters should be used only for the applications as outlined above.
    

    Above illustrates operation of tape recorder in car utilizing Inverter Remote Control Unit as shown below.
    Let your car be a ROLLING OFFICE dictate your reports promptly and accurately in the field - on the spot.
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{TYPE} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { INPUT } \\
    & \text { D.C. } \\
    & \text { VOLTS }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { A.C. } \\
    \text { OUTPUT } \\
    60 \text { CYCLES }
    \end{gathered}
    \]} & \multicolumn{2}{|l|}{OUTPUT WATTAGE} & \multirow[b]{2}{*}{SHIPPING WEIGHT} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & & INTERMITTENT & \[
    \begin{aligned}
    & \text { CON- } \\
    & \text { TINUOUS }
    \end{aligned}
    \] & & \\
    \hline 6-RSE & 6 & 110 volts & 80 & 65 & 19 lbs. & \$ 69.95 \\
    \hline 6.RHF & 6 & 110 & 125 & 100 & & 79.95
    119.50 \\
    \hline 6-HSH & 6 & 110 & 150 & 125 & 34 & 119.50 \\
    \hline 12-RSE & 12 & 110 & 125 & 100 & 19 & 69.95 \\
    \hline 12-RHF & 12 & 110 & 150 & 125 & 25 & 79.95 \\
    \hline *28-RSE & 28 & 110 & 125 & 100 & 19 & 85.00 \\
    \hline *28-RHF & 28 & 110 & 150 & 125 & 25 & 105.00 \\
    \hline 32-RSE & 32 & 110 & 150 & 100 & 19 & 79.50 \\
    \hline
    \end{tabular}

    Radio frequency interference completely suppressed. *Recommeded for 24 Volt Batfery Systems. Any of the above type Inverters are available with 220 volt A.C. output at prices slightly higher. In ordering specify "S" affer the type number and substitute for the last letter in the code word "T"': that is, if a 110 volt D.C. Inverter having a 220 volt A.C. output is desired, this would be ordered as Type llOS covered by code word: "GRSFT."
    All models designated above are housed in attractively finished grey-hammerloid metal cabinets. Dimensions of Standard (RSE) Model Inverters, \(83 / 9^{\prime \prime} \times 9^{\prime \prime} \times 51 /\left.\right|^{\prime \prime}\); shipping weight, 19 lbs. Dimensions of Heavy Duty (RHF) Model Inverters, \(61 / 2^{\prime \prime}\) x \(111 / 0^{\prime \prime}\) x \(81 / 2^{11}\), shipping weight, 25 lbs. Dimensions of Super Heavy Duty (HSH) Model Inverters, \(61 / 2^{\prime \prime} \times 127 / \mathbf{y}^{\prime \prime} \times 8^{\prime \prime} / 2^{\prime \prime}\) : shipping weight, 34 lbs.
    For correct replacement vibrator, consult Inverter Vibrator Guide.

    \section*{ACCESSORIES}
    

    REMOTE CONTROL UNIT - for under-dash mounting permitting installation of Inverter in auto-trunk compartment.

    List Price \(\$ 7.95\)
    

    MOUNTING BRACKEIS - to securely mount nverter in trunk compartment of car or under-dash, as illustrated. List Price \(\$ 4.95\) pr.

    JOBBERS ATTENTION: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!

    \section*{AIR \\ DICTATING MACHINE INVERTERS}

    Specially Designed for Operating Standard A.C. Dictating Machines, Small Radios, Record Players, Mix-masters, Food Blenders, Electric Razors, Electronic Test Equipment, and Most Small Electrical and Electronic Devices from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Planes, and Trains.

    This group of ATR Inverters is especially recommended for use with standard A.C. diclating machines, mall radies, racard players, minmasters, food blenders, electric razors, and other similar smali electronic or electrical equipment. The Inverters are filtered to suppress radio frequency interference. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet, long-life operation. All ATR models indicated are equipped with ATR plug-in Inverter Vibrators. Models RME and RSE come equipped with a four-point voltage regulator which makes possible the correct output voltage for minimum to maximum loads. The RSE Inverter Models connect to the storage battery by means of the heavy cables provided; whereas, ATR Mighty Midget (DME) Model and RME Aodal Invoitera, buing smullor output capacity units, plug directly into the cigarette lighter receptacle of car. The hattery consumption required is normally less than that drawn by one ordinary automobile headlight. The operating efficiency is approximately \(75 \%\). These Inverters are recommended only for use with loads having power factors in excess of \(70 \%\) and should be used only for the applications as outlined above.
    
    

    Illustrates Under-Dash Mounting for ATR Models RME and RSE. See Paqe \(\mathrm{M}-28\) for available
    accessories.

    JOBBERS ATTENTION: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!
    

    \section*{RADIO} INVERTERS

    Specially Designed for Operating Standard A.C. Radios, Radio-Phonographs, Tape Recorders, Wire Recorders, Record Players, Dictating Machines, Public Address Systems, Amplifiers, Radio Transmitters, Mix-masters, Food Blenders, Electric Razors, and Electronic Test Equipment from D.C. Voltages in Trains, Rural Areas, and in D.C. Districts.

    This group of ATR Inverters is especially recommended for use with standard \(A C\) radios, record players, tape or wire recorders, dictating machines, amplifiers, and similar elecitronic equipment being exceptionally well filtered to insure interference free radio operation. With ATR Inverters the need for special equipment is eliminated. They are designed for quiet, long-life, radio operation. All models indicated are equipped with ATR plug-in Inverter Vibrators. These Inverters also come equipped with four-point voltage regulators which make possible the correct output voltages which are lower or higher than normal. The operating efficiency is in excess of \(85 \%\). To figure approximate current consumption from D.C. voltage source, divide the rated input wattage of the radio set (or load) being operated by the D.C. voltage and further divide this answer by .85 which will give the actual current consumption based on the actual load and efficiency. These Radio Inverters are recommended only for use with loads having power factors in excess of \(70 \%\). ATR Radio Inverters should be used only for the applications as outlined above.
    

    ATR Inverters are not recommended for operating refrigerators, washing machines, or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type} & \multirow[t]{2}{*}{Input D.C. Volts} & \multirow[t]{2}{*}{A.C. Output 60 Cycles} & \multicolumn{2}{|c|}{Output Wattage} & \multirow[t]{2}{*}{SHIPPING WEIGHT} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & & intermittent & Cantinuous & & \\
    \hline 32-RME & 32 & 110 & 100 & 80 & 12 Ibs. & \$57.50 \\
    \hline 32-RSE & 32 & 110 & 150 & 100 & 19 & 79.50 \\
    \hline 32B-RHF & 32 & 110 & 200 & 180 & 30 & 99.50 \\
    \hline 50.RSE & 50 & 110 & 150 & 100 & 19 & 89.50 \\
    \hline 110.RME & 110 & 110 & 150 & 100 & 12 & 47.50 \\
    \hline 110-RSE & 110 & 110 & 250 & 150 & 19 & 69.95 \\
    \hline 220-RSE & 220 & 110 & 250 & 150 & 19 & 79.50 \\
    \hline
    \end{tabular}

    Radio Frequency Interference Completely Suppressed
    For Inverters having larger or smaller output capacities or operating on other D.C. input voltages, please consult available ATR Inverter Catalog Sheets.
    Any of the above type Inverters are available with 220 volt A.C. output at prices slightly higher. In ordering, specify "S" after the type number and substitute for the last letter in the code word " \(T\) "; that is, if a 110 volt D.C. Inverter having a 220 volt A.C. output is desired, this would be ordered as Type IIOS covered by code word, "NRSET."
    ATR Medium, Standard, and Heavy Duty Radio Inverters having designations RME, RSE, and RHF respectively, are housed in attractively finished grey-hammerloid metal cabinets.
    Dimensions of Medium (RME) Model Radio Inverters, \(83 / 8^{\prime \prime} \times 9^{\prime \prime} \times 33 / 4^{\prime \prime} ;\) shipping weight, 12 lbs.
    Dimensions of Standard (RSE) Model Radio Inverters, \(83 / 8^{\prime \prime} \times 9^{\prime \prime} \times 5 \frac{1}{4} 4^{\prime \prime}\) : shipping weight, 19 lbs.
    Dimensions of Heary Duty (RHF) Model Radio Inverters, \(61 / 2^{\prime \prime} \times 11 / 8^{\prime \prime} \times 81 / 2^{\prime \prime}\); shipping weight, 30 lbs.
    For correct ATR replacement vibrator, consult ATR Inverter Vibrator Guide.
    JOBBERS ATTENTION: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!
    

    \section*{TELEVISION Inverters}

    Specially Designed and Carefully Adjusted for Operating Television Receivers from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Suitable for Use with All Types of Electronic Equipment where Precise Output Frequency is Required.

    This group of ATR Inverters has been selected from the ATR line of Standard and Heavy Duty Radio Inverters and Super Heavy Duty Inverters and have specially adjusted ATR Vibrators installed in them to provide the precisely adjusted output power frequency required for the operation of Television Sets. They are exceptionally well filtered to insure inter-ference-free reception. They are equipped with fourpoint voltage regulators. The operating efficiency is in excess of 85 percent. They are recommended for use with loads having power factors in excess of 70 percent.

    ATR Inverters should be used only for the applica. tions as outlined above.

    ATR Inverters are not recommended for operating refrigerators, washing machines or similar motordriven appliances: also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.

    Featured cut above illustrates Model lloAT-RHF

    ATR Standard (RSE). Heavy Duty (RHF), and Super Heavy Duty (HSH) Television inverters are housed in attractively finished grey-hammerloid metal cabinets.
    

    Dimensions of Standard (RSE) Model Television Inverters, \(83 / 8^{\prime \prime} \times 9^{\prime \prime}\) (51/4": Shipping weight, 19 lbs.
    Dimensions of Heavy Duty (RHF) Model Television Inverters, 61/2" x \(111 / 9^{+1} \times 81 / 2^{+\prime}\); Shipping weight, 30 lbs.
    Dimensions of Super Heavy Duty (HSH) Model Television Inverters, \(6^{1 / 2 "} \times 121 / \mathbf{2}^{\prime \prime} \times 8^{1 / 2 " ;}\) Shipping weight, 34 lbs.
    For correct replacement vibrator, consult Inverter Vibrator Guide.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{TYPE} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { INPUT } \\
    & \text { D.C. } \\
    & \text { VOLTS }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { A.C. } \\
    \text { OUTPUT } \\
    60 \text { CYCLES }
    \end{gathered}
    \]} & \multicolumn{2}{|l|}{OUTPUT WATTAGE} & \multirow[t]{2}{*}{SHIPPING WEIGHT} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & & INTERMITTENT & CONTINUOUS & & \\
    \hline 6T-HSH & 6 & 110 Volts & 150 & & 34 lbs. & \$129.50 \\
    \hline 12T-HSH & 12 & 110 & 250 & \[
    200
    \] & 34 & 129.50 \\
    \hline \[
    \text { * } 28 \mathrm{~T}-\mathrm{HSH}
    \] & 28 & 110 & 250 & 200 & \[
    34
    \] & 155.00 \\
    \hline 32BT-RHF & 32 & 110 & 200 & 180 & \[
    30
    \] & 105.75 \\
    \hline 32T-HSH & +32 & 110 & 325 & 225 & 34 & 145.00 \\
    \hline 110T-RSE & 110 & 110 & 250 & 150 & 19 & 72.00 \\
    \hline 110AT-RHF & 110 & 110 & 325 & 250 & 25 & 79.75 \\
    \hline 110BT-RHF & 110 & 110 & 500 & 350 & 30 & 105.75 \\
    \hline \(110 \mathrm{~T}-\mathrm{HSH}\) & 110 & 110 & 600 & 400 & 34 & 145.00 \\
    \hline 220T-RSE & 220 & 110 & 250 & 150 & 19 & 85.00 \\
    \hline 220T-HSH & 220 & 110 & 500 & 300 & 34 & 155.00 \\
    \hline
    \end{tabular}

    \section*{ACCESSORIES for 6,12 , and 28 voll D.C. Input Invereters.}
    

    REMOTE CONTROL UNIT - for under-dash mounting permitting installation of Inverter in auto-trunk compartment.
    

    MOUNTING BRACKETS - to securely mount Inverter in trunk compartment of car or under-dash, as illustrated. List Price \(\$ 4.95 \mathrm{pr}\).
    

    EXTENSION CABLES - to provide additional cable lengths for installation of Inverter in trunk compartment. List Price \(\$ 11.95 \mathrm{pr}\).

    \footnotetext{
    JOBBERS ATTENTION: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!
    }

    \title{
    AIR \\ \\ "A" BATTERY \\ \\ "A" BATTERY ELIMINATORS AND TESTING AUTO RADIOS
    }

    \section*{6 VOLT OR 12 VOLT!}

    Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Apparatus on Regular A.C. Lines, 105125 Volts, \(50-60\) Cycles.

    \section*{SUGGESTED USES:}

    As a power supply for radio sets, aircraft instruments, relays, motors and other electrical and electronic equipments. In the laboratory, for supplying various low D.C. voltages.
    Battery Eliminators may be treated as batteries in the sense that they can be connected in series for higher voltages at the same current output per unit or in parallel for the same output voltage per unit at higher currents.
    ```

    | Eliminates Storage
    Batteries and Battery Chargers.

    ```
    - Operates the Equipment at Maximum Efficiency at All Times.
    Delivers Filtered Direct Current at the Correct Voltage for Proper Operation.
    \(\checkmark\) Fully Automatic and Fool-Proof.
    

    Equipped with Full-Wave Dry Disc Selenium Rectifier, Assuring Noiseless, Inter-ference-Free Operation and Extreme Long Life and Reliability.
    TYPE \(610-E L I D-R a t e d\) output 6 volts at 10 amperes continuous. Size \(b^{6} / 2^{\prime \prime} \times 91 / 8^{\prime \prime}\) \(\times 81 / 2\) '. Shipping weight 22 lbs . Code word "SELIE.' Similar to illustration on left but with Voltmeter only.

    LIST PRICE \(\$ 59.40\)
    TYPE \(610 C\)-ELID-Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size \(b 1 / 2^{\prime \prime} \times 91 / \mathrm{s}^{\prime \prime} \times 81 / /^{\prime \prime}\). Shipping weight, 22 Ibs. Appearance similar to 20 C -ELIR, above. Code word "SELIF." LIST PRICE \(\$ 66.58\)

    TYPE 620 C -ELIR-Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Size \(61 / 2^{\prime \prime} \times 127 / 6^{\prime \prime} \times 81 / 2^{\prime \prime}\). Shipping weight, 33 lbs . Code word "HELIR." LIST PRICE \(\$ 93.90\)
    Either 6 or 12 volt output obtainable by means of simple output toggle switching arrangement having locking device to prevent accidental switching.
    All ATR Eliminators have as standard equipment: On-Off Switch. 8-Position Voltage Control. Meter (s). Fuse Protection, Rubber Mounting Feet, b-ft. All-Rubber Cord Set and Cabinet of heavy gauge metal having attractive grey-hammerloid finish.

    Illustrates Standard "A" Battery Eliminator, Model 610C.ELID; equipped with Voltmeter. Ammeter and Voltage Control.
    jObbers Attention: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!
    

    > For Operating Small A.C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A.C. Electrical Appliances from D.C. Lines.

    These units are specially designed for applications as indicated, permitting the use of standard A.C. equipment on D.C. lines. These Inverters operate at an efficiency in excess of \(75 \%\) and are carefully built and equipped to give the longest possible life and operating satisfaction. All models indicated are equipped with an ATR plugin Inverter Vibrator of new design and construction, insuring increased long life and reliable service. All Inverters (except LIG) come equipped with four-point voltage regulators, which make possible thecorrect output voltage for minimum to maximum loads and also help compensate for input voltages which are lower or higher than normal. These Industrial Inverters are recommended for use with loads having power factors as low as \(60 \%\). and as low as \(50 \%\) for the "P" Inverters indicated. These Inverters should not be used with Neon signs.

    ATR Inverters should be used only for the applications as outlined above.
    

    ATR Inverters are not recommended for operating refrigerators, washing machines or similar motor-driven appliances; also, ATR Inverters are not recommended for operating toasters, electric irons, sun lamps, or similar appliances of high wattage or low power factor. Any attempt to use the Inverter for applications not recommended will ruin the Inverter immediately and void the guarantee.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { INPUT } \\
    & \text { D.C. } \\
    & \text { VOLTS }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{A.C OUTPUT 60 CYCES} & \multicolumn{2}{|l|}{OUTPUT WATTAGE} & \multirow[t]{2}{*}{SHIPPING WEIGHT} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & & INTERMITTENT & CONTINUOUS & & \\
    \hline \[
    \begin{aligned}
    & \text { 6-LIG } \\
    & \text { 6-1SR-F }
    \end{aligned}
    \] & 6 & 110 volts & 50
    80 & 40
    65 & \({ }_{19} \mathrm{l}\) lbs. & \$ 35.75 \\
    \hline 12-LIG & 12 & 110
    110 & 80
    65 & & & 79.95 \\
    \hline 12-1SR-F & 12 & 110 & 125 & 50
    100 & \({ }^{8}\) & 35.75 \\
    \hline †28-LIG & 28 & 110 & 65 & 50 & 18 & 79.95 \\
    \hline 32-LIG & 32 & 110 & 65 & 50 & 8 & 47.50 \\
    \hline 32-15R-F & 32 & 110 & 150 & 100 & 19 & 88.50 \\
    \hline 32P*-1SR-F & 32 & 110 & 150 & 125 & 19 & 99.50 \\
    \hline 328-1HS-F & 32
    110 & 110 & 200 & 180 & 30 & 115.50 \\
    \hline 110-LIG & 110
    220 & 110 & 80
    80 & 65
    65 & 8 & 39.50 \\
    \hline 220-LIG & 220
    110 & 110
    110 & 80
    850 & 65
    150 & 8
    19 & 47.50
    79.50 \\
    \hline 110P*-1SR-F & 110 & 110 & 250 & 150 & 19 & 79.50
    89.50 \\
    \hline 110A-IHSF & 110 & 110 & 325 & 250 & 25 & 105.00 \\
    \hline & 110 & 110 & 500 & 350 & 30 & 125.00 \\
    \hline 220P*-ISR-F & 220
    220 & 110
    110 & 250
    300 & 150 & 19 & 89.50 \\
    \hline 220P*ISR-F & 220 & 110 & 300 & 150 & 19 & 99.50 \\
    \hline
    \end{tabular}

    \footnotetext{
    \(\ddagger\) Radio frequency interference suppressed. tRecommended for 24 vol\& battery systems.
    }

    All models designated above are housed in attractivaly finished grey hammarloid metal cabinets. The feature cut above illustrates Heavy Duty (IHS) Model Inverters. Dimensions of Standard Model (ISR) Inverters \(87 / 9^{\prime \prime} \times 9^{\prime \prime} \times 51 / 4^{\prime \prime}\); shipping weight, 19 Ibs.
    Dimensions of Heavy Duty Model (IHS) Inverters, \(61 / 2^{\prime \prime} \times 11 / 3^{\prime \prime} \times 81 / 2^{\prime \prime} ;\) shipping weight, 30 lbs . Dimensions of Low Power Model (LIG) Inverters, \(55 / /^{\prime \prime} \times 4^{\prime \prime} \times 61 / 4^{\prime \prime}\); shipping weight, 8 lbs.
    "'P"' Inverters are corrected for loads having power factors as low as \(50 \%\). For correct replacement vibrator, consult Inverter Vibrator Guide.
    JOBBERS ATTENTION: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!

    \section*{AIR}

    This group of ATR Inverters is especially recommended for use with standard A.C. operated germicidal lamps providing protection against bacteria and mold spores in perishable food areas or hospital-fike areas in trucks, boats, planes, and trains. Bacteria and mold spores cause losses of millions of dollars each year through spoilage, contamination, and added maintenance costs. Effective control of air-borne germs, bacteria and mold spores by use of germicidal lamps is widely used in processing and packaging of fresh food products. This same protection against contamination during delivery is now possible using germicidal lamps operating from an ATR Inverter connected to D.C. Storage Battery Power. With ATR Inverters, the need for special equipment is eliminated. They are designed for quiet long-life operation. These rugged, efficient, little power houses are self-maintaining - require no warm-up. They change your D.C. battery power to 110 volt A.C. (household type) power instantly and quietly. ATR Inverters are fully protected and are big enough to do a proper job and small enough to fit most anywhere. All models indicated are equipped with ATR plug-in Inverter Vibrators. These Inverters (except Model LIG) also come equipped with four-point voltage regulators which make possible the correct output voltage for minimum to maximum loads, and also help compensate for input voltages which are lower or higher than normal. The operating efficiency is in excess of \(75 \%\). The battery current consumption required is normally less than that drawn by ordinary automobile headlight(s). These ATR Inverters should be used only for the application as outlined above.

    \title{
    INVERTERS
    }

    GERMICIDAL LAMP

    \author{
    Specially Designed for Operating Standard A.C. Germicidal Lamps from Storage Battery Voltages in Trucks, Buses, Boats, Trains, and Planes.
    }
    
    

    Radio frequency interference completely suppressed. *Recommended for 24 -volt battery systems.
    tThe WL-782H-30 Westinghouse Sterilamp should be used with Westinghouse type SB-30 fixture S \#1371936 having ballast S \#l371900. All models designated above are housed in attractively finished grey hammerloid metal cabinets. Dimensions of Standard (ISR) Model Inverters, \(83 / 6^{\prime \prime} \times 9^{\prime \prime} \times 514^{\prime \prime}\); shipping weight, 19 Ibs. Dimensions of Low Power (LIG) Model Inverters, \(55 / 8^{\prime \prime} \times 4^{\prime \prime} \times 63 / 4^{\prime \prime}:\) shipping weight, 8 lbs.
    For correct replacement vibrators, consult Inverter Vibrator Guide.
    Installation accessories are indicated below. In truck installations, Inverter will be installed usually in the cab and germicidal lamp operation will be controlied OFF and ON by means of the Inverter switch.
    
    

    Hlustrating Small Panel Perishable Food Truck MOUNTING BRACKETS - To securely mount Having Germicidal Lamp Installation Operat- Inverter under seat or under dash in cab ing from ATR Inverter. Protects Perishable Foods During Delivery.

    \section*{ACCESSORIES}
    

    EXTENSION CABLES - To provide additional cable lengths for installation of Inverter in cab compartment to connect with storage battery. List Price \(\$ 11.95\) pr.

    JOBBERS ATTENTION: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!

    \section*{AIR shav-Paks}

    Specially Designed for Operating Standard A.C. Electric Shavers in Automobiles, Buses, Trucks, Boats, and Planes.

    ATR SHAV-PAKS are miniature DC-AC Inverters designed especially for the operation of standard A.C. electric shavers from 6 or 12 -volt storage batteries in automobiles, buses, trucks, boats, and planes. They are ideally suitable for traveling salesmen, executives, sportsmen, and all owners of electric shavers. The ATR SHAV. PAK very simply plugs into the cigarette lighter receptacle on the dash and changes the D.C. battery power to standard 110 -volt A.C. electricity for the operation of electric shavers anywhere! The ATR SHAV-PAK may also be used for operating other small A.C. devices having a wattage requirement of not more than 15 watts such as flea power timing motors. ATR SHAV-PAKS are equipped with ATR plug-in type vibrators which will give many years of satisfactory and dependable service.
    

    SALESMEN AND EXECUTIVES -"'Be Neat," have your alactric razor handy! Shave in the comfort of your own car, bost, or plane.

    Keep in Glove
    Compartment
    

    Features-
    - Small Size
    - Plug-in ATR Vibrator
    - Fuse Protection
    - Rubber Mounting Feet
    - Steel Case
    - Rugged Construction
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline TYPE & \[
    \begin{aligned}
    & \text { INPUT } \\
    & \text { D.C. } \\
    & \text { VOLTS }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { A.C. } \\
    \text { OUTPUT } \\
    60 \text { CYCLES }
    \end{gathered}
    \] & \begin{tabular}{l}
    OUTPUT \\
    WATTAGE
    \end{tabular} & SHIPPING WEIGHT & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline 6.5PB & 6 & 115 valts & 15 & 21/2 lbs. & \(\$ 9.95\) \\
    \hline 12.SPB & 12 & 115 & 15 & 21/2 & 9.95 \\
    \hline
    \end{tabular}

    Radio frequency interference not suppressed.
    For Inverters having larger or smaller output capacities, or for operation on other D.C. inpuf voltages, please consult available ATR Inverter Catalog Sheets.

    All ATR SHAV-PAKS are housed in attractively finished grey hammerloid steel cabinets. Dimensions \(4^{\prime \prime} \times 25 / 8^{\prime \prime} \times 23 / 4^{\prime \prime}\); shipping weight, \(21 / 2\) lbs.

    For correct replacement vibrator, cansult Inverter Vibrator Guide.
    JObBERS ATTENTION: See Pages M-28 and M-29 in this ATR Section for your Catalog Needs!
    

    \section*{American Telivision \& Radio Co. zmanan promean Sumer 1931}

    ALL ATR INVERTER PRODUCTS CHANGE D.C. STORAGE BATTERY CURRENT TO STANDARD 110 VOLT A.C. Foushold ELECTRICITY Aucfukene!
    

    TAPE RECORDER INVERTERS

    \section*{IDEAL FOR EMERGENCY LIGHTING}

    Specially Designed for Operating Standard A.C. Tape Recorders, Wire Recorders, Dictating Machines, Radios, Public Address Systems, Amplifiers, Electric Razors, Record Players, Mix-masters, and Electronic Test Equipment from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, and Planes.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{TYPE} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { INPUT } \\
    & \text { D.C. } \\
    & \text { VOLTS }
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{OUTPUT WATTAGE} & \multirow[t]{2}{*}{SHIPPING WEIGHT} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & INTERMITTENT & \[
    \begin{aligned}
    & \text { CON- } \\
    & \text { TINUOUS }
    \end{aligned}
    \] & & \\
    \hline 6-RSE & 6 & 80 & 65 & 19 lbs. & \$ 69.95 \\
    \hline 6-RHF & 6 & 125 & 100 & 25 & 79.95
    11950 \\
    \hline 6-HSH & 6 & 150 & 125 & 34 & 119.50 \\
    \hline 12-RSE & 12 & 125 & 100 & 19 & 69.95 \\
    \hline 12-RHF & 12 & 150 & 125 & 25 & 79.95 \\
    \hline *28-RSE & 28 & 125 & 100 & 19 & 85.00 \\
    \hline *28-RHF & 28 & 150 & 125 & 25 & 105.00 \\
    \hline 32-RSE & 32 & 150 & 100 & 19 & 79.50 \\
    \hline
    \end{tabular}

    All ATR Inverters deliver 110 Volts A.C. E0 Cycles Current. Radio frequency interference completely suppressed.
    *Recommended for 24 Voit Battery System.
    

    SHAV-PAKS
    EASY to OPERATE PLUGS INTO CIGARETTE LIGHTER RECEPTACLE ON DASH
    Keep in Glove Compartment

    Specially Designed for Operating Standard A.C. Electric Shavers in Automobiles, Buses, Trucks, Boats, and Planes.
    \begin{tabular}{|c|c|c|c|c|}
    \hline TYPE & \[
    \begin{aligned}
    & \text { INPUT } \\
    & \text { D.C. } \\
    & \text { VOLTS }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { OUTPUT } \\
    & \text { WATTAGE }
    \end{aligned}
    \] & SHIPPING WEIGHT & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline \[
    \begin{array}{r}
    6-S P B \\
    12 . S P B
    \end{array}
    \] & \({ }^{6}\) & 15
    15 & \[
    \begin{aligned}
    & 21 / 2 \mathrm{lbs} . \\
    & 21 / 2
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 9.95 \\
    9.95
    \end{array}
    \] \\
    \hline
    \end{tabular}

    ATR SHAV-PAKS deliver 115 Volts A.C. 60 Cycles Current.
    ```

    feafures-

    ```
    - Small Size
    - Rubber Mounting Feet
    - Plug-in ATR Vibrator
    - Stael Case
    - Fuse Protection
    - Rugged Construction
    
     STANDARD 110 VOLT A.C. Houschold ELECTRICITY Angeuhere!
    

    \section*{TELEVIS:ON}

    INVERTERS
    Specially Designed and Carefully Adjusted for Operating Television Receivers from D.C. Voltages in Automobiles, Buses, Trucks, Boats, Trains, Planes, and D.C. Districts. Suitable for Use with All Types of Electronic Equipment where Precise Output Frequency is Required.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{TYPE} & \multirow[t]{2}{*}{} & \multicolumn{2}{|l|}{OUTPUT WATTAGE} & \multirow[b]{2}{*}{SHIPPING WEIGHT} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & INTERMITTENT & \[
    \begin{aligned}
    & \text { CON- } \\
    & \text { TINUOUS }
    \end{aligned}
    \] & & \\
    \hline \[
    \begin{array}{r}
    6 \mathrm{~T} \cdot \mathrm{HSH} \\
    12 \mathrm{~T} \cdot \mathrm{HSH}
    \end{array}
    \] & 6
    12 & 150
    250 & 125
    200 & 34 lhs.
    34 & \[
    \begin{array}{r}
    \$ 129.50 \\
    129.50
    \end{array}
    \] \\
    \hline *28T.HSH & 28 & 250 & 200 & 34 & 155.00 \\
    \hline 32BT-RHF & 32 & 200 & 180 & 30 & 105.75 \\
    \hline 32T-HSH & 32 & 325 & 225 & 34 & 145.00 \\
    \hline 110T.RSE & 110 & 250 & 150 & 19 & 72.00 \\
    \hline 110AT-RHF & 110 & 325 & 250 & 25 & 79.75 \\
    \hline 110BT-RHF & 110 & 500 & 350 & 30 & 105.75 \\
    \hline 110T.HSH & 110 & 600 & 400 & 34 & 145.00 \\
    \hline 2201.RSE & 220 & 250 & 150 & 19 & 85.00 \\
    \hline 220T.HSH & 220 & 500 & 300 & 34 & 155.00 \\
    \hline
    \end{tabular}

    All ATR Inverters deliver 110 Volts A.C. 60 Cycle Current.
    *Recommended for 24 volt , battery systems.
    

    INDUSTRIAL
    INVERTERS
    For Operating Small A.C. Motors, Electronic Apparatus, Electrical Testing Equipment, and A.C. Electrical Appliances from D.C. Lines.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{TYPE} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { INPUT } \\
    & \text { D.C. } \\
    & \text { VOLTS }
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{OUTPUT WATTAGE} & \multirow[b]{2}{*}{SHIPPING WEIGHT} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & INTER. MITTENT & \[
    \begin{gathered}
    \text { CON. } \\
    \text { TINUOUS }
    \end{gathered}
    \] & & \\
    \hline \[
    \begin{aligned}
    & \text { 6.LIG } \\
    & \text { 6.ISR-F }
    \end{aligned}
    \] & 6 & 50 & 40 & 8 lbs. & \$ 35.75 \\
    \hline 12-LIG & 6 & 80 & 65 & & 79.95 \\
    \hline 12.1SR-F & 12 & 125 & 50 & 8 & 35.75 \\
    \hline 28-LIG & 28 & 125 & 100 & 19 & 79.95 \\
    \hline 32-LIG & 32 & 65 & 50 & 8 & 47.50 \\
    \hline 32-ISR-F & 32 & 150 & 100 & 19 & 89.50 \\
    \hline t 32 P . 1 SR-F & 32 & 150 & 125 & 19 & 99.50 \\
    \hline 328.1HS-F & 32 & 200 & 180 & 30 & 115.50 \\
    \hline 110.LIG & 110 & 80 & 65 & 8 & 39.50 \\
    \hline 220-LIG & 220 & 80 & 65 & 8 & 47.50 \\
    \hline 110.ISR-F & 110 & 250 & 150 & 19 & 79.50 \\
    \hline \(\dagger 110 \mathrm{P}\)-ISR-F & 110 & 250 & 150 & 19 & 89.50 \\
    \hline 110A.IHS.F & 110 & 325 & 250 & 25 & 105.00 \\
    \hline 1108. 1 HS 5 & 110 & 500 & 350 & 30 & 125.00 \\
    \hline 220-ISR-F & 220 & 250 & 150 & 19 & \\
    \hline \(t 220 \mathrm{P}\). ISR -F & 220 & 300 & 150 & 19 & 99.50 \\
    \hline
    \end{tabular}

    All ATR Industrial Inverters deliver 110 Valts A.C. 60 Cycte Current.
    *Recommended for 24 volt battery systems.
    \(\dagger^{\prime 4} \mathrm{P}^{\prime \prime}\) Inverters are recommended for loads having power factors as low
    as \(50 \%\).
    

    Featured cut illustrates Heayy Duty "A" Battery Eliminator, Model 620 C . ELIR; equipped with Volt. meter, Ammeter and Voltage Control.

    \section*{(iib}
    '"A', BATTERY

    \section*{ELIMINATORS}
    for...
    DEMONSTRATING AND TESTING
    AUTO RADIOS
    6 VOLT OR 12 VOLT
    Specially Designed for Testing and Operating Auto Radios and D.C. Electrical Apparatus on Regular A.C. Lines, \(105-125\) Volts, 50-60 Cycles.

    TYPE 610-ELID-Rated output 6 volts at 10 amperes continuous. Size \(61 / 2^{\prime \prime} \times 91 / 8^{\prime \prime} \times 81 / 2^{\prime \prime}\). Shipping weight 22 lbs . Similar to illustration on left but with Voltmeter only. LIST PRICE \(\$ 59.40\)
    TYPE 6IOC-ELID-Rated output 6 volts at 10 amperes continuous or 12 volts at 6 amperes continuous. Size \(61 / 2^{\prime \prime} \times\) \(91 / 8^{\prime \prime} \times 8^{1 / 2 "}\). Shipping weight 22 lbs. Appearance similar to 620 C -ELIR, left. LIST PRICE \(\$ 66.58\) TYPE 620 C -ELIR-Rated output 6 volts at 20 amperes continuous or 12 volts at 10 amperes continuous. Uses dual rectifiers. Size \(61 / 2^{\prime \prime} \times 127 / 8^{\prime \prime} \times 81 / 2^{\prime \prime}\). Shipping weight 33 lbs.

    LIST PRICE \(\$ 93.90\)
    

    R A D 10

    \section*{INVERTERS EASY TO INSTALL ... EASY TO OPERATE}

    Specially Designed for Operating Standard A.C. Radios, Radio-Phonographs, Tape Recorders, Wire Recorders, Record Players, Dictating Machines, Public Address Systems, Amplifiers, Radio Transmitters, Mix-masters, Food Blenders, Electric Razors, and Electronic Test Equipment from D.C. Yoltages in Trains, Rural Areas, and in D.C. Districts.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{TYPE} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { INPUT } \\
    \text { D.C. } \\
    \text { VOLTAGE }
    \end{gathered}
    \]} & OUTPUT & WATTAGE & \multirow[b]{2}{*}{SHIPPING WEIGHT} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & INTER. MITTENT & \[
    \begin{aligned}
    & \text { CON. } \\
    & \text { TINUOUS }
    \end{aligned}
    \] & & \\
    \hline 32-RME & 32 & 100 & 60 & 12 lbs. & \$57.50 \\
    \hline 32.RSE & 32 & 150 & 100 & 19 & 79.50 \\
    \hline 32B.RHF & 32 & 200 & 180 & 30 & 99.50 \\
    \hline 50-RSE & 50 & 150 & 100 & 19 & 89.50 \\
    \hline 110.RME & 110 & 150 & 100 & 12 & . 47.50 \\
    \hline 110.RSE & 110 & 250 & 150 & 19 & 69.95 \\
    \hline 220.RSE & 220 & 250 & 150 & 19 & 79.50 \\
    \hline \multicolumn{6}{|l|}{All ATR Radio liverters deliver 110 Volts A.C. 60 Cycles Current.} \\
    \hline - & - & & - & & - \\
    \hline
    \end{tabular}
    - ATR Germicidal Lamp In- ATR Charga-Verters verters
    - ATR Battery Chargers
    - ATR Phono Inverters - ATR Rectifier Packs
    - ATR Sine-Wave In-
    - ATR Vibrator Packs verters - ATR Inverter Vibrators
    Write for Ilterature covering all additional ATR products.
    
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Make and Model Recorder} & \multicolumn{5}{|l|}{ATR Inverter Model and DC Input voltage} \\
    \hline & 6 V & 12 & 28 & 32 & 115 V \\
    \hline  & 6－ARF &  &  &  &  \\
    \hline  &  &  &  &  &  \\
    \hline
    \end{tabular}

    SEE ATR CATALOG PAGES THIS SECTION COVERING ATR TAPE RECORDER INVERTERS AND ATR DICTATING MACHINE INVERTERS．
    FOR ANY ADDITIONAL RECOMMENDATIONS PLEASE WRITE THE FACTORY．
    

    \section*{Communication Vibrators for SUPER SERVICE}

    As introduced in the 1954 MayJune issues of many leading radio magazines, ATR COMMUNICATION VIBRATORS are truly THE WORLD'S FINEST. See reprint of ad on this page for feature specifications.

    ATR COMMUNICATION VIBRA. TORS eliminate the problom of shert-life call.backs on those tough two-way communication rigs. Yes, Sir! these ATR COMMUNICA. TION VIBRATORS deliver SUPER service.

    For additional specifications pertaining to ATR SUPER SERVICE COMMUNICATION VIBRATORS. see page M-15.

    ATR VIBRATORS FEATURE:
    CERAMIC STACK SPACERS with Two-Bolt Stack Construction - for adjustment parmanency under any operating condition

    INSTANT STARTING - as a result of highly efficient magnetic circuit with formed base for more uniform operation on both high and low voltages.

    LARGE OVERSIZED TUNGSTEN CONTACTS having Full Wiping Action-for greater reliability and longer life.

    PERFORATED REED of Highest Quality Swedish Spring Steel-for uniform flexibility and prevention of reed breakage.

    HIGHEST PRECISION CON STRUCTION AND WORKMAN. SHIP - Practically all parts used are held to within a tolerance of 0.0005 of an inch.

    VALUE PLUS - as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship.
    
    

    Cut sbove illustrates the ATR 20 contact type
    Vibrator os Used in ATR Model RHF and HSH vibrator as
    Inverters.

    BIG OR SI
    WRITE FOR FREE COPY 0

    The MASTER - 201h Edition
    Page M-32
    

    \section*{Vibrators}

    Mallury Vibrators are engineerod to exacting specifications. Their superior action is a result of more than 20 years' research. Pure, natural rubber liners deaden sound and assure quiet operation. Special, tough-spring steel eliminates reed breakage. Heavy framing insures correct and exact alignment. Fxtra size and quality of contact points assure longer life. Each Mallory Vibrator is tested individually for correct output, starting voltage and wave form.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat. No. & Volt. & Type & \begin{tabular}{l}
    Base \\
    Dia.
    \end{tabular} & Size & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Iriee }
    \end{aligned}
    \] \\
    \hline \({ }^{-245}\) & 6 & Syn. & 21 & \(11 / 2 \times 31 / 4\) & \$7.70 \\
    \hline 247 & 6 & Syn. & 46 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline G248 & 12 & Syn. & 44 & \(11 / 2 \times 31 / 4\) & 8.55 \\
    \hline \(2714 D\) & 6 & Syn. & 24 & \(2 \times 41 / 2\) & 9.15 \\
    \hline 273 C & 6 & Syn. & 29 & \(2 \times 41 / 2\) & 9.15 \\
    \hline 294 & 6 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 4.90 \\
    \hline -F294 & 32 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 7.15 \\
    \hline 298 & 6 & Int. & 51 & \(11 / 2 \times 2 / 8\) & 6.35 \\
    \hline \(505 P\) & 6 & Int. & 8 & \(115 / 18 \times 31 / 2\) & 4.90 \\
    \hline 509P & 6 & Int. & 8 & \(11 / 2 \times 27 / 8\) & 4.15 \\
    \hline 716 & 6 & Syn. & 30 & \(11816 \times 31 / 2\) & 7.70 \\
    \hline -725C* & 6 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 8.55 \\
    \hline \({ }^{\text {-G725 }}\) - \({ }^{\text {* }}\) & 12 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 9.95 \\
    \hline 742 & 6 & Syn. & 32 & \(11 / 2 \times 2 / 8\) & 7.70 \\
    \hline 743 & 6 & Syn. & 38 & \(11 / 4 \times 31 / 4\) & 7.70 \\
    \hline 748 & 6 & Syn. & 44 & \(11 / 2 \times 2 / 8\) & 7.70 \\
    \hline \({ }^{\text {-G748C* }}\) & 12 & Syn. & 21 & \(11 / 2 \times 31 / 4\) & 9.95 \\
    \hline W759 & & Syn. & 21 & \(11 / 2 \times 27 / 8\) & 8.25 \\
    \hline -825C* & 6 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 6.90 \\
    \hline \({ }^{-826 C}{ }^{\text {* }}\) & 6 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 6.35 \\
    \hline \({ }^{\text {-F826C** }}\) & 32 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 7.70
    7.70 \\
    \hline \({ }^{\bullet} \mathrm{GB26C}{ }^{*}\) & 12 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 7.70
    4.90 \\
    \hline 854 & 6 & Int. & 11 & \(11 / 2 \times 31 / 4\)
    \(1 / 2 \times 2 / 6\) & 4.90
    4.70 \\
    \hline -859 & 6 & Int. & 8 & \(1 / 2 \times 27 / 8\)
    \(11 / 2 \times 27 / 8\) & 4.70
    5.50 \\
    \hline G859 & 12 & Int. & 8 & \(11 / 2 \times 278\)
    \(11 / 2 \times 27 / 8\) & 6.50
    4.90 \\
    \hline W859 & 4 & Int. & 8 & 11/2 \(\times 2 \times 2 / 8\) & 4.90 \\
    \hline H70
    \(\mathbf{G 8 7 4}\) & 6
    12 & Int. & 14 & \(11 / 2 \times 2 / 8\)
    \(11 / 2 \times 31 / 4\)
    \(1 / 2 \times 18\) & 4.90 \\
    \hline 903M & , & Int. & 8 & \(11 / 2 \times 27 / 8\) & 4.15 \\
    \hline 953 W & 6 & Syn. & 16 & \(11 / 2 \times 35 / 16\) & 7.70 \\
    \hline 954 & 6 & Syn. & 39 & \(11 / 2 \times 3\) & 7.70 \\
    \hline 1100 & 6 & Int. & 8 & \(15 / 16 \times 236\) & 4.90 \\
    \hline 'rannz & 2 & Syn. & 52 & \(11 / 2 \times 21 / 6 \times 1 / 2\) & 10.70 \\
    \hline T4003 & 2 & Syn. & 50 & 1516 \(\times 2\) \% & 9.80 \\
    \hline 4501 & 6 & Int. & 53 & \(11 / 2 \times 2 / 8\) & 6.35
    8.90 \\
    \hline 64501 & 12 & lnt. & 53 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline M4501 & 24 & Int. & 53 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline 4502 & 6 & Int. & 54 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline 4512 & 6 & Int. & 54 & \(11 / 2 \times 27 / 6\) & 6.90 \\
    \hline 4513 & 6-12 & Int. & 56 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline 4514 & 6 & Int. & 53 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline 4646 & 6 & Syn. & 38 & \(15 / 2 \times 31 / 4\) & 7.70
    770 \\
    \hline 4548 & 6 & Syn. & 44 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline 4549 & 6 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline G4549 & 12 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 8.65 \\
    \hline GC7 \(\dagger\) & Grou & nd Cup & & & . 45 \\
    \hline A \(\mathrm{H}-1\) & Adap & & & & 1.50 \\
    \hline -9K-1 & Sock & et Kit & & & 1.25
    2.50 \\
    \hline VP-1 & Vibr & ator Pul & lor & & 2.50 \\
    \hline
    \end{tabular}

    Int,-Interrupter Sill,-Synchronous
    Use only these types in design of new equipment. Other typos are for replacement purposes only.
    * Hermetically Sealed Construction. fr.f. ground connection between vibrator can and power supply
    - Chassis. special sockets for Practical Vibrator Tester. Supplied as complete kit only.

    \section*{NEW!}

    THE '55 MALLORY VIBRATOR GUIDE
    Contains Vibrator Replacement Information
    See Your Mallory Distributor.
    

    Mallory Vibrapacks are the ideal vibrator power supplies designed Mallory Vibrapacks are the ideal dependable, high-voltage, direct current from to provide at low cost, dependable, hilory Vibrapacks offer high efficiency, dependability, low maintenance cost and long life because of years of field testing. Added features are; light weight, compactness and simplieity of inetallation.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & Nominal Operating
    Voltage & \begin{tabular}{l}
    Nominal \\
    Output \\
    Voltage
    \end{tabular} & Maximum Output Current & Type & I.ist \\
    \hline VP6-260 & 6 & 200-260 & 60 ma . & & \$28.95 \\
    \hline VP12-260 & 12 & 200-260 & 60 ma . & & 28.95 \\
    \hline VP24-260 & 24 & 200-260 & 60 ma. & & 30.95
    \(\mathbf{2 9 . 9 5}\) \\
    \hline VP6-325 & 6
    12 & 325 & 100 ma .
    100 ma. & & 29.95 \\
    \hline VP12-325 & 12 & 325
    325 & 100 ma .
    100 ma . & & \(\begin{array}{r}29.95 \\ \hline 2.95\end{array}\) \\
    \hline VP-551 & 6 & \[
    \begin{aligned}
    & 125-150 \\
    & 175-900
    \end{aligned}
    \] & 100 ma . & \begin{tabular}{l}
    Self- \\
    Rectifying
    \end{tabular} & 31.00 \\
    \hline VP-553 & 6 & 125-150 & 100 ma. & 'Tube Rectifier & 38.00 \\
    \hline VP-554H \(\dagger\) & 6 & \(175-250\)
    \(225-250\) & 100 ma. & Tube & 0.00 \\
    \hline VP-555H \(\dagger\) & 6 & \({ }^{2750} \mathbf{2 0 0}\) & 200 ma. & Trube & 0.00 \\
    \hline & 6 & 400 & & Mectifier & 79.95 \\
    \hline & & & & Rectifier & 79.95 \\
    \hline
    \end{tabular}
    * Includes complete audio filter.
    + Maximum ratings are for mobile transmitter service. For continuous duty with radio receivers where longer vilrator life is essential. Reduces maximum output watts ratings to \(7.5 \%\)
    - Use the Mallory 12VIID Vibrator Checker for direct readings on "good-bad" conditions of doubtful vibrators. For complete description and illustration of the 12VTID see page 3, Mallory Rectifler and Power Supply section, this catalog.
    

    Mallory Page 1

    The MASTER - 20th Edition
    Page M-34

    \section*{Communication Vibrators for SUPER SERVICE}

    As introduced in the 1954 MayJune issuess of many leading radio magazines, ATR COMMUNICA. TION VIBRATORS ure truly THE WORLD'S FINEST. See reprint of Id on this page for feature specifications.

    ATR COMMUNICATION VIBRA. TORS eliminate the problem of short-life call-backs on those tough two-way communication rigs. Yes, Sir! these ATR COMMUNICATION VIBRATORS deliver SUPER SERVICE.

    For additional specifications pertaining to ATR SUPER SERVICE COMMUNICATION VIBRATORS, see page M.I5.

    ATR VIBRATORS FEATURE:

    CERAMIC STACK SPACERS with Two-Bolt Stack Construction - for adjustment permanency under any operating condition.

    INSTANT STARTING - as a result of highly efficient magnetic circuit with formed base for more uniform operation on both high and low voltages.

    LARGE OVERSIZED TUNGSTEN CONTACTS having Full Wiping Action-for greater reliability and longer life.

    PERFORATED REED of Highest Quality Swedish Spring Steel-for uniform flexibility and prevention of reed breakage.

    HIGHEST PRECISION CON. STRUCTION AND WORKMAN. SHIP - Practically all parts used are held to within a tolerance of 0.0005 of an inch.

    VALUE PLUS - as readily evidenced by the Larger Contacts, Ceramic Spacers and Precision Construction and Workmanship.
    
    - CERAMIC STACK SPACERS
    - 1/4" DIAMETER POWER CONTACTS
    - DRIVER-TYPE COIL CONSTRUCTION
    - SPECIAl REED hinge and wiring
    - POWER CAPABILITY UP TO 15 amperes

    A COMPLETE LINE OF REPLACEMENT
    AIR VIBRATORS
    FOR AUTOMOTIVE, HOUSEHOLD and TWO-WAY COMMUNICATION SETS

    ATR VIBRATORS are proven unils of the highest quality, engineered to perfection. They are backed by more than 23 years of vibrator design and research, development and manufacturing.
    ATR pioneered in the vibrator field.

    ATR VIBRATOR MASTER MANUAZ
    

    \section*{INTRODUCING THE WORLD'S LARGEST VIBRATOR}
    

    For World's Smallest Vibrator
    See Page M-33
    
    tllustrates ATR 10 cantact vibrator as utilized ustrates ATR 10 canfact vibrator os Utilize
    in ATR RSE and RME model Inverters.

    \section*{big or small AlR maKes them all!}

    WRITE FOR FREE COPY OF THE NEW ATR HEAVY DUTY INVERTER VIBRATOR MANUAL

    \section*{ATP MINIATURE HIGH VOLTAGE-LOW CURRENT POWER SUPPLIES}
    

    \section*{VIBRATORS AND VIBRAPACK \({ }^{\text {® }}\) POWER SUPPLIES}

    MĀLIORY

    \section*{PR. MALLORY\& CO. NG. MNDANAPOLIS}
    

    \section*{Vibrafors}

    Mallory Vibrators are engineered to exacting specifications. Their superior action is a result of more than 20 years' research. Pure, natural rubber liners deaden sound and assure quiet operation. Special, tough-spring steel eliminates reed breakage. Heavy framing insures correct and exact alignment. Extra size and quality of contact points assure longer life. Each Mallory Vibrator is tested individually for correct output, starting voltage and wave form.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat. No. & Volt & 'Type & Base Dia. & Size & List Price \\
    \hline -245 & 6 & Syn. & 21 & \(11 / 2 \times 31 / 4\) & \$7.70 \\
    \hline 247 & 6 & Syn. & 46 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline G248 & 12 & Syn. & 44 & \(11 / 2 \times 31 / 4\) & 8.55 \\
    \hline 271 HD & 6 & Syn. & 24 & \(2 \times 41 / 2\) & 9.15 \\
    \hline \(273 C\) & 6 & Syn. & 29 & \(2 \times 41 / 2\) & 9.15 \\
    \hline 294 & 6 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 4.90 \\
    \hline -F294 & 32 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 7.15 \\
    \hline 298 & 6 & Int. & 51 & \(11 / 2 \times 27 / 8\) & 6.35 \\
    \hline 505 P & 6 & Int. & 8 & \(1^{15 / 16 \times 31 / 2}\) & 4.90 \\
    \hline б09P & 6 & Int. & 8 & \(11 / 2 \times 27 / 6\) & 4.15 \\
    \hline 716 & 6 & Syn. & 30 & \(1^{18 / 16 \times 31 / 2}\) & 7.70 \\
    \hline -725C* & 6 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 8.56 \\
    \hline *G725C* & 12 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 9.95 \\
    \hline 742 & 6 & Syn. & 32 & \(11 / 2 \times 27 / 8\) & 7.70 \\
    \hline 743 & 6 & Syn. & 38 & \(11 / 4 \times 31 / 4\) & 7.70 \\
    \hline 748 & 6 & Syn. & 44 & \(11 / 2 \times 27 / 8\) & 7.70 \\
    \hline \({ }^{\bullet} \mathbf{G 7 4 9}{ }^{*}\) & 12 & Syn. & 21 & \(11 / 2 \times 31 / 4\) & 9.95 \\
    \hline W759 & 4 & Syn. & 21 & \(11 / 2 \times 27 / 8\) & 8.25 \\
    \hline -825C \({ }^{\text {* }}\) & 6 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 6.90 \\
    \hline -826C* & 6 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 6.35 \\
    \hline -F826C* & 32 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline \({ }^{\bullet} \mathbf{G 8 2 6 C}{ }^{*}\) & 12 & Int. & 8 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline 854 & 6 & Int. & 11 & \(11 / 2 \times 31 / 4\) & 4.90 \\
    \hline -858 & 6 & Int. & 8 & \(11 / 2 \times 27 / 8\) & 4.70 \\
    \hline G859 & 12 & Int, & 8 & \(11 / 2 \times 27 / 8\) & 5.50 \\
    \hline W859 & 4 & Int. & 8 & \(11 / 2 \times 27 / 8\) & 4.90 \\
    \hline 870 & 6 & Int. & 14 & \(11 / 2 \times 27 / 8\) & 4.90 \\
    \hline G874 & 12 & Int. & 55 & \(11 / 2 \times 31 / 4\) & 4.90 \\
    \hline 903M & 6 & Int. & 8 & \(11 / 2 \times 27 / 8\) & 4.15 \\
    \hline 953W & 6 & Syn. & 16 & \(11 / 2 \times 35 / 8\) & 7.70 \\
    \hline 954 & 6 & Syn. & 39 & \(11 / 2 \times 3\) & 7.70 \\
    \hline 1100 & 6 & Int. & 8 & \(15 / 16 \times 238\) & 4.90 \\
    \hline T4002 & 2 & Syn. & 52 & \(11 / 2 \times 21 / 8 \times 11 / 2\) & 10.70 \\
    \hline T4003 & 2 & Syn. & 50 & \(15 / 16 \times 21 / 8\) & 9.80 \\
    \hline 4501 & 6 & Int. & 53 & \(11 / 2 \times 27 / 8\) & 6.35 \\
    \hline G4501 & 12 & Int. & 53 & \(11 / 2 \times 27 / 6\) & 6.90 \\
    \hline M4501 & 24 & Int. & 53 & \(11 / 2 \times 27 / 6\) & 6.80 \\
    \hline 4502 & 6 & Int. & 54 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline 4512 & 6 & Int. & 54 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline 4513 & 6-12 & Int. & 56 & \(11 / 2 \times 27 / 8\) & 6.90 \\
    \hline 4514 & 6 & Int. & 53 & \(11 / 2 \times 27 / 6\) & 6.90 \\
    \hline 4546 & 6 & Syn. & 38 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline 4548 & 6 & Syn. & 44 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline 4549 & 6 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 7.70 \\
    \hline G4549 & 12 & Syn. & 32 & \(11 / 2 \times 31 / 4\) & 8.55 \\
    \hline GC7 \(\dagger\) & Grou & nd Cup & & & . 45 \\
    \hline AR-1 & Adap & ter & & & 1.50 \\
    \hline -SK-1 & Sock & et Kit & & & 1.25 \\
    \hline VP-1 & Vibr & ator Pul & ler & & 2.50 \\
    \hline
    \end{tabular}
    - Int.-Interrupter

    Syn.-Synchronous
    - Use only these types in design of new equipment. Other types are for replacement purposes only.
    * Hermetically Sealed Construction.
    + A grounding cup for \(1 \mathrm{y} / \mathbf{2}^{\prime \prime}\) diameter vibrators which makes a low r.f. ground connection between vibrator can and power supply chassis.
    Five special sockets for Practical Vibrator Tester. Supplied as complete kit only.

    \section*{NEW!}

    THE ' 55 MALLORY VIBRATOR GUIDE
    Contains Vibrator Replacement Information.
    See Your Mallory Distributor.
    

    \section*{Vibrapacks}

    Mallory Vibrapacks are the ideal vibrator power supplies designed to provide at low cost, dependable, high-voltage, direct current from low-voltage, storage batteries. Mallory Vibrapacks offer high effciency, dependability, low maintenance cost and long life because of years of field testing. Added features are; light weight, compact ness and simplicity of installation.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Nominal Operating Voltage & Nominal Output Voltage & Maximum Output Current & Type & IList \\
    \hline VP6-260 & 6 & 200-260 & 60 ma . & & \$28.95 \\
    \hline VP12-260 & 12 & 200-260 & 60 ma . & & 28.95 \\
    \hline VP24-260 & 24 & 200-260 & 60 ma . & & 30.95 \\
    \hline VP6-325 & 6 & 325 & 100 ma . & & 29.95 \\
    \hline VP12-325 & 12 & 325 & 100 ma. & & 29.95 \\
    \hline VP24-325 & 24 & 325 & 100 ma . & & 32.95 \\
    \hline VP-561 & 6 & \(\left.\begin{array}{l}125-150 \\ 175-200\end{array}\right\}\) & 100 ma . & Self. Rectifying & 31.00 \\
    \hline VP-55. & 6 & \(\left.\begin{array}{l}125-150 \\ 175-200\end{array}\right\}\) & 100 ma . & \begin{tabular}{l}
    Tube \\
    Rectifier
    \end{tabular} & 38.00 \\
    \hline VP-554H† & 6 & \(225-250\)
    \(275-300\) & 100 ma. & 'Tube & 40.00 \\
    \hline VP-655H \(\dagger\) & 6 & \(275-300\)
    300 & 200 ma . & Trube & 40.00 \\
    \hline & & & & Rectifier & 79.95 \\
    \hline VP-567 \(\dagger\) & 6 & 400 & 150 ma . & Tube Rectifier & 79.95 \\
    \hline
    \end{tabular}
    * Includes complete audio filter.
    \(\dagger\) Maximum ratings are for mobile transmitter service. For continuous duty with radio receivers where longer vibrator life is essential Reduces maximum output watts ratings to \(75 \%\) of listed values. \(\ddagger\) Will be deleted when present stock is exhausted.
    - Use the Mallory 12 VIID Vibrator Checker for direct readings on "good-bad" conditions of doubtful vibrators. For complete description and illustration of the 12VTID see page 3, Mallory Rectifier and Power Supply section, this catalog.

    Vibrator Base Diagrams
    

    \section*{Selenium Rectifier Stacks}

    Mallory Selenium stacks are conservatively rated to provide long dependable service and good voltage regulation at high efficiency. Rectification is imme-diate-no warm-up period is required. 5-volt average drop across stack results in cooler operation.
    

    \section*{Recommended Minimum Capacity in Mfd.}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Rectifier Stack Cat. No.} & \multicolumn{4}{|c|}{AC Input: Volts IR. M.S.} & \multirow{3}{*}{DC MA. Cont.} & \multirow{3}{*}{\[
    \begin{gathered}
    \text { Approx } \\
    \text { IVC } \\
    \text { Volts }
    \end{gathered}
    \]} & \multirow[t]{3}{*}{Min. Series lesistor In Ohrns R1} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Full-Wave I loubler and Half-Wave}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Series Capacitor Half-Wave Doubler}} & \multicolumn{3}{|l|}{\multirow[b]{2}{*}{Approx. Dimensions In Inches}} & \multirow{3}{*}{List Price} \\
    \hline & \multicolumn{2}{|l|}{Capacitive Load} & \multicolumn{2}{|l|}{Resistive and Inductive I.oad} & & & & & & & & & & & \\
    \hline & \(\overline{\text { Design }}\) & Max. & Design & Max. & & & & Mfd. CI & Volts WV DC & Mfd. C2 & \[
    \begin{gathered}
    \text { Volts } \\
    \text { WV IDC }
    \end{gathered}
    \] & A* & B* & C* & \\
    \hline 8520 & 117 & 130 & 200 & 220 & 20 & 120 & 47 & 20 & 150 & 30 & 150 & 1/2 & 1/2 & 11/6 & \$1.25 \\
    \hline 8535 & 117 & 130 & 200 & 220 & 35 & 120 & 47 & 30 & 150 & 40 & 150 & 3/16 & \(21 / 32\) & 5/8 & 1.40 \\
    \hline 6565 & 117 & 130 & 200 & 220 & 65 & 125 & 22 & 30 & 150 & 40 & 150 & 3/8 & 1 & \(3 / 4\) & 1.50 \\
    \hline 6S75 & 117 & 130 & 200 & 220 & 75 & 125 & 22 & 40 & 150 & 50 & 150 & 3/8 & 1 & 13/16 & 1.85 \\
    \hline 6S 100 & 117 & 130 & 200 & 220 & 100 & 125 & 22 & 50 & 150 & 80 & 150 & 36 & 11/4 & 13/16 & 2.05 \\
    \hline 6S100A & 117 & 130 & 200 & 220 & 100 & 125 & 22 & 50 & 150 & 80 & 150 & 3/8 & 1 & 11/8 & 1.90 \\
    \hline 6 S 150 & 117 & 130 & 200 & 220 & 150 & 125 & 15 & 80 & 150 & 150 & 150 & 3/8 & 11/4 & 1 & 2.25 \\
    \hline \(6 \mathrm{S200}\) & 117 & 130 & 200 & 220 & 200 & 125 & 5 & 100 & 150 & 150 & 150 & 3\% & 1.6 & 1 & 3.15 \\
    \hline 6 S 250 & 117 & 130 & 200 & 220 & 250 & 125 & 5 & 150 & 150 & 200 & 150 & 3/8 & 1.6 & 11/4 & 3.15 \\
    \hline 65300 & 117 & 130 & 200 & 220 & 300 & 125 & 5 & 150 & 150 & 250 & 150 & \% & 1.6 & 17\% & 3.30 \\
    \hline 63350 & 117 & 130 & 200 & 220 & 350 & 125 & 5 & 250 & 150 & 300 & 150 & \% \(/ 16\) & \(13 / 4\) & 115/16 & 4.10 \\
    \hline \(6 \mathrm{S400}\) & 117 & 130 & 200 & 220 & 400 & 125 & 5 & 250 & 150 & 300 & 150 & 7/16 & 2 & \(13 / 8\) & 4.25 \\
    \hline \(6 \mathrm{S450}\) & 117 & 130 & 200 & 220 & 450 & 125 & 5 & 300 & 150 & 400 & 150 & 7/16 & 2 & \(1^{15 / 16}\) & 4.30 \\
    \hline 65500 & 117 & 130 & 200 & 220 & 500 & 125 & 5 & 300 & 150 & 400 & 150 & \(7 / 16\) & 2 & 13/8 & 4.40 \\
    \hline 8575 & 150 & 160 & 245 & 270 & 75 & 160 & 22 & 40 & 250 & 50 & 250 & 3/8 & 1 & 1 & 2.75 \\
    \hline 85100 & 150 & 160 & 245 & 270 & 100 & 160 & 22 & 50 & 250 & 80 & 250 & 3/8 & 1.2 & 1 & 3.75 \\
    \hline 85200 & 150 & 160 & 245 & 270 & 200 & 160 & 5 & 100 & 250 & 150 & 250 & 3/8 & 1.6 & 11/4 & 3.35 \\
    \hline \(8 \mathbf{8 4 5 0}\) & 150 & 160 & 245 & 270 & 450 & 160 & 5 & 300 & 250 & 400 & 250 & 3/6 & 2 & \(21 / 2\) & 4.75 \\
    \hline
    \end{tabular}

    A*-Terminal Extension Beyond Plate. \(\mathrm{B}^{*}\) - Dimension of Plate. C*-Overall Length.

    Chart of Replacement Magnesium-Copper Sulfide Rectifier Stacks
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{New Catalog Number} & \multirow{3}{*}{List Price} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Maximum AC Volts (Normal Line)}} & \multicolumn{3}{|c|}{Approx. IDC Volts} & \multicolumn{2}{|r|}{Max. DC \(\dagger\) Amperes} & \multicolumn{3}{|l|}{Approximate Overall Dimensions in Inches} \\
    \hline & & & & \multirow[t]{2}{*}{Inductive Load} & \multirow[t]{2}{*}{Resistive Load} & \multirow[t]{2}{*}{Capaci-tive-Battery Load} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Contin- } \\
    & \text { uous } \\
    & \text { Juty }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{Intermittent Duty} & \multirow[b]{2}{*}{Length} & \multirow[b]{2}{*}{Width} & \multirow[b]{2}{*}{Height} \\
    \hline & & No Load & \begin{tabular}{l}
    Full \\
    Load
    \end{tabular} & & & & & & & & \\
    \hline IB4R & \$2.40 & 3.6 & 3.2 & 1.5 & 1.7 & 2.5 & 1.5 & 5.0 & 1 & 9/16 & \% \\
    \hline IB8R & 2.85 & 7.2 & 6.4 & 3.1 & 3.4 & 5.1 & 1.5 & 5.0 & 138 & \%/6 & 7/8 \\
    \hline IB12R & 3.25 & 10.8 & 9.7 & 4.8 & 5.2 & 7.8 & 1.3 & 5.0 & 134 & \% \(/ 16\) & \% \\
    \hline IB12L5 & 5.85 & 10.8 & 9.7 & 4.5 & 5.0 & 7.6 & 4.5 & 15.0 & 21/2 & \(21 / 8\) & 2\% \\
    \hline IB12C1J & 6.55 & 10.8 & 9.8 & 4.6 & 5.1 & 7.7 & 3.2 & 24 & \(23 / 4\) & 11/4 & 15 \\
    \hline \(1 \mathrm{B12C3}\) & 6.80 & 10.8 & 9.7 & 4.5 & 5.0 & 7.6 & 4.5 & 24 & \(23 / 4\) & \(13 / 4\) & 21/8 \\
    \hline 1B12C5 & 7.40 & 10.8 & 9.7 & 4.5 & 5.0 & 7.6 & 5.3 & 24.0 & 3 & 21/6 & 2\%8 \\
    \hline F16C3 & 8.85 & 14.4 & 13.0 & 6.1 & 6.8 & 10.2 & 3.9 & 24 & 3 & \(13 / 4\) & 21/8 \\
    \hline IF16CB7M & 10.20 & 14.4 & 12.8 & 5.9 & 6.6 & 9.9 & 6.0 & 24 & 3 & \(21 / 2\) & \(3 \% / 6\) \\
    \hline IS16CB7 & 10.20 & 14.4 & 12.8 & 5.9 & 6.6 & 9.9 & 6.0 & 24 & 334 & \(21 / 2\) & 3 \\
    \hline \(1516 \mathrm{B7}\) & 11.25 & 14.4 & 12.8 & 5.8 & 6.5 & 9.8 & 8.3 & 24 & \(51 / 2\) & \(21 / 2\) & 3 \\
    \hline IS16B9 & 12.80 & 14.4 & 12.7 & 5.7 & 6.4 & 9.7 & 11.6 & 24 & \(51 / 2\) & \(31 / 2\) & 41/4 \\
    \hline F'20C7 & 12.75 & 18.0 & 16.2 & 7.6 & 8.4 & 12.6 & 4.8 & 24 & 43/8 & \(21 / 2\) & 33/6 \\
    \hline IS24C7J & 12.60 & 21.6 & 19.4 & 9.0 & 10.1 & 15.1 & 4.0 & 24 & \(43 / 4\) & \(21 / 2\) & \(33 / 16\) \\
    \hline 1\$24B9 & 17.95 & 21.6 & 19.1 & 8.5 & 9.6 & 14.4 & 11.0 & 24 & \(71 / 2\) & \(31 / 2\) & \[
    41 / 4
    \] \\
    \hline \(1528 \mathrm{C7J}\) & 15.30 & 25.2 & 22.7 & 10.7 & 11.7 & 17.8 & 4.3 & 24 & 6 & 21/2 & 3 \\
    \hline
    \end{tabular}

    NOTE: All rectifiers are single phase, full wave, bridge type.
    Mounting Prefix: IB=Insulated Bolt; \(\mathrm{F}=\) Grounded Foot; \(\mathrm{IF}=\mathrm{In}\) sulated Foot; IS = Insulated Stud.
    \(P\) suffix designates reverse polarity stacking. Center terminal is DC positive.
    J suffix designates universal construction with loose mounting feet for foot, bolt or stud mounting replacement.
    \(\dagger\) To determine AC Amps: Multiply the DC amps by the following factors: Inductive load by 1.1 ; resistive load by 1.2 ; capacitive load by 1.4.
    § Ratings given are for resistive and inductive loads. To determine the Max. continuous InC amp. rating for capacitive and battery loads multiply these ratings by 0.82 .

    \section*{Rectifier Baffery Chargers Power Supplies - UL Approved}

    Mallory Automotive, Marine and Aviation Battery Chargers provide convenient, efficient and economical charging of any storage battery used in automobiles, buses, trucks, tractors, taxicabs, small boats. air planes and on the farm. Taper charging (an automatically decreasing charging rate) is designed into all Mallory chargers to prevent damage to battery plates and to insure maximum battery life. These chargers also are ideal for charging any 6 or 12 -volt strage battery used in industrial, engineering and research laboratories.
    
    

    6SAC10
    
    
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type of Charging Indicator} & \multicolumn{3}{|l|}{Approx. Overall Dimensions in Inches} & \multirow[t]{2}{*}{Approx. Shipping Wt. in Pounds} & \multirow[t]{2}{*}{List Price} \\
    \hline & Height & Width & Depth & & \\
    \hline None & 4\% & 41/4 & 43/6 & 51/4 & \$16.95 \\
    \hline Light & 67/9 & 478 & 434 & & 19.95 \\
    \hline Light & 7\%/8 & 61/2 & 53/4 & 9 & 29.95 \\
    \hline Meter & 15 & 71/2 & 61/2 & 34 & 109.50 \\
    \hline Light & 7\% & 61/2 & & 9 & 29.95 \\
    \hline Meter & 91/3 & 61/2 & \(53 / 4\) & 151/2 & 54.95 \\
    \hline Meter & 15 & \(71 / 2\) & 61/2 & 38 & 149.50 \\
    \hline
    \end{tabular}
    * These chargers are equipped with a Universal DC Output Socket. No DC Cable Assemblies are packaged with Charger. Purchase either 12670 or R675 Cable Assembly.

    \section*{Mallory 6RS25 Heavy Dufy Six Volf DC Power Supply}

    The Mallory 6RS25 6 volt, 25 ampere rectifier type power supply is designed to replace storage battery-charger combinations for bench testing medium power 2-way mobile-phone equipment. It may ing well-fitered low voltage DC in the 25 ing well-hitered Hew voltage sheet-steel housing mamere it adaptable for use in garages as makes it adaptable for use in garages as mobile ranio bench equipment.

    5 volt 60 operates from a standard 115 volt 60 cycle source to supply DC
     variable loads of 0 to 25 amperes. Inter maximum of 40 amperes at 6 volts.

    An adjustable variable control allows quick selection of any voltage from 0 to 8 at 0 to 25 amperes. Three capacitors totaling \(30,000 \mathrm{mfd}\). filter the output to less than 1 volt ripple and suppress \(R\) F and power fine interference. A \(0-10\) volt DC voltmeter and a \(0-40\) ampere DC ammeter are included.

    Conduction cooling of the full-wave Selenium Rectifier Cells, automatic overloading protection, and a self resetting circuit breaker insure long life.

    Overall dimensions-11 high, \(101 / 1^{\prime \prime}\) wide, \(834^{\prime \prime}\) deep. Shipping weight-26 lbs. Catalog No. 6RS25 \(\$ 74.50\) Net

    \section*{Mallory 12RS6D Bench Power Supply}

    The Mallory 12RS6D is a dual purpose bench power supply designed for use on the radio service bench for operating conventional 6 and 12 volt automobile and truck radio sets. Fully AC. operated from the \(115 \mathrm{~V} / 60\) cycle line, the \(12 I\) SS6D supplies rectified and filtered DC in either of 2 ranges, Range "A" supplies 0 to 16 volts at 6 amperes continuously, or 12 amperes intermittently. Range "B" supplies 0 to 8 volts at 10 amperes; or 20 amperes intermittently. Both ranges are infinitely vari-
     able from zero to maximum oulput to permit precise adjustment of bench test voltages. The 12RS6D is equipped with a DC voltmeter, a DC ammeter, infinitely variable voltage control, a range switch, an on-off toggle switch, automatic overload protection, primary fuse and rubber-covered line cord and plug. The rectifying system employs a full-wave metallic rectifier. The cabinet is sheet steel finished in blue enamel and measures \(63 / 4^{\prime \prime}\) high, \(10^{3 / 6}\) wide and \(51 / 2^{\prime \prime}\) deep. Shipping weight approximately 8 lbs. Catalog No. 12RS6D \$39.95 Net

    \section*{Mallory Service Bench Rectopower Supplies}

    Modela 12RS14D and 28RS15D are designed to operate from 110-120 volts, 60-cycles, and are equipped with accurate reading DC overload circuit anmeters, self-reciosin, fuse protection in the AC circuit and an suse protection in the switch. Both models are equipped with a continuously adjustable transformerrotor system to provide precise adjustment of the output voltage to any value from 0 to rated output voltage. Hoth models are filtered by high-capacity electrolytic capac-
     itors.
    These models are also equipped with a new, simplified automatic voltage regulating system (no relays) which keeps the output voltage relatively constant as the load changes from no-load to full load. relatively constant as the load changes a 125 or \(0-16\) VDC (a) 14 A . Model 12RS14D will supply 0-8VDC @ 30 (3) or \(0-32 \mathrm{VDC}\) (1) 15 A . Model 12RS14D \(\$ 99.50\) Net. Model 28RS15D \(\$ 199.50\) Net.

    \section*{Mallory Vibrator Testers}

    The Mallory Vibrator Testers have been designed as companion units to the famous Mallory Service Bench Rectopower (18) Supplies 6KS10, 6RS25-1, \(121255,12 R S 6 \mathrm{D}\) or \(1212 S 14 \mathrm{D}\) (acting as variable power supplies) to test directly, without adapters, most of the popular vibrators and all of the 6 volt passenger car radio vibrators used since
    1940 . Either \(6 \times 5\) or \(0 Z 4\) rectifier tubes 1940. Either 6X5 or 0Z4 rectifier tubes may be plugged into the front panel thus pring interu vibrators to be tested in conjunction with the rectifier tube with which they normally work conjunction with the rectifier tube with rectifiers can readily be determined equipment. Defective vibrators or rectifying vibrators are tetermaned by the substitution methor Fither shunt or separars are tested by removing the rectifer tube. Hither from 100 separate drive vibrators can be tested of any freanency may be read directly from the "good-bad" meter scale. Shipping weight approximately 8 lbs . Model 6VT1-for 6-volt vibrators only
    Model 12VT1D-for either 6-volt or 12 -volt vibrators \(\mathbf{\$ 3 9 . 5 0}\) Net
    \(\mathbf{\$ 3 . 9 5}\) Net \(\mathbf{\$ 2 9 . 5 0}\) Net
    \begin{tabular}{|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Accessories & List I'rice \\
    \hline R670 & Polarized Battery Clip D.C. Cord Assembly for 6SAC4, 6SAC6. 6 SAC10 and 12SAC5. & \$1.95 \\
    \hline R675 & Universal Cigarette I.ighter Plug D.C. Cord Assembly for 6SAC4, 6SAC6, 6SAC10 and 12SAC5 & 2.25 \\
    \hline R653 & Extra Battery Clip. . . . . . . . . . . . . . . . . . . . . . . & . 25 \\
    \hline
    \end{tabular}

    Mallory Page 3

    \section*{Mallory VA Series Rectopower \({ }^{\text {© }}\) Rectifier DC Power Supplies}

    Seven models are contained in the line of general utility filtered rectifier DC power supplies for designing, building, testing and repairing electrical and electronic equipment for the automotive, aviation and military equipment industries. The models may also be used for battery charging and electrolytic processes such as plating, anodizing, electrocleaning and electropolishing. These units incorporate voltmeter, ammeter, isolating-type transformer and many other features which make them desirable for production or laboratory use.

    The four independent filtered output circuits may be paralleled series-paralleled, seriesed, used independently or connected in several different combinations to provide simultaneous outputs as required. Delivery information and more detailed specifications on special Rectostarters (8) for aircraft engine starting and industrial electric truck battery charging, may be had by writing to P. R. Mallory \& Co., Inc., Box 1558, Indianapolis, Ind.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline MODEL & VA400 & VA800 & VA 1500 & VA3000 & VA4500 & VA6000 \\
    \hline AC Input & & & & & & \\
    \hline Volts \(\pm 10 \%\) & 115 & \[
    \begin{gathered}
    208-230 \\
    \text { or } 115
    \end{gathered}
    \] & \[
    \begin{gathered}
    208-230 \\
    \text { or } 460
    \end{gathered}
    \] & \[
    \begin{gathered}
    208-230 \\
    \text { or } 460
    \end{gathered}
    \] & \[
    \begin{gathered}
    \text { 208-230 } \\
    \text { or } 460
    \end{gathered}
    \] & 208-230
    \[
    \text { or } 460
    \] \\
    \hline Phase*. & 1 & 1 & 3 & 3 & 3 & 3 \\
    \hline Cycles & 60 & 60 & 60 & 60 & 60 & 60 \\
    \hline KVA & 1.2 & 2.4 & 3.0 & 6.0 & 9.0 & 12.0 \\
    \hline DC Output Rating \(\begin{aligned} & \text { Max. Amperes at Nominal Volts of differen }\end{aligned}\) & & & & & & \\
    \hline Circuit Combinations. & Amps. & Amps. & Amps. & Ampe. & Ampe. & Amps. \\
    \hline 6 volts . . . . . . . . (all paralleled). & 50 & 100 & 200 & 400 & 600 & 800 \\
    \hline 12. . . . . . . . . . . . . (series-paralleled) . & 25 & 50 & 100 & 200 & 300 & 400 \\
    \hline 24. . . . . . . . . . . . . (all seriesed) . . . . & 121/2 & 25 & 50 & 100 & 150 & 200 \\
    \hline \begin{tabular}{l}
    DC Output Adjustment \\
    Voltage Adjustment Range at Max. Rated
    \end{tabular} & & & & & & \\
    \hline Ampere Output. & Volts & Volts & Volts & Volte & Volts & Volte \\
    \hline 6 volt nominal. & 0-8 & 0-8 & 4-8 & 4-8 & 4-8 & 4-8 \\
    \hline 12 volt nominal & 0-16 & 0-16 & 8-16 & 8-16 & 8-16 & 8-16 \\
    \hline 24 volt nominal & 0-32 & 0-32 & 16-32 & 16-32 & 16-32 & 16-32 \\
    \hline Number of Voltage Controls. & 1 & 1 & 1 & 1 & 1 & 1 \\
    \hline Number of Voltage Control Positions..... & Infinite & Infinite & 28 & 28 & 28 & 28 \\
    \hline DC Output Ripple-At Rated Output Less Than & 2\% & 2\% & 2\% & 2\% & 2\% & 2\% \\
    \hline \begin{tabular}{l}
    DC Output Regulation \\
    From 0 to Rated Amps. at Max. DC Volts and Constant AC Volts.
    \end{tabular} & 15\% & 15\% & 25\% & 25\% & 25\% & 25\% \\
    \hline Overall Dimensions-Width & 22 & \(251 / 2\) & \(251 / 2\) & \(251 / 2\) & \(251 / 2\) & \(251 / 2\) \\
    \hline Depth. & 9 & 121/2 & 19 & 19 & 19 & 19 \\
    \hline Height & 14 & 151/2 & 55 & 55 & 55 & 55 \\
    \hline Weight in Pounds-Net. & 90 & 175 & 300 & 370 & 415 & 480 \\
    \hline Shipping & 95 & 175 & 415 & 485 & 530 & 600 \\
    \hline List Price . . . . . . . . . . . . . & \$360.00 & \$575.00 & \$740.00 & \$900.00 & \$895.00 & 81100.00 \\
    \hline
    \end{tabular}
    * 25 and 50 cycle Rectopower supplies are available at additional cost.
    

    \section*{Line Voltage Adjuster and Isolation Transformer}

    The Mallory Line Voltage Adjuster and Isolation Transformer is designed for electric and electronic applications requiring line voltage adjustment, line isolation or low voltage, heavy current output. It is a versatile and worthwhile accessory for use in radio-TV shops, laboratories and industrial service shops.

    Completely enclosed in an enamelled metal case, the LVA-2 provides: Infinitely variable AC-line adjustment from \(90-130\) volts (a) 1200 watts; an electrostatically-shielded, isolated, infinitely variable low voltage AC from 0 to 40 volts (a) 4 amperes in the isolation position, and 0 to 40 volts @ 8 amperes in the common line position; and an electrostatically-shielded, isolated, infinitely variable, 90 -volt to 130 -volt AC output (a) 350 watts. The unit is designed to operate from 105 to 125 volts, 60 cycles, single-phase. The infinitely variable common line and isolation outputs are selected in "common lineisolation" switch, and are fed to two standard AC outlets. Accurate output-voltage adjustment is afforded by the two-inch, 130 volt, AC meter. Overall case dimensions are: height-7/8"; depth-534"; width-61/2".
    Catalog No. LVA-2
    \(\$ 41.95\) Net

    \section*{}

    \section*{VIBRATORS}

    \section*{AUTO RADIO - COMMUNICATIONS - SPECIAL PURPOSE}

    \section*{FEATURES}
    - C-D designed electronic micrometric equipment removes guesswork in confact point setting and assures consistent high quality.
    - Exdusive C-D pole piece design and armature weight results in a perfectly-balanced unit with greater efficiency.
    - Exclusive C-D base mounting results in a full floating unit, That's why C-D vibrators last longer,
    - Unit completely enclosed in new floating sock-an exclusive with C-D vibrators. Eliminates usual difficulties found in other vibrators.
    

    STANDARD AUTO-RADIO
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{INTERRUPTER} & \multicolumn{6}{|c|}{SYNCHRONOUS} \\
    \hline Type & List & Type & List & Type & List & Type & List & Type & List & Type & List \\
    \hline 5300 & \$4.90 & 5320 & \$4.90 & 5363 & \$6.3s & 3400 & \$7.70 & 5411 & \$7.70 & 3433 & \$7.70 \\
    \hline 5300-32 & 7.15 & 3321 & 4.90 & 5366 & 6.35 & 5404 & 7.70 & 5416 & 9.15 & 5437 & 7.70 \\
    \hline 5301 & 4.90 & 5323 & 4.15 & 5370 & 4.90 & 3406 & 7.70 & 5422 & 8.55 & 5438 & \\
    \hline 5303 & 4.90 & 5326 & 4.15 & 6301 & 4.90 & 3407 & 7.70 & 5423 & 9.15 & 5434 & 7.70
    1070 \\
    \hline 3304 & 6.35 & 5331 & 4.90 & 6326 & 5.30 & 5408 & 7.70 & 3426 & 7.70 & 5468-2 & 10.70 \\
    \hline 5307 & 4.90 & 3333 & 4.90 & 6330 & 4.90 & 5409 & 7.70 & 5429 & 9.15 & 5469-2 & 9.80 \\
    \hline 5314 & 4.90 & 5333 & 4.90 & 6370 & 4.70 & 3410 & 7.70 & 5431.4 & 8.55 & & \\
    \hline 3314-4 & 4.90 & 5342 & 4.15 & & & & & & & & \\
    \hline
    \end{tabular}

    \section*{COMMUNICATIONS and SPECIAL PURPOSE}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type & List & Type & List & Type & List & Type & List & Type & List & Type & List \\
    \hline 5506 & \$7.15 & 5560 & \$8.55 & 6503 & \$7.70 & 3604 & \$9.13 & \(\dagger 5803\) & \$8.53 & 6609 & \$9.93 \\
    \hline 5510 & 7.15 & +3715 & 6.90 & 6511 & 7.70 & 3607 & 8.55 & +5820 & 7.70 & 6610 & 8.53 \\
    \hline 5513 & 9.70 & +5718 & 6.90 & 6513 & 9.70 & 5610 & 7.70 & +5821 & 6.90 & 6614 & 8.55 \\
    \hline 5313-4 & 9.70 & +5721 & 6.90 & 6514 & 9.95 & 5613-24 & 8.35 & +5822 & 10.35 & 6615 & 8.35 \\
    \hline 5514.4 & 7.70 & +3722 & 10.35 & 6517 & 7.70 & 5616 & 8.55 & 6605 & 9.95 & 6616 & 9.93 \\
    \hline 5516 & 6.90 & & & & & 5620 & 7.70 & 6607 & 9.95 & & \\
    \hline
    \end{tabular}
    † Communications Type.

    \section*{SUBSTITUTION GUIDE}

    COVERING C-D TYPES NOT LISTED IN TABLES ABOVE
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { For } \\
    & \text { Type }
    \end{aligned}
    \] & Use & \[
    \begin{aligned}
    & \text { For } \\
    & \text { Type }
    \end{aligned}
    \] & Use & \[
    \begin{aligned}
    & \text { For } \\
    & \text { Type }
    \end{aligned}
    \] & Use & For Type & Use \\
    \hline 5300-12 & 6503 & 5341-M & 5300 & 5301 & 5516 & 5605 & 5805 \\
    \hline 5308 & 5300 & 5343 & 5321 & 5503 & 5715 & 5605-12 & 6605 \\
    \hline 5309 & 5314 & 5365 & 5610 & 5503-12 & 6503 & 5607-12 & 6607 \\
    \hline 5312 & 5366 & 5406-12 & 6605 & 5503-32 & 5300-32 & 5609-12 & 6609 \\
    \hline 5313 & 5715 & 5409.12 & 6609 & 5504 & 5718 & 5610-12 & 6610 \\
    \hline 5322 -P & 5323 & 5413 & 5409 & 5311-12 & 6511 & 5614-12 & 6614 \\
    \hline 5324 -P & 5718 & \(5420-\mathrm{P}\) & 5411 & 5513-12 & 6513 & 5613-12 & 661 \\
    \hline 5325 -P & 5326 & 5421 & 5411 & 5314-12 & 6514 & 5616-12 & 6616 \\
    \hline 5327 -P & 5301 & 5428 & 5411 & 5513 & 5715 & 5621 & 5821 \\
    \hline 5334 & 5335 & 5439 & 5610 & 5317-12 & 6517 & 5622 & 5822 \\
    \hline 5339 & 5303 & 5440 & 5400 & 5318 & 5718 & 56225 & 5822 \\
    \hline 5340 -M & 5342 & 5500 & 5715 & 5519 & 5715 & 5623 & 5805 \\
    \hline
    \end{tabular}

    \section*{}

    \section*{STANDARD HEAVY－DUTY＇SINGLE AND TANDEM VIBRATORS}
    

    \section*{FEATURES}
    －Separate Driving Circuits．
    －Precision oscillographic ad justment of contacts－in－ dividually．
    －Precisely Ground Ceramic Spacers．
    －Shock and Vibration re－ sistant．
    －Optimum performance in any mounting position．
    －Preselected Swedish steel center reeds．

    \section*{NEW Simplified CODING：}

    The 4 Styles illusirated above are available for operation from \(6,12,28,32\) and 110 V ．DC to produce 60 or 100 cycles AC． Heavy－duty vibrators are coded to indicate VOLTAGE，STYLE， AND FREQUENCY．For Example：－Type 110 VB6 indicates；
    \(110 \mathrm{~V} . \mathrm{DC}\)

    In like monner，all other heavy－duty vibrator types may be identified．
    ＂Where CLOSE FREQUENCY odiustment is required，the suffix＂H＇is odded to the Type No．

    HEAVY－DUTY VIBRATOR SPECIFICATIONS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type* } \\
    & \text { Mo. }
    \end{aligned}
    \] & \begin{tabular}{l}
    Former \\
    Type No．
    \end{tabular} & Volloge & Frequency & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Type* } \\
    & \text { No. }
    \end{aligned}
    \] & Former Type No． & Volloge & Frequency & \[
    \begin{aligned}
    & \text { Lisp } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 6VE6 & 3103 & 6 & \(60 \pm 2\) & \＄12．23 & 1634 & 1684 & 6 & \(120 \pm 5\) & 21.35 \\
    \hline 6VD6 & 1123 & 6 & \(60 \pm 2\) & 17.10 & 2322 & 2522 & 110 & \(60 \pm 3\) & 0.63 \\
    \hline 6VL6 & 3485 & 6 & \(60 \pm 2\) & 12.23 & 2320 & & 6 & \(60 \pm 5\) & 4.13 \\
    \hline \(12 \mathrm{EB6}\) & 3087 & 12 & \(60 \pm 2\) & 12.23 & 2330 & － & 12 & \(60 \pm 5\) & 4.13 \\
    \hline 12Y06 & 3047 & 12 & \(60 \pm 2\) & 17.10 & 2331 & － & 6 & \(60 \pm 3\) & 7.70 \\
    \hline 2aves & & 24 & \(60 \pm 2\) & 12.23 & 2332 & & 12 & \(60 \pm 3\) & 7.70 \\
    \hline 21906 & － & 24 & \(60 \pm 2\) & 17.10 & 2333 & & 110 & \(60 \pm 3\) & 7.70 \\
    \hline 20VDGM & & 24 & \(60 \pm 1 / 2\) & 19.40 & 2363 & 2563 & 6 & \(60 \pm 3\) & 10.33 \\
    \hline 32YE6 & 2989 & 32 & \(60 \pm 2\) & 12.23 & 2364 & － & 24 & \(60 \pm 3\) & 10.33 \\
    \hline 32Y06 & － & 32 & \(60 \pm 2\) & 17.10 & 2363 & & 110 & \(60 \pm 3\) & 10.33 \\
    \hline 32 VDGH & & 32 & \(60 \pm 2\) & 19.40 & 2639 & 2639 & 6 & \(60 \pm 2\) & 17.10 \\
    \hline 110816 & － & 110 & \(60 \pm 2\) & 12.23 & 2989 & See 32VB6 & 32 & \(60 \pm 2\) & 12.23 \\
    \hline 110V664 & \(\square\) & 110 & \(60 \pm 1 / 2\) & 14.10 & 3047 & See \(12 \mathrm{VD6}\) & 12 & \(60 \pm 2\) & 17.10 \\
    \hline 110VC6M & & 110 & \(60 \pm 1 / 2\) & 17.10 & 3077 & 3077 & 110 & 60，Adi & 14.38 \\
    \hline 427 & 427 & 6 & \(60 \pm 2\) & 12.23 & 3079 & See 110 VC 6 H & 110 & \(60 \pm 1 / 2\) & 18.40 \\
    \hline 490 & 490 & 6 & \(60 \pm 3.0\)
    \(60 \pm 2\) & 17．10 & 3087
    3103 & See \(12 \mathrm{VB6}\)
    See ovB
    See & 12 & \(60 \pm 2\)
    \(60 \pm 2\) & 12.23 \\
    \hline loes & 1083 & 110 & \(60 \pm 2\) & 17．10 & 4123 & See 6VD6 & 6 & \(60 \pm 2\) & 17.10 \\
    \hline 1313 & 1315 & 110 & \(60 \pm 2\) & 12.25 & 1102＊ & 11028 & 110 & \(60 \pm 2\) & 12.23 \\
    \hline 13154 & 1315 H & 110 & \(60 \pm 1 / 2\) & 14.10 & 32171 & 32171 & 32 & \(60 \pm 2\) & 12.25 \\
    \hline 1306 & 1506 & 32 & \(60 \pm 2\) & 17.10 & & & & & \\
    \hline
    \end{tabular}
    ＊Completely interchangeable with former iype
    VIBRATOR REPLACEMENT GUIDE－for C－D POWERCONS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{For Powercon Model} & \multicolumn{2}{|l|}{C－D Vibrator \begin{tabular}{c} 
    Use \\
    Type
    \end{tabular}} & \multirow[t]{2}{*}{For Pawercon Model} & \multicolumn{2}{|l|}{Use C－D Vibrator Typ＊} & \multirow[t]{2}{*}{For Powercon Model} & \multicolumn{2}{|l|}{Us． C－D Vibrator Type} & \multirow[t]{2}{*}{For Powarcon Madel} & \multicolumn{2}{|l|}{\begin{tabular}{l}
    Use \\
    C－D Vibrator Type
    \end{tabular}} \\
    \hline & Now & Former & & New & Former & & New & Former & & Now & Former \\
    \hline －／1203 & 2563 & 2563 & 12DC3 & 6301 & － & 2197 & 2564 & － & 110810 & 1315 & 1315 \\
    \hline ODC3 & 5301 & & 12DC6 & \(12 \mathrm{VB6}\) & 3087 & 28510 & 24V86 & － & I 1onais & 1315 & 1315 \\
    \hline ¢DC6 & 6VB6 & 3103 & 12BC12 & 12VD6 & 3047 & 2tsh22 & 24VD6 & － & 110RT13 & 3077 & 3077 \\
    \hline 6 OC12 & 6VD6 & 4123 & 12M13 & \(12 \mathrm{VD6}\) & 3047 & 32M18 & \(32 \mathrm{VB6}\) & 2989 & 1108123 & 1315 H & 13154 \\
    \hline \(6 / 110 \mathrm{HW}\) & 6VB6 & 3103 & 12Le & 2563 & 2563 & 32 L & 2564 & － & 110R123DL & 1315 H & 1315 H \\
    \hline \(6{ }^{6} 10\) & 6VD6 & 4123 & 12¢4 & 2530 & 256 & 32 C & \(32 \mathrm{VB6}\) & 2989 & 110硣 & \(110 \mathrm{VC6H}\) & 3079 \\
    \hline ¢ 6 & 2563 & 2563 & 12M6 & 2532 & － & 32tu1s & \(32 \mathrm{VB6}\) & 2989 & 110515 & \(110 \mathrm{VB6}\) & － \\
    \hline 6LM3 & 2529 & － & 12界 & 12VB6 & 3087 & 32512 & \(32 \mathrm{VB6}\) & 2989 & \(1105 N 40\) & \(110 \mathrm{VC6H}\) & 3079 \\
    \hline 6 ¢ 4 & 2531 & － & 12則15 & \(12 \mathrm{VD6}\) & 3047 & 325422 & 32VD6 & － & 1105w13 & 110V86H & 3079 \\
    \hline ¢13 & 6VB6 & 3103 & 12510 & \(12 \mathrm{VB6}\) & 3087 & 110 Hz & \(110 \mathrm{VB6H}\) & － & 110swss & \(110 \mathrm{VC6H}\) & 3079 \\
    \hline 疑10 & 6VD6 & 4123 & 125420 & \(12 \mathrm{VD6}\) & 3047 & 110 l 10 & \(110 \mathrm{VB6}\) & － & 110wR13A & 1315 & 1315 \\
    \hline 657 & 6VB6 & 3103 & 12582 & 2530 & 304 & 110 ms & 2533 & － & 110whisa & 1315 & 1315 \\
    \hline 6 SH 15 & 6VD6 & 4123 & 125W & \(12 \mathrm{VB6}\) & 3087 & 110 mz & 2565 & － & 220 HzS & 110 VB 6 H & － \\
    \hline 6 SP2 & 2529 & － & 12swis & \(12 \mathrm{VD6}\) & 3047 & 110pas & 2522 & 2522 & 220515 & \(110 \mathrm{VB6}\) & \\
    \hline ¢SW7 & 6VE6
    6VD6 & 3103
    4123 & 2－H13 & 24VB6 & 3 & \(110 p 5\) & 2522 & 2522 & 2205140 & \(110 \mathrm{VC6H}\) & 3079 \\
    \hline 6SW12 & 6VD6 & 4123 & & & & & & & & & \\
    \hline
    \end{tabular}

    \title{
    COTMVAh (10) DU:THIAT VIBRATOR-POWERED IT DOMESOMS CONVERTERS
    }
    

    \section*{Completely NEW and EXTENDED Line}

    \section*{FEATURING}

    DEPTH OF COVERAGE - eoch converter opplicoble to widest voriety of uses. Moximum Coveroge with Minimum Inventory.

    SIMPLIFIED SERVICING - oll components reodily occessible no potted assemblies.
    SINE-WAVE REGULATED UNITS - a C.D exclusive.
    INTERFERENCE SÜPPRESSION - foctory equipped. Noise. free performonce on TV, Radio, Dictation, Recorder, Phono ond Amplifier, etc.

    POWER FACTOR CORRECTION PACKS - compoct occessory available to handle low Powet ractor loads.
    HIGH VOLTAGE MODELS - supply up to 500 VDC from 6 or 12 volt sources.

    NEW • IMPROVED DESIGN • COMPACT
    with the widest coverage ever. Many EXTRAS at no extra cost.
    \(D C\) to \(A C\) - \(D C\) to \(D C\) - \(A C\) to \(D C\)
    SINEWAVE DC to AC
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{5}{|c|}{dC to llovac sine wave regulateo} \\
    \hline Model & Input Volts & Output Wotts (Continuous) & Closs & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 65W 8 & 6 & 80 & H & \$99.50 \\
    \hline 65W12 & 6 & 125 & SH & 182.50 \\
    \hline 125W 10 & 12 & 100 & H & 99.50 \\
    \hline 125W15 & 12 & 150 & SH & 189.50 \\
    \hline 1105W15 & 110 & 150 & H & 99.50 \\
    \hline 110sW35 & 110 & 350 & \(\mathbf{S H}\) & 189.50 \\
    \hline \multicolumn{5}{|c|}{LOW DC TO HIGH DC} \\
    \hline Model & Input & Output & Closs & List
    Price \\
    \hline 6DC3 & \(6{ }^{6}\) & \(300 \mathrm{~V}-100 \mathrm{Ma}\) & 1 & \$ 45.00 \\
    \hline 6DC6 & 63 & \(300 \mathrm{~V}-200 \mathrm{Ma}\) & 5 & 64.00 \\
    \hline 60C12 & 65 & \(500 \mathrm{~V}-225 \mathrm{Ma}\) & H & 107.50 \\
    \hline 12DC3 & 123 & \(300 \mathrm{~V}-100 \mathrm{Mo}\) & & 48.00 \\
    \hline 12DC6 & 123 & \(300 \mathrm{~V}-200 \mathrm{Ma}\) & 5 & 68.00 \\
    \hline 12DCl2 & 125 & \(500 \mathrm{~V}-225 \mathrm{Ma}\) & H & 116.00 \\
    \hline \multicolumn{5}{|c|}{110 VAC TO \(6 / 12 \mathrm{VDC}\)} \\
    \hline Model & \multicolumn{2}{|c|}{Output} & Closs & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Prict }
    \end{aligned}
    \] \\
    \hline 11086 & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{6 A of 12 V or 10 A of 6 V 10 A of 12 V or 20A of 6 V}} & H & \$ 66.50 \\
    \hline 110812 & & & H & 93.50 \\
    \hline \multicolumn{5}{|c|}{6/12VDC TO 110 VAC} \\
    \hline Model & Inpur & Output & Closs & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 6/12D5 & 6/12 & jova & 1 & \$ 44.95 \\
    \hline
    \end{tabular}
    1. Standard models deliver 110 volts, 60 cycle, \(A C\) power. Con. tinuous ratings are based on high power factor, radia or TV type loads. For inductive loads, ratings are less by amount of the lood power factor.
    2. All models are housed in cases of similar design and appearance. The class designations signify approximate size and weight, os follows:
    
    3. For complete information see Cornell-Dubilier POWERCON Catalog.

    \title{
    TODAY'S OUTSTAWDIWG D. C. POWER SUPPLIES...
    }

    \section*{in performance! in reliability! in dollar-for-dollar value!}

    \section*{SCHAUER BATTERY ELIMINATORS FOR SERVICING BOTH 6 and 12 VOLT AUTO RADIOS}

    Again Schauer leads the field! Here are streamlined, new Battery Eliminators specifically engineered to meet the growing needs of auto radio service men. In one compact unit, quality-built 1).C. Power Supplies which more than meet manufacturers' specifications for the operation and servicing of any 6 - or 12 -volt auto radio equipped with signal-seeking, push-button or manual tuners.
    SCHAUER MODEL AR S612 - Output adjustable by means of a rugged, silver contact tap switch. Toggle switch changes unit from 6 -volt to 12 -volt operation. Low range output: \(71 / 2\) volts at 12 amps , continuous; 20 amps., intermittent. High range: 15 volts at 6 amps., continuous; 11 amps., intermittent. Components include Selenium rectifiers, transformer, condenser-type filters, accurate 0.20 V.. and 0-20 A. meters, heavy wing-nut binding posts and carrying handle. Housed in sturdy steel case \(71^{\prime \prime \prime}\) wide \(x 91 / 2^{\prime \prime}\) deep x \(9^{\prime \prime}\) high.
    SCHAUER MODEL AR 4612 - Non-adjustable 6 -volt and 12 -volt Battery Eliminator. Built to same high-quality standards as Model AR 5612, above. Equipped with high-low switch to change from nominal 6 -volt to noninal 12 -volt operation.
    Own SCHAUER Battery Eliminators - they're the choice of leading service men. Specifications and illustrations of these units are found in Bulletin No. 1469. Write for your free copy.
    

    SCHAUER MODEL AR 5612

    \section*{ALSO AVAILABLE:}

    SCHAUER MODEL AR-5 - Adjustable 6 -volt Battery Eliminator. Delivers 6 volts D.C. with output adjustable for any load current between 3 and 15 amps ., indicated by \(0-15 \mathrm{~A}\). and \(0-8 \mathrm{~V}\). meters.
    schauer model ar-4 - A practical, lowcost, non-adjustable 6-volt Battery Eliminator. Delivers 6 -volts at approx. 15 amps.

    \section*{SCHAUER BATTERY CHARGERS}

    A complete line of battery chargers designed for safe recharging of storage batteries. All models equipped with exclusive Schauer "Charger Guard" - an automatic reset circuit breaker which acts instantly in case of overload or short circuit. No fuses, no manual resetting of circuit breaker.
    

    Model BX-2

    Model CX-2
    Model CX2-12
    Model CX-612
    Model BX-2
    Model BX2-12
    Model BX-612

    Many other models and capacities - Write for Bulletin No. 2477.
    10 ampere, 6 -volt charger
    10 ampere, 12 -volt charger 10 ampere, 6 and 12 -volt charger 6 ampere, 6 -volt charger
    6 ampere, 12 -volt charger 6 ampere, 6 and 12 -volt charger

    \section*{SCHAUER ADJUSTABLE BATTERY ELIMINATOR FOR 6 AND 12-VOLT AM AND FM 2-WAY AUTOMOBILE AND MARINE RADIOS}

    Schauer Type SA-48006 Battery Eliminator delivers either 6 -volts D.C. up to a maximum of 48 amps .; or 12 volts I.C. up to a maximum of 24 amps . A ruggedly built dial tap switch provides adjustment from less than 1 amp. up to the maximum output. A switch is provided to change to the voltage desired. Selenium rectifiers; efficient choke and condenser combination; heavy duty output terminals; precision D.C. voltmeter. Size: \(10^{\prime \prime}\) wide \(x\) for complete data.
    

    \section*{famous for moderate}

    \section*{DC POWER SUPPLIES} price premium quality and BATTERY ELIMINATORS

    \section*{New Model "D-612"}
    

    TEST SERVICE 12 \& 6 VOLT AUTO RADIOS
    Switch selects 12 or 6 V . output. 2 ranges: 0.8 and 0.16 V . continuously variable. \(0-10\) amps. continuous duty up to 12 V .20 amps . intermittent current rating. Unequalled qual. ity and performance at lowest cost.

    Model "NF"
    
    tist, service dC equipment from ac lines
    Choke input and Pi type filters with 1 choke. 2000 mid . condenser plus 1 choke, 4000 mid . condenser. D'Arsenval-type voltmeter 0-50 volts: ammeter 0.25 amperes, \(2 \%\) accuracy. Bridge type selenium rectifiers. Superior Powerstat for incremental voltage adjust. ment.
    

    DUAL RANGE FOR TESTING, SERVICING RADIOS AND ELECTRONIC EOUIPMENT
    115 volt \(50 / 60\) cycle input. 265 watts at 28 volts, 5 amperes. Choke input and \(\mathrm{Pi}_{\mathrm{t}}\) type filters with 2 chokes and 2.2000 mid. condensers. D'Arsenval-type voltmeter \(0-50\) volts \(2 \%\) accuracy. D'Arsenval-type ammeter 0.6 amperes \(2 \%\) accuracy. Bridge. type selenium rectiliers. Heavy duty control transformer for incremental voltage adjust. ment.

    \section*{Priced to Compete with Kits}

    Less than 5\% Ripple Over Rated Ranges
    MODEL "D-612"-0.8 and 0-16 V. Cont. Variable 10 amperes continuous duly up 1012 volts 20 amperes intermittent current rating
    An unmatched combination of unequalled performince, low price, and quality makes this a must for service technicians. Operates all auto radios. For relays, phone circuits, low voltage devices, electro-plating and battery charging. Patented EPL conduction cooling. Withstands high overloads for lifelong service. Changes from 6 to 12 volts at the flick of a switch. Same top quality as other EPL models

    MODEL " \(B\) " \(\mathbf{- 6}\) Volts, \(1-20\) amperes continuous rating, 35 amperes intermittent rating. Less than \(3 \%\) AC ripple. Operates \(2-6\) volt auto radias simuttaneously, phone circuits, low voltage devices. Conduction cooling increases power rating \(11 / 2\) times, lowest cost per ampere.

    Less than \(1 \%\) Ripple at Top Load
    MODEL "NF"-0-28 VOLTS, \(0-15\) amperes continuous rating, 25 amperes intermittent rating

    Serves broadest uses in industry, research and servicing. Only moder. ately priced heavy duty power supply with less than \(1 \%\) ripple at this output. Exclusive "EPL" selenium rectifier application increases power rating, lowers cost per ampere output. Finest components, trouble-free operation. Peak instantaneous current rating of 25 amperes (from 50/60 cycle 115 volt source). 0.36 volts up to 6 amperes.
    MODEL "N"-Same rating and specifications excepl for: \(5 \%\) ripple of 10 amperes, \(8 \%\) of 15 amperes, less 1 choke and 2 condensers, lower cost.

    \section*{Less than \(1 \%\) Ripple at Top Load}

    MODEL "EF'"-Dual Range: 0-28 VOLTS, 0-14 VOLTS, 0-5 amperes continuous rating, 10 amperes intermittent rating
    Virtually unlimited in operation and testing of electronic equipment that requires DC power. Completely variable voltage teature makes possible to test all equipment under almost any vollage input condition. Single control offers continuous voltage adjustment for different load conditions over the specified range. Patented conduction cooling gives longer rectifier life, increased power capacity. Attractively priced - high quality construction.

    MODEL "E"-seme reting and specifications, excepl for: \(3 \%\) AC ripple at 5 amperes; I choke and \(\mathbf{1 - 2 0 0 0}\) mfd., 50 voli condenser.

    \section*{MODEL "S" BATTERY ELIMINATOR}

    Converts batfery radios to AC all-elociric operation
    

    Model " \(S\) ' operates 1.4 volt 4 to 6 tube battery radio from 115 volt 50/60 cycle source. Complete filtering insures hum-free silent operation. Easily fits into battery compartment of most radios. Eliminates batteries, saves money. Low operating cost, uses only 11 watts. Has on-off switch. standard plug and sockets.

    \title{
    JAMES Ange DrieviBRATOOSS
    }

    JAMES ribrutors. the engineers stamdard. are designed for the more difficult applications. Featuring - Ingle Drive". ceramic spacers, dynamic contact wiping and other JAMES exchasive patented desisms. These components are demamied by aritical service engineers.
    

    \section*{AUTO REPLACEMENT}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline JAMES & TYPE & CAN & HIA. & DESCRIITION & MALI.ORY & RADIART \\
    \hline . 12 S & Intr. & \(11 / 2 \times 31 / 8\) & 3 & 4 prong std. - Medinm height & 29.4 & 5300 \\
    \hline J2SP' & " & \(11 / 2 \times 2 / 8\) & 3 & 1 prong std. - Short height & 859 & 5301 \\
    \hline J2SF & " & \(11 / 2 \times 2 \%\) & 3 & + prong atd. - Phileo & 5091' & 5326 \\
    \hline J2SM & \(»\) & \(11 / 2 \times 27 / 8\) & 3 & 4 prong sta. - Motorola & 903 M & 5342 \\
    \hline 12 J 7 & " & \(11 / 2 \times 2 / 8\) & 38 & 3 prong-12 volt - CiM & G.871 & 6.3311 \\
    \hline J85 & \("\) & \(11 / 2 \times 31 / 8\) & 8 & 4 prong std. - sperial wiring & 854 & 5331 \\
    \hline J9 & » & \(11 / 2 \times 31 / 8\) & 9 & Delco base. large can & 852 & 5303 \\
    \hline J9SA & » & \(11 / 2 \times 27 / 8\) & 9 & Delco base. sthall can & 870 & 5335 \\
    \hline J21 & \# & \(1 \frac{5}{16} \times 23 / 8\) & 3 & 4 prong std. snall can. Ford & 1100 & 531.4 \\
    \hline . 151 & Syn. & \(13 / 4 \times 41 / 2\) & 17 & Large can. Pontiac & 273C & 5125 \\
    \hline J66 & " & \(1{ }_{16}^{15} \times 31 / 2\) & 28 & Large cant with handle. Burick & 716 & 5426 \\
    \hline
    \end{tabular}

    \section*{COMMUNICATIONS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline JAMES & TYPE & CAV & IIA. & DESCRIPTION \\
    \hline J22 & Intr. & \(11 / 2 \times 31 / 3\) & 3 & 8 contact. heavy duty, Motorola, Link receiver service. \\
    \hline J23 & " & \(11 / 2 \times 21 / 8\) & 3.3 & Heary duty for transmitter service, Motorola. Link. \\
    \hline J24 & " & \(11 / 2 \times 27 / 8\) & 31 & 6 prong, 8 contact, Motorola Unichannel, Bendix. \\
    \hline J58 & Syn. & \(11 / 2 \times 31 / 6\) & 211 & 6 prong. Karr. \\
    \hline J63 & " & \(11 / 2 \times 31 / 8\) & 24 & Reversible. limk. RCA. \\
    \hline J65M & " & \(11 / 2 \times 31 / 8\) & 27 & Reversible. Motorola. \\
    \hline J73 & " & \(11 / 2 \times 31 / 8\) & 21 & General Electric. \\
    \hline
    \end{tabular}
    

    QUIET - DEPENDABLE - LONG LIFE

    \section*{THEDADIADT CORPORATION}
    
    - ROTATORS
    - vibrators
    * auto aerials
    - tv antennas
    - power Supplies
    

    NOW - with the RADIART SEAL VENT, the vibrator is sealed BEFORE it is used - and VENTED after it is put into use. The RED SEAL rubberfaced bakelite plug prevents formation of an insulating film on the contacts. Heat generated when the vibrator is put into service melts the wax out of the sealed veni-hole and permits air circulation . . . FOR LONGER LIFE AND EVEN GREATER PERFORMANCE!

    The Radiart Vibrator Guide is the Standard of the Industry - Ask your jobber for your copy today!

    There are many reasons for the nation-wide preierence for Radiart Vibrators! One is the absolutely complete selec. tion of types manufactured there is a CORRECT Radiart replacement vibrator for most every need, to orig. inal specifications. In addi tion, the precision engineering behind the design of each type is backed up by highest standards of manufacture that assure peak performance . . . always!
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{5}{|l|}{\begin{tabular}{l}
     \\
     stocked lis all lidblidat bintributios who carry a complete line.
    \end{tabular}} \\
    \hline Type No. Price & Type No. & Price & Type No. & Price \\
    \hline \(5300 \ldots \ldots\) Ni. 70 & 5320 & 44.90 & 5363 & 81.35 \\
    \hline 5300-32 ... 7.15 & 5321 & 4.90 & 5366 & 6.35 \\
    \hline 5301 ........ +.70 & 5323 & 4.15 & 5370 & 4.110 \\
    \hline 5303 .... 4.! 10 & 5326 & 4.15 & 6301 & 4.96 \\
    \hline 5304 ....... 9.35 & 5331 & 1.90 & 6326 & 5. 50 \\
    \hline 5307 ...... . 4.90 & 5333 & 4.90 & 6330 & 4.910 \\
    \hline 5314.4 ..... 4.90 & 5335 & 4.90 & 6370 & 4.70 \\
    \hline 5314 ....... 4.90 & 5342 & 3.16 & & \\
    \hline
    \end{tabular}

    5500, 5700 and 6500 SERIES vilurator tares are Suecial Application Nom-Nishohonoms unit. These are stocked by KADHALT Distributors in acmerdanee with lucal requirsments. They are availalle for immendate shipment from the Factorv: Ordir through sour local elistrilutor.
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. Price & Type No. & Price & Type No. & Price \\
    \hline 5506 ....... \(\$_{\text {\$ }} \mathbf{7} .15\) & 5560 & 88.5ir & 6511 & 87.71 \\
    \hline 5510 ....... 7.15 & 5715 & 6.90 & 6513 & 7.76 \\
    \hline 5513 …... 7.70 & 5718 & 6.90 & 6514 & 9.95 \\
    \hline 5513.4 ..... 7.70 & 5721 & 6.90 & 6517 & 7.70 \\
    \hline 5514-4 ..... 7.70 & 5722 & A.万万 & & \\
    \hline 5516 ........ 6.90 & 6503 & 7.\%0 & & \\
    \hline
    \end{tabular}

    5400 SERIES vilorator types are Standard Automotive and llousehold swhehromus units. They are stocked by all RSDAART Distributors who carry a complete line.
    

    5600, 5800 and 6600 SERIES vihratur types are Sperial Appliration Swichromons units. Thest are stocked ty RADIART Distritutors in acondane with loxal reguirements. They are available for immentiat. slament from the Factory: Brdar threnurh sour lokal distributor
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. Price & Type No. & Price & Type No. & Price \\
    \hline 5604 .......89.15 & 5805 & \$8.55 & 6609 & 89.95 \\
    \hline 5607 ....... 8.5\% & 5820 & 7.70 & 6610 & 8.5 .5 \\
    \hline 5610 ...... 7.70 & 5821 & 6.90 & 6614 & 8.п.: \\
    \hline 5615-24 ... 8.55 & 5822 & 8.55 & 6615 & 8.5. \\
    \hline 5616 …... 8.55 & 6605 & 9.95 & 6616 & 9.95 \\
    \hline 5620 ...... 7.70 & 6607 & 0.95 & & \\
    \hline
    \end{tabular}

    \title{
    THE DADHADTCORPORATION \\ CLEVELAND 2, OHIO
    }

    \section*{Cross Index by Base Diagrams}
    

    \section*{Radiart Heavy-Duty Vibrators}

    STANDARD HEAVY-DUTY VIBRATORS FOR NEW APPLICATIONS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline ** Vibrator Part No. & \[
    \begin{aligned}
    & \text { Coil } \\
    & \text { Volts }
    \end{aligned}
    \] & Basic Freq. & Sid. & Adj. Close & \[
    \begin{gathered}
    \# \\
    \text { Styie }
    \end{gathered}
    \] & Mount & Base Diag. & Overalt Size \\
    \hline -VB6 & ** & 60 & \(\pm 2\) & \(\pm 1 / 2\) & S & H & HB & 25/32 \(\times 5 \%\) /6 \(\times 29 / 16\) \\
    \hline -VB10 & ** & 100 & \(\pm 3\) & \(\pm 1\) & S & H & HB & 25/32 \(\times 5 \% \times 2 \%\) \\
    \hline -VC6 & ** & 60 & \(\pm 2\) & \(\pm 1 / 2\) & I & H & HE & \(233 / 12 \times 515 / 16 \times 33 / 8\) \\
    \hline -VC10 & ** & 100 & \(\pm 3\) & \(\pm 1\) & T & H & HE & \(233 / 2 \times 515 / 6 \times 33 / 8\) \\
    \hline -VD6 & ** & 60 & \(\pm 2\) & \(\pm 1 / 2\) & T & H & HE & 233/32 \(\times 515 / 16 \times 33\) \\
    \hline -VD10 & ** & 100 & \(\pm 3\) & \(\pm 1\) & T & H & HE & \(233 / 22 \times 515 / 16 \times 33\) \\
    \hline -V16 & ** & 60 & \(\pm 2\) & \(\pm 1\) & S & \(V\) & HA & \(131 / 32\) Dia. \(\times 45 / 1\) \\
    \hline -V110 & ** & 100 & \(\pm 3\) & \(\pm 11 / 2\) & S & \(v\) & HA & \(131 / 32\) Dia. \(\times 45 / 3\) \\
    \hline
    \end{tabular}
    "for "slondord" frequency tolerance specify port numbers as shown with proper voltoge prefix, wuch os óvBS. For "close" frequency odjustment, of higher price, specify the port number with odded "H" suffiz such os 6 VB6H.
    *Port numbers shown ore incomplete until the valtoge prefix is odded. Standord valtages ore 6, 12, 24, 32, 110. Typical part numbers ore oVB6, 110 VLIO , etc.
    \# \(S\) denotes Single, \(T\) denates Tandem. \(H\) denates Harizontal Mount, \(V\) denotes Vertical Mount.

    \section*{REPIACEMENT VIBRATORS FOR VIPOWERS}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Vibrotor & Coil Volts & Frequency & \# Siyle & \# Mount & Bose Dwg. & Used on VIPOWER Units \\
    \hline 6VB6 & 6 & \(60 \pm 2\) & S & H & HB & 6DC6, 6/1100H6, 6R5, 6S8, 6SW7 \\
    \hline 6VDS & 6 & \(60 \pm 2\) & \(T\) & H & HE & 6DC12, 6H10, 6R10, 6SH15, 6SW 12 \\
    \hline 12VB6 & 12 & \(60 \pm 2\) & S & H & HB & 12DC6, 12R8, 12S10, 12SW8 \\
    \hline 12VD6 & 12 & \(60 \pm 2\) & 1 & H & HE & 12DC12, 12H15, 12RU15, 12SH20, 12SWls \\
    \hline 28VB6 & 24 & \(60 \pm 2\) & 5 & H & HB & 28H15, 28510 \\
    \hline 28 VDGH & 24 & \(60 \pm 1 / 2\) & 1 & H & HE & 28SH22 \\
    \hline \(32 \mathrm{VB6}\) & 32 & \(60 \pm 2\) & S & H & HB & 32H18, 32R8, 32RU15, 32S12 \\
    \hline 32 VDor & 32 & \(60 \pm 1 / 2\) & 1 & H & HE & 32 SH 22 \\
    \hline 110 VB 6 & 110 & \(60 \pm 2\) & 5 & H & HB & 110L10. 220L10 \\
    \hline \(110 \mathrm{VB6H}\) & 110 & \(60 \pm 1 / 2\) & S & H & HB & 110H25, 110S15, \(1105 W 15,220 \mathrm{H} 25,220515\) \\
    \hline 110 VCOH & 110 & \(60 \pm 1 / 2\) & 1 & H & HE & 110H35, 110RT35, 110SH40, 110SW35, 220SH40 \\
    \hline 110 VLSH & 110 & \(60 \pm 11 / 2\) & S & \(V\) & HA & 110732 \\
    \hline 1315 & 110 & \(60 \pm 2\) & 5 & H & HH & 110R10, 110RA15, 110WR15A, 110WR158 \\
    \hline 1315H & 110 & \(60 \pm 1 / 2\) & S & H & HH & \(110 \mathrm{RT} 25,110 \mathrm{RT} 25 \mathrm{DL}\) \\
    \hline 2522 & 110 & \(60 \pm 3\) & A & \(\checkmark\) & HX & 110PA5, 110PB5, 110P5 \\
    \hline 2529 & 6 & \(60 \pm 5\) & A & \(v\) & * & 6SP2, OLM3 \\
    \hline 2530 & 12 & \(60 \pm 5\) & A & \(V\) & * & 125P2, 121M4 \\
    \hline 2531 & 6 & \(60 \pm 3\) & A & V & A. 1 & OM4 \\
    \hline 2532 & 12 & \(60 \pm 3\) & A & V & A. 1 & 12Mó \\
    \hline 2533 & 110 & \(60 \pm 3\) & A & \(v\) & D & 110 M 5 \\
    \hline 2563 & 6 & \(60 \pm 3\) & A & \(V\) & Hz & 6/12D5, 6l6, 1218 \\
    \hline 2564 & 28 & \(60 \pm 3\) & A & \(V\) & Hz & 2818, 3218 \\
    \hline 2565 & 110 & \(60 \pm 3\) & A & V & Hz & \(110 \mathrm{M7}\) \\
    \hline 3077 & 110 & 60 odj. & S & H & HH & \(110 \mathrm{RTI5}\) \\
    \hline 5301 & \% & \(115 \pm 7\) & A & V & A. 1 & \(6 \mathrm{CC3}\) \\
    \hline 6301 & 12 & \(115 \pm 7\) & A & \(V\) & A. 1 & 120C3 \\
    \hline
    \end{tabular}
    \(\mp\) A denotes Auro Rodio Style, \(S\) denates Single, \(T\) denates Tandem, \(H\) denotes Horizontal Mount, \(V\) denotes Vertical Mount. - denotes Vibrator to be wired into pasition.

    \section*{CIRCUIT DIAGRAMS}
    
    
    
    \(\qquad\)

    \section*{OBSOLETE TYPES}
    is entirely improctical to conlinue to stock the hundreds of different heovy-duty vibrolors thot have been supplied in post years for o lorge variety of uses. Every oftempt is made to maintain equipment in service, even though it ariginally used vibrotors which have generally become obsolete. Some obsolete vibrotor types ore still corried in limited stock at the factory. In a great many coses, simple instructions are availoble
    so thot a radio technicion can change wiring, sackets, or ather minor features in on old design to odopt it for use with new stondord vibrators.
    for information regarding o passible replacement for obsolete vibratars, send details including madel number af equipment, ariginal vibrator type number, valtoge and frequency to the dabber Service Department.

    \section*{RADIAFTVMFOMES}
    
    - For converting direct current to 110 volt \(\mathbf{6 0}\) cycle commercial AC.
    - For converting low voltage DC to high voltage DC.
    - For changing commercial AC to low volte age DC.
    - For obtaining sine-wave voltage, regulated AC from DC sources.
    - Suitable for any load within nameplate VA and P.F. ratings.
    - Ruggedly built for long and trouble. free service.
    
    1. Standard madels deliver 110 valts, 60 cycle, AC power. Continuous rotings are based on high power factor, rodio or TV rype loads. For inductive loads, ratings ore less by omount of the load power factor.
    2. All models are havied in cases of similar design and appearance. The clasz designations zignify opproximate size and weight, as follaw s:
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|c|}{} \\
    \hline LM - Light Midget & \(-3 \times 34 \times 4\) & -4 lbs . \\
    \hline M - Midget & \(-3^{1 / 16} \times 4 \% \times 51 \%\) & 6 \\
    \hline L - Lightweight & -51/2 \(\times 61 / 4 \times 8\) & - 12 \\
    \hline S - Standard & \(-5 \% \times 61 / 2 \times 9\) & 14 \\
    \hline H - Heovy & -61/2×71/2×11 & - 20 lbs . \\
    \hline SH - Super Heavy & \(-8 \times 91 / 2 \times 13\) & -35 \\
    \hline
    \end{tabular}
    3. For complete informotion see Rodiant VIPOWER Catolog.

    \section*{VOKAR "ITmperial replacement vibrators}

    FIRST premium-quality vibrator, designed, manufactured and packaged specifically for the replacement market - the Imperial is engineered to outperform and outlast any other vibrator on the market.
    Vokar guarantees this performance - unconditionally, for a full year!
    

    For all 6 and 12.volt outo-rodios built since 1939.

    \section*{QUALITY FEATURES - \\ TOP PERFORMANCE!}
    - LONGER SHELF LIFE
    - QUIETER
    - frequency accuracy
    - SURE STARTS
    - DEPENDABLE SERVICE

    \section*{WHY BUY 80 WHEN 8 WILL DO?}

    Only 8 Vokar Imperial Vibrators are needed for \(95 \%\) of all replacements. Over \(90 \%\) of requirements can be filled with only three lmperials!
    

    \footnotetext{
    The Ms MSTER - 20th Edition
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    }

    \section*{Dymamotors GTLETA Fenemotors}

    \section*{Prede}
    

    Operates 6 v ．Radios from 12 v ．Batteries
    N JW ．．． 2 CARTER CHANGE－A－VOLT DYNAMOTORS FOR 10－20－30 WATT TWO－WAY RADIOS
    Sow it is pussible in uperate of sult two－waty ratio equipment from 12 volt sustems without any rewiring or modifications．The clange－A－Yilt Dynamutur is supplien corrplete with starting relay and switch．fuse hark．and wiring to directly combert a higher roltage hattery to a \(1 ;\) or 10 rilt radio suppls
    Designed for long life，this slow speed Dynamutor is eptuipped with law coppet
    
     for 30 watt transmitters and deliter 3 times rated current fur intermittent transnit sersice． 610 V and 1205 are designed for 10 tu 20 watt transmitters and deliver two times rated current on inturnittont transmit service Hich reficiencr．Voltilge regulation frum \(1: 5\) amperes to th amperes is apurnximatels 1.3 rolts．Also akailahe in 24．28．32．and 70 volt inputs to rhange direetly to 6 or 12 rolt．Change－A－Volt can alsn serve as a battery cepualizer when uperating low voltage efluipment on sereral rells of a higher voltage battery swiem．A hanthe pale swith or relay must be used when operating the dyna－ mutur as a lattery equalizer．

    Size \(111 / g^{\prime \prime}\) long． \(7 \mathrm{r}_{6}^{\prime \prime}\) high． \(41 / \mathrm{m}^{\prime \prime}\) wide．Weight approx． 25 lhs.
    FOR 10 TO 20 WATT SYSTEMS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{Change．\(A\) ．Volt Mondel Volts} & It Infut & Voles & \begin{tabular}{l}
    phet \\
    Amps
    \end{tabular} & Duty & \[
    \begin{array}{r}
    \text { Temp. } \\
    \text { Rise }{ }^{\circ} \mathrm{C}
    \end{array}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline ¢ヶ口ロV & 12 & 8 & 6 & 10 & Con． & 50 & \＄88．95 \\
    \hline ＇10V & 24 & 4 & 6 & in & Con． & 50 & \＄88．95 \\
    \hline 1610 V & 28 & 3.4 & 6 & 10 & Con． & 50 & 88.95 \\
    \hline ConoV & 32 & ； & 6 & 10 & Con． & 50 & 88.95 \\
    \hline HS610V & 70 & 1.4 & 6 & 10 & Con． & 50 & 89.95 \\
    \hline 1 s 10 V & 115 & ． 9 & 6 & 10 & Com． & 50 & 89.95 \\
    \hline F．129V & 24 & & 12 & 5 & Cons． & 5 & 88.95 \\
    \hline 5125 V & 28 & \(\because 5\) & 12 & 5 & Con． & ¢ 0 & 88.95 \\
    \hline C125V & 32 & 3.1 & 12 & & Con． & 50 & 88.95 \\
    \hline HS125V & 70 & 1.5 & 12 & 5 & Con． & 50 & 89.95 \\
    \hline D125V & 115 & 1 & 12 & 5 & Com． & 50 & 89.95 \\
    \hline & & FOR & W & SYS & MS & & \\
    \hline B615V & 12 & 11.5 & 6 & 15 & Con． & 50 & \＄88． 95 \\
    \hline E615V & 24 & 5.7 & 6 & 15 & Con． & 50 & 88.95 \\
    \hline J615V & 28 & 5.0 & 6 & 15 & Con． & 50 & 88.95 \\
    \hline C615V & 32 & 4.3 & 6 & 15 & Con． & 50 & 88.95 \\
    \hline HS615V & 70 & 2.1 & 6 & 15 & Com． & 30 & 89.95 \\
    \hline D615V & 115 & 1.2 & 6 & 15 & Con． & 50 & 89.95 \\
    \hline E128V & 24 & 6.0 & 12 & 8 & Con． & 50 & 88.95 \\
    \hline J128V & 28 & 5.3 & 12 & 8 & Con． & 50 & 88.95 \\
    \hline C 128 V
    HS 128 V & 32
    70 & 4.6 & 12 & 8 & Con． & 50 & 88.95 \\
    \hline HS128V & 70 & 2.2 & 12 & 8 & Con． & 50 & 89.95 \\
    \hline D128V & 115 & 1.3 & 12 & 8 & Con． & 50 & 89.99 \\
    \hline & OTHE & ER MODE & AVA & LABLE & ON O & DER & \\
    \hline
    \end{tabular}

    \section*{Now TWO DUOV®LT GENEMOTORS}
    

    Operates from either 6 or 12 v．Battery

    Now，（arter angineering solves the 6／12 wilt danvorer problem in mubile radin installations．Witl coarter 6／12 v．In＇obol．T power，stanlard communi－ eations erjuipment can bu used in ANY automulide ．．．in NHW ears with 12 valt hateeries or in ulder cars with form rifenits．
    For everyone who huys，sells，uses ur serviers mohile radio．it＇s important to specify 川10 O＇OLT puwer．Then．you＇re sure of \(6 / 12\) versatility，plus the proven dependability uf rotary dynamotor fumer．
    （＇arter fi／t2 s．IIOOOLT Gienemotors draw minimum current．operate at high efficiency．Low r．p．m．spered makes for langer life，cuts maintenance cost． Standard and Super mordets prride adequate capacity for even the most power－ ful 60 watt sets．

    STANDARD DUOVOLT ，．For 30－50 Watt Transmitters （Size \(8^{\prime \prime} \times 43 / 4^{\prime \prime} \times 31 / 2 \prime \prime\) high．weight \(111 / 2\) pounds）
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Code} & \multicolumn{2}{|c|}{Input} & \multicolumn{2}{|l|}{Input} & \multicolumn{2}{|r|}{Output} & & Temp． & List \\
    \hline & \(V\) ． & A． & \(V\) ． & A． & \(V\) ． & A． & Duty & Rise \({ }^{\circ} \mathrm{C}\) ． & C．Price \\
    \hline 420 V BN & 5.5 & 26 & 11 & 13 & 400 & ． 200 & Con． & 50 & \＄86．00 \\
    \hline 450ABNS & 6 & 29 & 12 & 14.5 & 400 & ． 250 & Int． & 50 & 87.00 \\
    \hline 4037 ABNS & 6 & 41 & 12 & 20.5 & 400 & ． 375 & Int． & 50 & 91.40 \\
    \hline 4228 VBNS & 5.8 & 33 & 11.6 & 16.5 & ＋20 & ． 280 & Int． & 50 & 87．7： \\
    \hline 520 ABNS & 6 & 28 & 12 & 14 & 500 & ． 200 & Int． & 50 & 87.00 \\
    \hline 520 VBNS & 5.5 & 31 & 11 & 15.5 & 500 & ． 200 & Int． & 50 & 88.00 \\
    \hline 617VBNS & 5.5 & 30 & 11 & 15 & 600 & ． 170 & Int． & 50 & 88.00 \\
    \hline 624VBNS & 5.7 & 46 & 11.4 & 23 & 600 & ． 240 & Int． & 50 & 91.10 \\
    \hline
    \end{tabular}

    SUPER DUOVOLT ．．Far 50－60 Waft Transmitiers （Size \(83 / 8^{\prime \prime} \times 55 / 8^{\prime \prime} \times 43 / 8^{\prime \prime}\) high，weight \(163 / 4\) pounds）
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Code} & \multicolumn{2}{|r|}{Input．} & \multicolumn{2}{|c|}{Input} & \multicolumn{2}{|r|}{Output} & \multicolumn{2}{|r|}{List} \\
    \hline & \(V\) ． & A． & V． & A． & \(V\) ． & Ma． & Duty & Price \\
    \hline TAB4：0 & 6 & \＄2 & 12 & 16 & 400 & 3 n & Con． & \＄109．00 \\
    \hline TVBSイ27 & 5.5 & 46 & 11 & 23 & 6กก & 270 & Int． & 110.00 \\
    \hline TVBS6：0 & 5.5 & 52 & 11 & 26 & 8161 & 300 & Int． & 111.00 \\
    \hline TABS6228 & 6 & 52 & 11 & 36 & 620 & 300 & Int． & 111.00 \\
    \hline TVBS62：7 & 5.8 & 62 & 11.6 & 31 & 620 & 375 & Int． & 115.00 \\
    \hline
    \end{tabular}

    THE CARTER MAGMOTOR FOR POLICE - TAXICAB - MARINE AND AIRCRAFT RADIO RECEIVERS GEOPHYSICAL AND RESEARCH ELECTRONIC EQUIPMENT
    
    \(55 / 8^{\prime \prime} \times 3-11 / 16^{\prime \prime} \times 21 / 2^{\prime \prime}\) High, Weight \(43 / 4\) LbS. Furnished with Rigid Mounting. Shock Mounting Illustrated, \(\$ 1.00\) List Extra
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Code } \\
    & \text { No. }
    \end{aligned}
    \] & \multicolumn{2}{|l|}{Voles Input} & \multicolumn{2}{|l|}{\[
    \begin{gathered}
    \text { DC Output } \\
    \text { Volts MA }
    \end{gathered}
    \]} & Duty & \[
    \underset{\substack{\text { Pist }}}{\text { Price }}
    \] \\
    \hline MV1865 & 5.5 & 5 & 180 & 65 & Con. & \$60.00 \\
    \hline MC2190 & 32 & 1 & 210 & 90 & Con. & \$62.00 \\
    \hline MD2190 & 115 & . 4 & 210 & 90 & Con. & \$63.00 \\
    \hline MA2550 & 6 & 4.3 & 250 & 50 & Con. & \$62.00 \\
    \hline MV280 & 5.5 & 5.8 & 200 & 80 & Con. & \$61.00 \\
    \hline MA2565 & 6 & 5.4 & 250 & 65 & Con. & \$63.00 \\
    \hline MA251 & 6 & 8 & 250 & 100 & Con. & \$62.50 \\
    \hline MB251 & 12 & 3.8 & 250 & 100 & Con. & \$63.50 \\
    \hline MJ251 & 28 & 1.5 & 250 & 100 & Con. & \$63.50 \\
    \hline MBS2525 & 12 & 8 & 250 & 250 & Int. & \$68.00 \\
    \hline MA301 & 6 & 9.5 & 300 & 100 & Con. & \$64.00 \\
    \hline MB301 & 12 & 4.6 & 300 & 100 & Con. & \$65.00 \\
    \hline MA351 & 6 & 10.3 & 350 & 100 & Con. & \$65.00 \\
    \hline MVS3215 & 5.5 & 18.5 & 325 & 150 & Int. & \$65.00 \\
    \hline MAS320 & 6 & 19 & 300 & 200 & Int. & \$67.00 \\
    \hline MVS415 & 5.5 & 19 & 400 & 150 & Int. & \$67.50 \\
    \hline MBS415 & 12 & 8.5 & 400 & 150 & Int. & \$67.50 \\
    \hline
    \end{tabular}

    AC AND DC GENERATORS-
    The Magmotor is available on special order for AC output up to 220 volts at 120 cycles. DC output up to 400 volts 30 watts continuous, 50 intermittent, depending upon armature speed.

    \section*{EXTENDED SHAFTS-}

    Available on all Magmotor models add " S " to end of code number and \(\$ 5.00\) to list.

    THE ORIGINAL CARTER GENEMOTOR FOR POLICE - TAXICAB . MARINE AND SMALL AIRCRAFT MOBILE COMMUNICATIONS
    
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline No. & Voits & Amps & Volts & MA & Duty & Price \\
    \hline 325A & 6 & 21 & 300 & 250 & Con. & \$67.00 \\
    \hline 420A & 6.0 & 23.4 & . 400 & 200 & Con. & \$68.00 \\
    \hline 420 V & 5.5 & 25 & 400 & 200 & Con. & \$69.00 \\
    \hline 425 BS & 12.0 & 12.8 & 400 & 225 & Int. & \$70.00 \\
    \hline 450AS & 6.0 & 28 & 400 & 250 & Int. & \$69.00 \\
    \hline 4037AS & 6.0 & 41 & 400 & 375 & Int. & \$71.40 \\
    \hline 4228 VS & 5.5 & 35 & 420 & 280 & Int. & \$67.73 \\
    \hline 4228VSC & 5.8 & 33 & 420 & 280 & Int. & \$69.30 \\
    \hline 4228BSC & 11.8 & 17 & 420 & 280 & Int. & \$69.30 \\
    \hline 520AS & 6.0 & 28 & 500 & 200 & Int. & \$70.00 \\
    \hline 520 VS & 5.5 & 31 & 500 & 200 & Int. & \$71.00 \\
    \hline 5925AS & . 0 & . 12 & 590 & 250 & Int. & \$73.50 \\
    \hline 617 V & 5.5 & 30 & 600 & 170 & Int. & \$68.00 \\
    \hline 620AS & 6.0 & 29.5 & 600 & 200 & Int. & \$70.00 \\
    \hline 624 VS & 5.5 & 46 & 600 & 240 & Int. & \$71.19 \\
    \hline 624 BS & 12 & 18 & 600 & 240 & Int. & \$71.19 \\
    \hline 650AS & 6.0 & 39.0 & 600 & 250 & Int. & \$71.19 \\
    \hline 6030BSM & 12 & 23 & 600 & 300 & Int. & \$72.45 \\
    \hline 6040BSM & 12 & 28 & 600 & 400 & Int. & \$74.55 \\
    \hline 6040CSM & 32 & 10.5 & 600 & 400 & Int. & \$74.55 \\
    \hline 6050 DSM & 115 & 4 & 600 & 500 & Int. & \$77.70 \\
    \hline
    \end{tabular} \(2^{\prime \prime}\) Frame- \(61 / 8^{\prime \prime} \times 41 / 8^{\prime \prime} \times 31 / 2^{\prime \prime}\) high, weight 8 lbs.
    \begin{tabular}{lcccccr}
    3515 VB & 5.5 & 18.0 & 350 & 150 & Con. & \(\$ 64.00\) \\
    415 VB & 5.5 & 20.0 & 100 & 150 & Con. & \(\$ 64.75\) \\
    415 AB & 6.0 & 18.2 & 400 & 150 & Con. & \(\$ 63.75\) \\
    \(11 / 2^{\prime \prime}\) Frame & \(59 / 13^{\prime \prime} \times 41 / 8^{\prime \prime} \times 31 / 2^{\prime \prime}\) & high, weight 7 lbs \\
    210 AB & 6 & 6 & 200 & 100 & Con. & \(\$ 60.00\) \\
    251 AB & 6 & 7.9 & 250 & 100 & Con. & \(\$ 61.50\) \\
    351 AB & 6 & 10.9 & 350 & 100 & Con. & \(\$ 63.00\) \\
    \hline
    \end{tabular} MANY OTHER STANDARD INPUT AND OUTPUT RATINGS AVAILABLE.

    \section*{FILTERS - STARTING RELAYS}

    FILTERS-
    Any of the above Carter Genemotors or Magmotors can be furnished with complete filter mounted in metal box mounted below unit. Add ' \(\mathrm{X}^{\prime \prime}\) to end of code number and following prices. \(11 / 2^{\prime \prime}\) and ?" Frame Genemotor models and Magmotors, \(\$ 26.00\) list, \(3^{\prime \prime}\) Frame
    Genemotor Models, \(\$ 28.00\) list.
    STARTING RELAYS-
    Heavy Duty solenoid contactor starting relays are available for 5.5 .
    6. 12, 24. 28, 32 and 115 volt \(D C\) input. Add " \(R\) " to end of
    code number and \(\$ 8.00\) to list price Relay draws 1.3 amps at
    \(\delta\) volts). Seldom required on lovv power Magmotors.

    DUTY RATINGS
    ntermittent duty shall be considered 10 seconds on 20 seconds off Continuous duty is considered 24 bours per day.
    INPUT VOLTAGES-
    Any Carter Genemotor or Magmotor can be supplied for epecial input voltages other than 6 volts. For \(5.5,12,24,28,32\) ot 64 volt input add \(\$ 2.50\) to list. For \(115^{\circ}\) volt DC input add \(\$ 3.50\) to list.
    I.INE-O-LIFE* BRUSHES-

    All Carter products equipped with exclusive "LINE-O-LIFE" Brushes. Takes guess work out of brush replacements.
    TRADE MARK REG.

    See replacement parts reference chart page for other special models, farts and prices. The oflest name in Rotary Power Supplies for Mobile Radio

    \section*{CARTER SUPER CONVERTER-Changes DC to AC for}

    \section*{Amplifiers-Radios-High Power Factor equipment}
    
    C.arter Super Converter, Less Filter, 81/4" Long, 41/2" Wide, 5" Higii, Weight 13 lbs.
    Wherever DC to AC Conversion is necessary, the Carter Super Converter provides an efficient and reliable source of AC power. Standard models are designed for high power factor, non-inductive AC loads such as amplifiers, radio receivers, (requires filtered converter), etc. Ball bearing equipped, 3600 RPM. CAUTION: Standard Super Converters will not satisfactorily operate inductive loads such as AC motors, low power factor transformers, etc.
    Manually operated frequency controlled Converters available on special order. Maintain 60 cycle output with a + or - \(10 \%\) input voltage fluctuation.
    Special custom-matched Converters are also available for Wire and Tape Recorders, Sound Projectors, Television Receivers, etc. See Carter Selector Chart

    HEAVY DUTY SUPER CONVERTER
    10 \(1 / 4^{\prime \prime}\) long, \(41 / 2^{\prime \prime}\) wide, \(5^{\prime \prime}\) high, weight 19 lbs . Overall efficiency \(60 \%\) AC voltage regulation \(25 \%\).
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Code } \\
    & \text { No. }
    \end{aligned}
    \] & \multicolumn{2}{|l|}{\[
    \begin{gathered}
    \text { DC Inbut } \\
    \text { Volts } A m p s \\
    \hline
    \end{gathered}
    \]} & \multicolumn{2}{|l|}{\[
    \begin{aligned}
    & \text { AC Output } 60 \text { Ory. } \\
    & \text { Volts } \\
    & \text { (Warss }) \\
    & \hline
    \end{aligned}
    \]} & Type & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline K1020C & 230 & 1.3 & 115 & 200 & Con. & \$97.50 \\
    \hline K1025C & 230 & 1.6 & 115 & 250 & Con. & \$102.50 \\
    \hline D1020C & 115 & 2.6 & 115 & 200 & Con. & \$87.50 \\
    \hline D1025C & 115 & 3.2 & 115 & 250 & Con. & \$92.50 \\
    \hline H1020C & 64 & 4.8 & 115 & 200 & Con. & \$90.00 \\
    \hline II1025C & 64 & 5.3 & 115 & 250 & Con. & \$95.00 \\
    \hline C1020C & 32 & 10 & 115 & 200 & Con. & \$90.00 \\
    \hline C1025C & 32 & 12 & 115 & 250 & Con. & \$95.00 \\
    \hline J1020C & 28 & 12 & 115 & 200 & Con. & \$90.00 \\
    \hline J1025C & 28 & 14 & 115 & 250 & Con. & \$95.00 \\
    \hline F.1020C & 24 & 15 & 115 & 200 & Con. & \$90.00 \\
    \hline E1025C & 24 & 19 & 115 & 250 & Con. & \$95.00 \\
    \hline B1020C & 12 & 30 & 115 & 200 & Con. & \$90.00 \\
    \hline B1025C & 12 & 34 & 115 & 250 & Con. & \$95.00 \\
    \hline
    \end{tabular}

    \section*{OUTSTANDING FEATURES}

    SMALL SIZE-Smallest Rotary Converter. l.ightwiwht CARRYING HANDLE

    Easier to carry, no more "juggling" with a hot unit.
    OUTPUT RECEPTACLE-Convenient plug-in AC out let.
    ARMATURE
    Double wound, insulated ungrounded winding. Built-in cooling fan.
    BALL BEARINGS
    Scaled ball bearings require no lubrication or attention

    \section*{SPECIFICATIONS}

    Carter Super Converter, 40 to 150 watts models 81/4" long, \(41 / 2^{\prime \prime}\) wide, \(5^{\prime \prime}\) high, weight 13 lbs. High power factor, 85 to \(100 \%\). Less filter.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Code No. & \[
    \begin{gathered}
    D C \\
    \text { Volis }
    \end{gathered}
    \] & Inpat Amps. & \multicolumn{2}{|l|}{AC Output 60 cy . Voles Volt-Amps (Watss)} & \[
    \begin{aligned}
    & \text { Type } \\
    & D_{u t y}
    \end{aligned}
    \] & \[
    \underset{\text { Prist }}{\text { List }}
    \] \\
    \hline K1040C & 230 & . 36 & 115 & 40 & Con. & \$80.00 \\
    \hline K1060C & 230 & . 5 & 115 & 60 & Con. & \$81.00 \\
    \hline K1080C & 230 & . 6 & 115 & 80 & Con. & \$81.30 \\
    \hline K1010C & 230 & . 8 & 115 & 100 & Con. & \$82.00 \\
    \hline K1019C & 230 & 1. & 115 & 150 & Con. & \$85.00 \\
    \hline D1040C & 115 & . 7 & 115 & 40 & Con. & \$70.00 \\
    \hline D1060C & 115 & 1 & 115 & 60 & Con. & \$71.00 \\
    \hline D1080 & 115 & 1.1 & 115 & 80 & Cod & \$71.50 \\
    \hline D1010C & 115 & 1.7 & 115 & 100 & Crn. & \$72.00 \\
    \hline D1015C & 115 & 2.0 & 115 & 150 & Con. & \$75.00 \\
    \hline H1040C & 64 & 1.5 & 115 & 40 & Con. & \$71.00 \\
    \hline H1060C & 64 & 2 & 115 & 60 & Con. & \$72.00 \\
    \hline H1080C & 64 & 2.2 & 115 & 80 & Con. & \$72.50 \\
    \hline H1010C & 64 & 2.5 & 115 & 100 & Con. & \$73.00 \\
    \hline H1015C & 64 & 3.4 & 115 & 150 & Con. & \$76.00 \\
    \hline C1040C & 32 & 3 & 115 & 40 & Con. & \$71.00 \\
    \hline C1060C & 32 & 4 & 115 & 60 & Con. & \$72.00 \\
    \hline C1080C & 32 & 5 & 115 & 80 & Con. & \$72.50 \\
    \hline C1010C & 32 & 5.5 & 115 & 100 & Con. & \$73.00 \\
    \hline C1015C & 32 & 7.4 & 115 & 150 & Con. & \$76.00 \\
    \hline J1040C & 28 & 3 & 115 & 40 & Con. & \$71.00 \\
    \hline J1060C & 28 & - & 115 & 60 & Con. & \$72.00 \\
    \hline J1080C & 28 & 5.2 & 115 & 80 & Con. & \$72.50 \\
    \hline J1010C & 28 & 7 & 115 & 100 & Con. & \$73.00 \\
    \hline J1015C & 28 & 9 & 115 & 150 & Con. & \$76.00 \\
    \hline E10.40C & 24 & 3.5 & 115 & 40 & Con. & \$71.00 \\
    \hline E1060C & 24 & 4.3 & 115 & 60 & Con. & \$72.00 \\
    \hline E1080C & 24 & 6 & 115 & 80 & Con. & \$72.50 \\
    \hline E1010C & 24 & 8.3 & 115 & 100 & Con. & \$73.00 \\
    \hline E1015C & 24 & 10 & 115 & 150 & Con. & \$76.00 \\
    \hline B1040C & 12 & 8 & 115 & 40 & Con. & \$71.00 \\
    \hline B1060C & 12 & 10 & 115 & 60 & Con. & \$72.00 \\
    \hline B1080C & 12 & 14 & 115 & 80 & Con. & \$72.50 \\
    \hline B1010C & 12 & 15 & 115 & 100 & Con. & \$73.00 \\
    \hline B1015C & 12 & 23 & 115 & 150 & Con. & \$76.00 \\
    \hline A1040C & 6 & 15 & 115 & 40 & Con. & \$71.00 \\
    \hline A1060C & 6 & 19 & 115 & 60 & Con. & \$72.00 \\
    \hline A1080C & 6 & 25 & 115 & 80 & Con. & \$72.50 \\
    \hline A1010C & 6 & 27 & 115 & 100 & Con. & \$73.00 \\
    \hline A1015C & 6 & 40 & 115 & 150 & Con. & \$76.00 \\
    \hline
    \end{tabular}

    FILTERS-Available on all Super Converters. Eliminates Converter noise on most frequencies from 560 KC to 54 MC . Filter mounted in cast aluminum housing below Converter. Add " X " to Code Number and \(\$ 25.00\) to 1 list .
    FREQUENCY CONTROL-Manually operated frequency control available on all models. Complete with vibtating reed meter, and rheostat control in aluminum housing. Add \(\$ 60.00\) to list.
    FOR LOW COST-"Changera-Cycle" Frequency Control, add "A" to and of Code No. and \(\$ 10.00\) to list.
    VOLTAGE-FREQUENCY-Add \(\$ 5.00\) to list for 30 cycle output. Add \(\$ 10.00\) to list for 230 volt D.C. input.

    See Carter Selector Chart for Wire and Tape recorder, Television receivers, etc., recommended Converters.

    \section*{CUSTOM CONVERTER 300-400-500 WATT, 115 V. 60 CYCLE AC OUTPUT}
    

    The Custom is the latest addition to the Carter line of small DC to AC rotary converters. Created to meet the demands tor a compact and highly efficient two pole rotary converter, the Custom has been designed especially for amplifiers, office business machine, marine and mobile communications and high quality tape recorder requirements.

    The Custom is the only small rotary converter manufactured in recent years that has been expressly created to incorporate in its design all of the new materials and technical improvements developed in the past few years.

    High Power Factor-85 to \(100 \%\) Less Filter
    Cast aluminum base with rubber fect supplied, as illuserated. Average etficiency. \(60 \%\) all mudels listed less fileer single phase output unily Regulation approximately \(20 \%\) from no load to full load.
    300 waft, \(115 / \mathrm{B}^{\prime \prime}\) long, 6ft \({ }^{\prime \prime}\) " wide, \(71 / 4^{"}\) high - Weight 38 lbs . 400 and 500 watt, \(125 / 8^{\prime \prime}\) long, \(6!!^{\prime \prime}\) wide, \(71 / 4^{\circ \prime}\) high - Weight 44 lbs.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline & Code No. & \multicolumn{2}{|l|}{DCliput} & ACOutp ps. Voles & \begin{tabular}{l}
    60Cy. \\
    Wates
    \end{tabular} & Type Duty & \[
    \begin{aligned}
    & \text { Temp. } \\
    & \text { Rise }{ }^{\circ} \mathrm{C}
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { List } \\
    \text { Price }
    \end{gathered}
    \] \\
    \hline \multirow[t]{3}{*}{Volt} & (K1030CP & 230 & 2.3 & 115 & 300 & Con. & \(50^{\circ}\) & \$190.00 \\
    \hline & t K1040CP & 230 & 2.8 & 115 & 400 & Con. & \(50^{\circ}\) & \$220.00 \\
    \hline & K1050CP & 2.0 & 3.5 & 115 & 500 & Con. & \(90^{\circ}\) & \$225.00 \\
    \hline \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 115 \\
    & \text { Volt }
    \end{aligned}
    \]} & 1 JIns0CP & 115 & 4.6 & 115 & 300 & Con, & \(50^{\circ}\) & \$180.00 \\
    \hline & ( 1)1040CP & 115 & 5.6 & 115 & 400 & Con. & \(50^{\circ}\) & \$210.00 \\
    \hline & (D10inCP & 115 & 7 & 119 & 500 & Con. & \(50^{\circ}\) & \(\$ 215.00\) \\
    \hline \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 67 \\
    & \text { Vole }
    \end{aligned}
    \]} & ( H10socP & 64 & 8.2 & 115 & 300 & Con. & \(50^{\circ}\) & \$183.50 \\
    \hline & S HinanC? & 64 & 10 & 115 & 400 & Con. & \(50^{\circ}\) & \$213.50 \\
    \hline & 1 H1050CP & 64 & 12.5 & 115 & 500 & Con. & \(50^{\circ}\) & \$218.50 \\
    \hline \multirow[t]{3}{*}{\[
    \begin{aligned}
    & i 2 \\
    & \text { Volt }
    \end{aligned}
    \]} & 1 C10:0CP & 32 & 19 & 115 & 300 & Con. & \(90^{\circ}\) & \$183.50 \\
    \hline & t \(\{10+0 \mathrm{CP}\) & 32 & 21 & 115 & 400 & Con. & \(50^{\circ}\) & \$213.50 \\
    \hline & 1 C1050CP & 32 & 25 & 115 & 500 & Con. & \(50^{\circ}\) & \$218.50 \\
    \hline \multirow[t]{3}{*}{28} & J J1030CP & 28 & 20 & 115 & 300 & Con. & \(50^{\circ}\) & \$183.50 \\
    \hline & , J1040CP & 28 & 24 & 115 & 400 & Con. & \(50^{\circ}\) & \$213.50 \\
    \hline & J1050CP & 28 & 28 & 115 & 500 & Con. & \(50^{\circ}\) & \$218.50 \\
    \hline \multirow[t]{3}{*}{24} & [E1030CP & 24 & 22 & 115 & 300 & Con. & \(50^{\circ}\) & \$183.50 \\
    \hline & , \(\left\{\begin{array}{l}\text { E } 1040 \mathrm{CP}\end{array}\right.\) & 24 & 28 & 115 & 400 & Con. & \(50^{\circ}\) & \$213.50 \\
    \hline & E1050CP & 24 & 33 & 115 & 500 & Con. & \(50^{\circ}\) & \$218.50 \\
    \hline \multicolumn{9}{|l|}{12} \\
    \hline \multirow[t]{2}{*}{\begin{tabular}{l}
    Volt \\
    : \(0 n\)
    \end{tabular}} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { B1030CP } \\
    \text { Wate Largest }
    \end{gathered}
    \]} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Continuous}} & \multirow[t]{2}{*}{Duty 115} & \multirow[t]{2}{*}{300} & \multirow[t]{2}{*}{Con.} & \(50^{\circ}\) & \$185.00 \\
    \hline & & & & & & & 12 V & le Input. \\
    \hline
    \end{tabular}

    \section*{FREQUENCY CONTROLLED CUSTOM FOR PROFESSIONAL AND BROADCAST TAPE RECORDING}
    

    The new Custom Converter with manual frequency control has been developed to provide a portable DC to \(A C\) power source for professional and broadcast tape recorders, heavy duty electronic measuring devices, and Tape recorder-AC motor driven camera combinations. Now for the first time, sufficient frequency constant \(A C\) power is available to operate this type of equipment from \(D C\) lines or battery source.
    The rheostat control and the frequency meter are mounted in the attractive aluminum housing. A noise filter is also available in the same housing, although it is not usually necessary for operating recorders, amplifiers or other audio devices. Filtering is required when radios or other RF circuits are opcrated from the converter.

    Convenient recessed DC male plug is furnished for 32, 64, 115 and 230 volt DC input models. 12, 24 and 28 models are equipped with heavy stranded input leads for battery connections, as shown. A flush AC mounted receptacle is supplied on all models for quick AC connections. The sturdy carrying handle allows the converter to be moved immediately after its operation, a life-saver for taping remote broadcasts.

    Each model must be designed to properly match the power factor, voltage, frequency, and load requirements. Any of the Custom models can be furnished with frequency control. Model listed below has been laboratory tested and is matched to provide perfect operation. Kindly send your special requirement to the factory for prompt and careful consideration.
    

    300 watt with Frequency Centrol, \(115 / 8^{\prime \prime}\) long. \(6+t^{\prime \prime}\) wide, \(101 / 4^{\prime \prime}\) high, Weight 44 lbs.
    400 and 500 watt, \(125 / 8^{\prime \prime}\) long, \(6 f^{\prime \prime}\) " wide, \(101 / 4^{\prime \prime}\) high - Weight 54 lbs.

    \section*{Girter \\ Selector Chait \\ \\ Converters for Popular Wire and Tape Recorders} \\ \\ Converters for Popular Wire and Tape Recorders}

    Converter AC output frequency and Converter Power Factor must he perfectly matehed to the recorder foad to assure proper recording and play
     Rotary Converters therefore will not operate the recorders properly as this type Converter wall produce higher AC voltage and frequency because of the inductive recorder load.
    The equipment listed below has heen lahoratory-tested and the corpect Carter Converter recommended for eash mudel. Use this chart fur your recorder Converter requirements. If the equipnent is not listed on this chart, please write tor the \(f\) etury
    

    CARTER TELEVISION CONVERTERS
    
    

    \section*{VOLTAGE STABILIZERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{11}{|c|}{Standerd Eatalog Models} \\
    \hline \multicolumn{11}{|c|}{Dimensions in Inches} \\
    \hline \multirow[b]{2}{*}{Catalog No.} & \multirow[t]{2}{*}{Dutput Capacity Watts} & \multirow[t]{2}{*}{Style} & \multicolumn{3}{|c|}{overall} & \multicolumn{2}{|l|}{Mounting} & \multicolumn{2}{|r|}{Voltages} & \multirow[b]{2}{*}{Net Wt. Lbs.} \\
    \hline & & & L & W & H & L & W & Input & Dutput & \\
    \hline VR-6110 & 15 & \(F\) & 61/4 & 2\%, & 3 & 511/6 & 5\%/6 & 95.130 & 115 & 4 \\
    \hline VR-61F0 & 15 & \(F\) & 53/4 & 2\% & 4/16 & 51/4 & 411/6 & 95.130 & 6.3 & 4 \\
    \hline VR-6100 & 15 & D & 31/6 & 23/6 & 411/6 & 2194 & 15\%/4 & 95-130 & 6.3 & 6 \\
    \hline VR-6710 & 25 & W & 7\% & 3\% & 33/8 & 7K6 & 11/2 & 95-130 & 6.0 & 4 \\
    \hline VR-6101 & 30 & E & \(71 / 2\) & 3/6 & 4\% & 6\% & 21/4 & 95.130 & 6.0/7.5 & 5 \\
    \hline VR-6111 & 30 & E & 71/2 & 3\% & 4\% & 6\% & 21/4 & 95-130 & 115 & 5 \\
    \hline VR-6111-CP & 30 & E & 71/2 & 3\% & 4\% & 6\% & 21/4 & 95.130 & 115 & 5 \\
    \hline VR-6221 & 30 & E & 71/2 & 33/6 & 41\% & 6\% & 21/4 & 190-260 & 230 & 5 \\
    \hline VR-6112 & 60 & E & 71/2 & 3\% & 4\%6 & 6\% & 21/4 & 95.130 & 115 & 8 \\
    \hline VR-6112CP \(\dagger\) & 60 & E & 71/2 & 33\% & 4\%/6 & 6\% & 21/4 & 95-130 & 115 & 8 \\
    \hline VR-6222 & 60 & E & 71/2 & \(33 / 8\) & 4\%, & 6\% & 21/4 & 190-260 & 230 & 8 \\
    \hline VR-6113 & 120 & E & 71/2 & 33/8 & 51\% & 6\% & 21/4 & 95-130 & 115 & 14 \\
    \hline VR-6113CP \(\dagger\) & 120 & E & 71/2 & 33 & 5\%\% & 6\% & 21/4 & 95-130 & 115 & 14 \\
    \hline VR-6223 & 120 & E & 71/2 & 3\% & 51\%6 & 6\% & 21/4 & 190-260 & 230 & 14 \\
    \hline VR-6114 & 250 & E & 12\%/4 & 5 & 7\% & 11\% & \(31 / 2\) & 95-130 & 115 & 25 \\
    \hline VR-6224 & 250 & E & 12\%/3 & 5 & 7\% & 11\%/6 & \(31 / 2\) & 190-260 & 230 & 25 \\
    \hline VR-6115 & 500 & E & 12\% & 5 & 7\% & 11\%6 & \(31 / 2\) & 95-130 & 115 & 45 \\
    \hline VR-6225 & 500 & E & 12\% & 5 & 7\% & 11\%/6 & 31/2 & 190-260 & 230 & 45 \\
    \hline VR-6116 & 1000 & H & 13\% & 141/6 & 95\% & 11\%/6 & 12\% & 95-130 & 115 & 92 \\
    \hline VR-6226 & 1000 & H & 13\%4 & 141/6 & 9\%\% & 11\%/6 & 12\% & 190-260 & 230 & 92 \\
    \hline VR-6117 & 2000 & H & 361/4 & 14\% & 10\% & 34 & 12\%/6 & 95.130 & 115 & 185 \\
    \hline VR-6227 & 2000 & H & \(361 / 4\) & 14\% & 10\% & 34 & 12\%/4 & 190-260 & 230 & 185 \\
    \hline VR-78 & 2000 & C & 161/4 & 143/4 & 11\%6 & 91/6 & 13\% & 115/230 & 115/230 & 200 \\
    \hline VHF.6114* & 250 & E & 14/14 & 13\%. & 9\% & 12\% & 11\%/4 & 95.130 & 115 & 49 \\
    \hline VHF-6115* & 500 & E & 14K4 & 13\%。 & 9\% & 12\%/6 & 11\% & 95.130 & 115 & 75 \\
    \hline VHF-6116* & 1000 & E & 291/4 & 143/8 & 101/4 & 27\% & 12\%/6 & 95.130 & 115 & 150 \\
    \hline
    \end{tabular}
    *Harmonic filtered models. Harmonic content less than 3\%.
    tPortable models, supplied with cord and plug and output receplacle.

    \section*{FEATURES}
    1. Deliver accurate AC voltage within \(\pm 1 / 2 \%\)
    2. Stabilize output with more precision
    3. Regulate better at full load
    4. Hold up better under overload
    s. Better no-load to full-load regulation
    e. Accept wider input voltage range
    7. Less voltage change as units heat up
    - Less change in output as frequencies fluctuate
    -. Smaller, lighter, more compact; no moving parts
    10. Cost less to operate
    
    
    

    STYLE C

    The complete line of Raytheon Voltage Stabilizers is available through 155 authorized distributors. Special custom-built units, ranging from 5 to 10,000 watts are also available to meet special needs. Write for complete information.

    \section*{Equipment Marketing Division Dept. 6270-MC • Waltham E4, Mase.}

    District Offices: Boston, New York, Cleveland, Chicago, New Orleans, Los Angeles (Wimington), San Franclsco, Seattlo
    Excellence in Electronics

    \section*{RAYTHEON}

    \section*{2 KVA Magnetic Amplifier}

    \section*{Voltage Stabilizer}

    Among the many advantages offered by Magnetic Amplifier Control are: constant voltage despite line voltage and frequency changes, lower harmonic content, better no load to fill load regulation, less cubic space required and ability to take heavy overload without damage. Employs selenium rectifiers and magnetic componenis in annplifier circuit-no filament type electron tubes and only one standard, longlife, readily available cold cathode voltage regulator tube. Voltage adjustment by potentiometer through screw driver slot in front panel. Write for complete information.
    

    \section*{SPECIFICATIONS}
    - Input: 115 volts, \(\pm 10 \%, 58-62\) cycles, single phase.
    - Output: 115 volts, 2000 va.
    - Fixed load stabilized to \(\pm 1 / 2 \%\) for line change.
    - Fixed load stabilized to \(\pm 1 \%\) for frequency change.
    - No load to full load (85\% power factor); \(1 \%\) maximum.
    - Temperature rise of components; \(50^{\circ} \mathrm{C}\) maximum.
    - Harmonics (at 60 cycles input); less than 5\% total.
    - Efficiency at full load (100\% power factor); 90\% minimum.
    - Mounting: Bench, floor, wall or relay rack.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{11}{|c|}{AVAILAELEMESELS} \\
    \hline Description & \multicolumn{2}{|l|}{70 Series} & \multicolumn{2}{|l|}{90 Series} & \multicolumn{2}{|l|}{125 Series} & \multicolumn{2}{|l|}{175 Series} & \multicolumn{2}{|l|}{225 Series} \\
    \hline Style & cat. No. & Std. Pkg. & Cat. No. & Std. Pkg. & Cat. No. & Std. Pkg. & Cat. Ho. & Std. Pkg. & Cat. No. & Std. Pkg. \\
    \hline Round & 70-1-2 & 12 & 90-1-2 & 12 & 125-1-2 & 6 & 175-1-2 & 6 & 225-1-2 & 4 \\
    \hline Skirted Round & 70-2-2 & 12 & 90-2-2 & 12 & 125-2-2 & 6 & 175-2-2 & 6 & 225-2-2 & 4 \\
    \hline Dial Skirted Round & 70-3-2 & 12 & 90-3-2 & 6 & 125-3-2 & 6 & 175-3-2 & 2 & 225-3-2 & 2 \\
    \hline Pointer & 70-4-2 & 12 & 90-4-2 & 12 & - & - & - & - & - & - \\
    \hline Skirted Pointer & 70-5-2 & 12 & 90-5-2 & 12 & - & - & - & - & - & - \\
    \hline Crank & - & - & - & 1 & 125-6-2 & 4 & 175-6-2 & 2 & 225-6-2 & 2 \\
    \hline
    \end{tabular}

    NOTE: Catalog numbers above indicate Mirror finish.
    For Matte finish add the suffix " \(G\) " to end of catalog number. ALL KNOBS FOR \(1 / \mathbf{4}^{\prime \prime}\) SHAFTS
    
    

    \section*{RAYTHEON MANUFACTURINGCOMPANY}

    Equipment Marketing Division Dept. 6270-MC - Waltham 54, Mass.

    \footnotetext{
    Excellence in Electranics
    District Offices: Boston, New York, Cleveland, Chicago, New Orleans, Los Angeles (Wilmington), San Francisco, Seattle
    }

    \section*{the SUPERIOR FLFCIRIC CO....}

    \section*{including a complete line of POWERSTAT to provide a continuously from 150 VA}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { line } \\
    \text { voltage }
    \end{gathered}
    \] & Output Voltage & \[
    \left\lvert\, \begin{gathered}
    \text { Mari. } \\
    \text { murm } \\
    \text { Output } \\
    \text { Amp. }
    \end{gathered}\right.
    \] & \[
    \left|\begin{array}{c}
    \text { marrin } \\
    \text { mum } \\
    \text { Output } \\
    \text { KVA }
    \end{array}\right|
    \] & Fre. quency & Type & \[
    \begin{array}{|c}
    \text { Appror. } \\
    \text { Net }
    \end{array}
    \] & \[
    \left\lvert\, \begin{aligned}
    & \text { Weight } \\
    & \text { Ship. } \\
    & \text { ping }
    \end{aligned}\right.
    \] & Motor Speeds \\
    \hline \multirow{19}{*}{120} & 0.132 & 1.25 & 0.165 & \({ }^{160}\) & \(\cdot 10\) & 1.8 & 3 & \\
    \hline & 0.140 & 3.0 & 0.42 & 160 & \(\cdot 20\) & 4 & 6 & \\
    \hline & 0.140 & 7.5 & 1.0 & 50/60 & -116U & 10 & 11 & \\
    \hline & 0.140 & 7.5 & 1.0 & 50/60 & -116 & 11 & 12 & \\
    \hline & 0.140 & 7.5 & 1.0 & 50/60 & \({ }^{\text {3PFFI } 16}\) & 11 & 12 & \\
    \hline & 0.140 & 7.5 & 1.0 & 50/60 & 3TF116 & 11 & 12 & \\
    \hline & 0.140 & 20.0 & 2.8 & 50/60 & \({ }^{1} 136\) & 22 & 25 & 5.15,30.60 \\
    \hline & 0.140 & 20.0 & 2.8 & 50/60 & -F136 & 22 & 25 & 5.15.30,60 \\
    \hline & 0.140 & 20.0 & 2.8 & 50/60 & -2PF136 & 23 & 26 & \\
    \hline & 0.140 & 20.0 & 2.8 & 50/60 & -21F136 & 23 & 25 & \\
    \hline & 0.140 & 20.0 & 2.8 & 50/60 & -3PF136 & 23 & 26 & \\
    \hline & 0.140 & 20.0 & 2.8 & 50/60 & -3TF136 & 23 & 26 & \\
    \hline & 0.140 & 40.0 & 5.6 & 50/60 & -136.2P & 47 & 53 & 5.15.30.60 \\
    \hline & 0.140 & 45.0 & 6.3 & 50/60 & 1156 & 73 & 80 & 6.14.19.45 \\
    \hline & 0.140 & 45.0 & 6.3 & 50/60 & F1156 & 74 & 81 & 6.14,19,45 \\
    \hline & 0.140 & 90.0 & 12.6 & 50/60 & 1156.2P & 150 & 170 & 6.14.19.45 \\
    \hline & 0.140 & \(135 . \mathrm{C}\) & 18.9 & 50/60 & 1156.3P & 225 & 295 & 6.14,19,45 \\
    \hline & 0.140 & 180.0 & 25.2 & 50/60 & 1156.4P & 330 & 420 & 14.19.45 \\
    \hline & 0.140 & 270.0 & 37.8 & 50/60 & 1156.6P & 500 & 600 & 14,19,45 \\
    \hline \multirow{21}{*}{240} & 0.264 & 1.25 & . 33 & +60 & -10.2E & 4.5 & 50 & \\
    \hline & 0.280 & 3.0 & . 84 & 50/60 & -216U & 10 & 11 & \\
    \hline & 0.280 & 3.0 & 84 & 50/60 & -216 & 11 & 12 & \\
    \hline & 0.280 & 3.0 & & 50/60 & 3PF216 & 11 & 12 & \\
    \hline & 0.280 & 3.0 & 84 & 50/60 & 3 1F216 & 11 & 12 & \\
    \hline & 0.280 & 7.5 & 2.1 & 50/60 & -116U-2S & 17 & 22 & \\
    \hline & 0.280 & 7.5 & 2.1 & 50/60 & -116.2S & 18 & 23 & \\
    \hline & 0.280 & 9.0 & 2.5 & 50/60 & -236 & 22 & 25 & 5,15,30,60 \\
    \hline & 0.280 & 9.0 & 2.5 & 50/60 & - F 236 & 22 & 25 & 5.15,30,60 \\
    \hline & 0.280 & 9.0 & 2.5 & 50/60 & -2PF236 & 23 & 26 & \\
    \hline & 0.280 & 9.0 & 2.5 & 50/60 & -2TF236 & 23 & 26 & \\
    \hline & 0.280 & 9.0 & 2.5 & 50/60 & -3PF236 & 23 & 26 & \\
    \hline & 0.280 & 9.0 & 2.5 & 50/60 & -31F236 & 23 & 25 & \\
    \hline & 0.280 & 20.0 & 3.6 & 50/60 & -136.2S & 45 & 51 & 5.15.30.60 \\
    \hline & 0.280 & 28.0 & 7.8 & 50/60 & 1256 & 73 & 80 & 6.14.19.45 \\
    \hline & 0.280 & 28.0 & 7.8 & 50/60 & F1256 & 74 & 81 & 6.14.19.45 \\
    \hline & 0.280 & 45.0 & 12.6 & 50/60 & 1156.2 S & 144 & 164 & 6.14.19.45 \\
    \hline & 0.280 & 56.0 & 157 & 50/60 & 1256.2 P & 150 & 170 & 6.14,19.45 \\
    \hline & 0.280 & 84.0 & 235 & 50/60 & 1256.3P & 225 & 295 & 6.14.19.45 \\
    \hline & 0.280 & 112.0 & 31.4 & 50/60 & \({ }_{1256-4 P}\) & 330 & 420 & 14.19 .45 \\
    \hline & 0.280 & 168.0 & 47.0 & 50/60 & 1256.6P & 500 & 600 & 14,19.45 \\
    \hline \multirow{6}{*}{480} & 0.560 & 3.0 & 17 & 50/60 & -216U.2S & 17 & 22 & \\
    \hline & 0.560 & 3.0 & 1.7 & 50/60 & -216-2S & 18 & 23 & \\
    \hline & 0.560 & 90 & 50 & 50/60 & -236.2S & 45 & 51 & 5.15,30.60 \\
    \hline & 0.560 & 28.0 & 157 & 50/60 & 1256.2S & \(144{ }^{14}\) & 164 & 6.14,19,45 \\
    \hline & 0.560 & 56.0 & 31.4 & 50/60 & 1256.4PS & 330 & 420 & 14.19 .45 \\
    \hline & 0.560 & 84.0 & 47.0 & 50/60 & 1256.6PS & 500 & 600 & 14,19.45 \\
    \hline \multirow[t]{2}{*}{Three Phase} & & & & & & & & \\
    \hline & & & & & & & & \\
    \hline \multirow{7}{*}{120} & 0.132 & 1.25 & & & -10.2E & & & \\
    \hline & 0.140 & 3.0 & 1.83 & 50/60 & -20-20 & 9.7 & 12 & \\
    \hline & 0.140
    0.140 & 7.5 & 1.8 & 50/60 & -116-20 & 18 & 23 & \\
    \hline & 0.140 & 200 & 4.8 & 50/60 & -136-20 & 45 & 51 & 5.15.30.60 \\
    \hline & 0.140 & 45.0 & 10.9 & 50/60 & 1156.20 & 144 & 164 & 6.14,19.45 \\
    \hline & 0.140 & 90.0 & 21.8 & 50/60 & 1156.40 & 320 & 410 & 14.19,45 \\
    \hline & 0.140 & 135.0 & 32.7 & 50/60 & 1156.60 & 490 & 590 & 14.19.45 \\
    \hline \multirow{13}{*}{240} & & 1.25 & & 60 & \(10.3 E\) & 7.0 & 8.0 & \\
    \hline & 0.240 & 3.0 & 1.2 & 60 & 201.3Y & 14.0 & 17.0 & \\
    \hline & 0.280 & 3.0 & 1.5 & 50/60 & -216U-2D & 17 & 22 & \\
    \hline & 0.280 & 3.0 & 1.5 & 50/60 & \({ }^{2165-20}\) & 18 & 23 & \\
    \hline & 0.290 & 7.5 & 3.6 & + 60 & - 116 Cl 3 y & \({ }_{2}^{26}\) & 36 & \\
    \hline & 0.280 & 7.5 & 3.6 & \(t 60\) & -116-3Y & 27 & 37 & \\
    \hline & 0-280 & 9.0 & 4,4 & 50/60 & -236-20 & 45 & 51 & \\
    \hline & 0.280 & 20.0 & 9.7 & \(5{ }^{6} 60\) & -136-3Y & 68 & \(\begin{array}{r}77 \\ 164 \\ \hline\end{array}\) & \(5,15,30,60\)
    \(6.14,19,45\) \\
    \hline & 0-280 & 28.0 & 13.6 & 50/60 & 1256.20 & 144 & 164 & 6.14 .19 .45
    6.14 .1945 \\
    \hline & 0.280 & 45.0 & 21,8 & & \(1156.3 Y\) & 215 & 280 & 6.14.19.45 \\
    \hline & 0.280 & \(56.0{ }^{\circ}\) & 27.2 & 50/60 & 1256.40 & 320 & 410 & 14,19.45 \\
    \hline & 0.280 & 84.0 & 40.7 & 50/60 & 1256.60 & 490 & 590 & 14.19.45 \\
    \hline & \(0-280\) & 90.0 & 43.7 & \(\dagger 60\) & 1156-6Y & 500 & 600 & 14,19,45 \\
    \hline \multirow{5}{*}{480} & & 3.0 & 2.9 & 160 & -216U-3Y & & & \\
    \hline & 0.560 & 3.0 & 2.9 & \(+60\) & - 2126.3 YY & 27 & 37 & \\
    \hline & 0.560 & 9.0 & 8.7 & \({ }^{6} 60\) & - 236.3 Y & 68 & 71 & \\
    \hline & 0.560 & 28.0 & 27.2 & 160 & \({ }_{1256.6 \mathrm{Y}}^{1256}\) & 215 & 280
    600 & 6.14.19.45 \\
    \hline & 0.560 & 56.0 & 54.3 & 160 & 1256-6Y & 500 & & \\
    \hline
    \end{tabular}

    \footnotetext{
    "These units ore supplied with on "L" terminol which ollows connecting in the feld to limit the output voltoge to the opplied voltoge. If "I" 'ype connection is required on other models, the " L " must be included in the type number when ordering TWhen these POWERSTATS ore "L" connected so thot the output volioge does not exceed the opplled voltoge, the frequency ronge is \(30 / 60\) cycles.
    }

    \section*{One Source for Volfage Control Equipment}

    \section*{VARIABLE TRANSFORMERS adjustable source of a-c voltage to 100 KVA}

    \section*{efficient - accurate - dependable}

    POWERSTAT variable transformers are autotransformers of toroidal core design with a movable brush tap which is rotated to deliver any desired output voltage from zero to, or above, line voltage. Glass smooth commutator surfaces and advanced winding techniques assure smooth operation and permit adjustment to a fraction of a volt. Other important features include: excellent regulation, high efficiency, conservative ratings, zero waveform distortion and rugged mechanical construction.

    A wide range of standard POWERSTAT variable transformers are available for 120,240 and 480 volt, single and three phase operation. Both manu-ally-operated and motor-driven types are offered. The rating chart lists some of the most-called-for standard POWERSTATS. Others - specifically designed to customer requirements-are available to fulfill each application. Consult us about your specific needs.
    standard types for varied applications

    \section*{POWERSTAT}

    VARIABLE TRANSFORMERS for

    OIL-COOLED OPERATION
    

    \section*{By immersing a}

    POWERSTAT in
    transformer oil, the rating above normal air operation is increased and duty in a corrosive atmosphere is possible. A standard line is offered in various ratings and sizes.

    EXPLOSIVE ATMOSPHERES

    TYPE X-1126
    To provide sofe operation in hazordous areas where a
     small arc or spork could couse an explosion, explosion-proof POWERSTATS are available. Standard models are approved by Underwriters' Laboratories for Class 1, Group D service.

    HIGH CURRENT NEEDS IIMITED OUTPUT RANGE

    TYPE 2106 C
    Refatively lorge amounts of power con be controlled
     by a small POWERSTAT when used in conjunction with o fixed-ratio transformer. This combination is known as a POWERSTAT Line Corrector. It can be used to correct line voltage variations to maintain a specified output voltage and to supply a limited output voltage range. A multitude of ratings are available.

    \title{
    the SUPERIOR ELECTRIC Co.
    }

    \section*{the SUPERIOR ELECTRIC Co.}

    \title{
    STABILINE automatic voltage regulators to maintain constant output voltage made in 2 distinct types to meet each need
    }

    \section*{TYPE IE (INSTANTANEOUS ELECTRONIC)}
    
    for the most exacting control
    Type IE is completely electronic in operation with no moving parts. Providing instantaneous correction, it is ideal for laboratories, test lines, as a component of other equipment . . . and every. where that the most exacting voltage control is required. At no load, full load or any intermediate stage, constant output voltage is maintained regardless of line fluctuations. The output voltage is held to within \(\pm 0.1\) volts of nominal for wide line variations and within \(\pm 0.15\) volts of nominal for any load current or load power factor change from .5 lagging to .9 leading. Waveform distortion never exceeds \(3 \%\). Standard types are listed below. Consult us about your specific requirements.

    \section*{TYPE EM (ELECTRO MECHANICAL)}
    

    TYPE EM 4115

    RATINGS TYPE IE
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline input Voltage & Output Voltage & Frequency & Losd
    Range In & load Power Factor & Rated Output & Type & Nominal Output Voltage & Input Voltage Range & \begin{tabular}{l}
    Output \\
    Voltage Range
    \end{tabular} & Output Current (Amperes) & \[
    \begin{aligned}
    & \text { Output } \\
    & \text { KVA }
    \end{aligned}
    \] & Type \\
    \hline Range & Range & In Cycles & Amperes & Range & & & Single Phase & & & & & \\
    \hline 95-135 & 110-120 & \(60 \pm 10 \%\) & 0-2.2 & & 0.25 & If51002 & & 95-135 & 110-120 & 17.5 & 2.0 & EM4102 \\
    \hline +95-135 & 110-120 & \(60 \pm 10 \%\)
    \(60 \pm 10 \%\) & 0-2.2 & & 0.25
    0.25 & IE51002R
    IE52002 & & & & \[
    \begin{aligned}
    & 17.5 \\
    & 52.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.0 \\
    & 6.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { EM4102R } \\
    & \text { EM4106 }
    \end{aligned}
    \] \\
    \hline 195-255
    \(195-255\) & \(220-240\)
    \(220-240\) & \(60 \pm 10 \%\)
    \(60 \pm 10 \%\) & - \(\begin{aligned} & 0-1.1 \\ & 0-1.1\end{aligned}\) & . 5 lagging & 0.25
    0.25 & IE52002
    IE52002R & & & & \[
    \begin{array}{r}
    52.0 \\
    130.0
    \end{array}
    \] & \[
    \begin{array}{r}
    6.0 \\
    15.0
    \end{array}
    \] & EM4115 \\
    \hline +95-135 & -110-120 & \(60 \pm 10 \%\) & 0-4.5 & & 0.5 & 1551005 & 230 & 195-255 & 220-240 & & & \\
    \hline 95-135 & 110-120 & \(60 \pm 10 \%\) & 0-4.5 & & 0.5 & IE51005R & & 195-255 & 220-240 & 120.0 & 27.5 & EM4228 \\
    \hline 95-135 & 110-120 & 50 \(50 \pm 10 \%\) & \(0-4.5\) & & 0.5 & IEL51005 & & & & & & \\
    \hline \(95-135\)
    \(195-255\) & \(110-120\)
    \(220-240\) & \(50 \pm 10 \%\)
    \(60 \pm 10 \%\) & \(0-4.5\)
    \(0-2.2\) & to & 0.5 & 1EL51005R
    1E52005 & 460 & 400-520 & 420-460 & 15.0
    40.0 & 6.6
    17.6 & \begin{tabular}{l}
    EM4407 \\
    EM4418
    \end{tabular} \\
    \hline 195-255 & 220-240 & \(60 \pm 10 \%\) & 0-2.2 & & 0.5 & IE52005R & & & & & & \\
    \hline 195-255 & 220-240 & 50土 & 0-2.2 & & 0.5 & IEL52005 & Three Phase & & & & & \\
    \hline 195-255 & 220-240 & \(50 \pm 10 \%\) & 0-2.2 & & 0.5 & IEL52005R & 230 & 195-255 & 220-240 & & 10.0 & EM6210Y \\
    \hline -95-135 & \(110-120\)
    \(110-120\) & \(60 \pm 10 \%\)
    \(60 \pm 10 \%\) & \(0-8.5\)
    \(0-8.5\) & & 1.0 &  & & & & 38.0
    50.0 & 15.0
    20.0 & \begin{tabular}{l}
    EM6215Y \\
    EM6220Y
    \end{tabular} \\
    \hline \(95-135\)
    \(95-135\) & \(110-120\)
    \(110-120\) & \(60 \pm 10 \%\)
    \(50 \pm 10 \%\) & \(0-8.5\)
    \(0-8.5\) & & 1.0
    1.0 & lestolR & & & & 50.0
    113.0 & 20.0
    45.0 & \[
    \begin{aligned}
    & \text { EM6220Y } \\
    & \text { EM6245Y }
    \end{aligned}
    \] \\
    \hline 95-135 & 110-120 & \(50 \pm 10 \%\) & 0-8.5 & & 1.0 & IEL5101~ & & & & 175.0 & 70.0 & EM62700 \\
    \hline 195-255 & 220-240 & \(60 \pm 10 \%\) & \(0-4.5\) & . 9 Jeading & 1.0 & \({ }^{155201}\) & & & & & & \\
    \hline +195-255 & \(220-240\)
    \(220-240\) & \(60 \pm 10 \%\)
    \(50 \pm 10 \%\) & \(0-4.5\)
    0.4 & & 1.0 & \({ }_{\substack{\text { IE520] } \\ \text { |ELS201 }}}\) & 460 & 400-520 & 420-460 & 16.0
    22.0 & 12.5
    17.5 & EM6412Y \\
    \hline \(195-255\)
    \(195-255\) & 220-240 & 50 \(510 \%\) & 0-4.5 & & 1.0 & IEL5201R & & & & 33.0 & 25.0 & EM6425 Y \\
    \hline 95-135 & 110-120 & \(60 \pm 10 \%\) & 0-22.0 & & 2.5 & IE5102 & & & & 66.0 & 50.0 & EM6450Y \\
    \hline 95-135 & 110-120 & \(60 \pm 10 \%\) & 0-22.0 & & 2.5 &  & & & 420-460 & & & EM64100Y \\
    \hline 195-255 & 220-240 & 60 60 10\% & 0-11.0 & & 2.5 & \({ }_{1}\) 1E5202 & & 420-500 & 420-460 & & & \\
    \hline \(195-255\)
    \(195-255\) & 220-240 & \(60 \pm 10 \%\)
    \(50 \pm 10 \%\) & 0-11.0 & & 2.5 & IES5202R & & & & & & \\
    \hline 195-255 & 220-240 & \(50 \pm 10 \%\) & 0-11.0 & & 2.5 & IEL5202R & & & & & & \\
    \hline 95-135 & 110-120 & \(60 \pm 10 \%\) & \(0-33.5\) & & 5.0 & IE5105 & & & & & & \\
    \hline 195-255 & 220-240 & \(60 \pm 10 \%\) & 0-22.0 & & 5.0 & IE5205 & & & & & & \\
    \hline
    \end{tabular}
    

    RATINGS TYPE EM
    for large industrial loads . . . for applications requiring zero waveform
     distortion and high efficiency
    Type EM is an electro-mechanical device with a very sensitive detector contralling a motordriven POWERSTAT variable transformer and auxiliary transformer. While not instantaneous, Type EM corrects faster than most other automatic voltage regulators. Highly efficient in operation, it finds widest application in controlling large industrial loads and also in electronic equipment where zero waveform distortion is essential. Features include: complete insensitivity to the magnitude and power factor of the load, no effect on system power factor, no critical adjustments and adjustable output voltage. Standard types listed below.
    \[
    0 \cdot--\cdots \quad 0
    \]
    

    FOR COMPLETE INFORMATION, SEND FOR STABILINE BULLETIN S351

    \footnotetext{
    
    }

    Page M-58

    \section*{One Source for Voltage Control zquipment}

    \section*{VARICELL d-c power supplies}
    

    \section*{A VARIABLE RANGE OF STABILIZED AND REGULATED D-C VOLTAGES FROM AN A-C SOURCE}

    The ideal source of low d-c voltages, the VARICELL is simply plugged into any convenient, single phase a-c outlel supplying a nominal 115 volts at 60 cycles and it is ready to operate. Turning the handwheel provides any desired output voltage from 0 to 30 volts. its load rating is 15 amperes. Any setting is unaffected by changes in line or load current. For any setting from 6 to 30 volts, R.M.S. ripple voltage never exceeds 0.1 volts, and stabilization and regulation is \(\pm 0.25\) volis.

    FOR COMPLETE INFORMATION, SEND FOR VARICELL BULLETIN VIO5I

    \section*{VOLTBOX a-c power supplies}

    \section*{A COMPACT, PORTABLE SOURCE OF VARIABLE A-C VOLTAGE}

    This is a handy instrument widely used in chemical, physical, electrical and other laborotories and in inspection, testing and plant maintenance departments. II eliminates the need for collecting a variable transformer, voltmeter and connection leads when tests invoive variable a-c voltages. All necessory components are housed in a compact, aluminum case. By turning the "On-Ō्"" switch to "Oिn"; snapping the line-ioad switch to "Load" and rotating the knob; the desired voltage is ovailable of the output receptacles and binding posts. Ratings are available to meet every requirement.
    

    TYPE UCIM

    \section*{superior 5-WAY binding posts}
    

    This versatile binding post offers 5 different methods of connection . . . permanent clamping, spade lug, clip-lead, banano plug, or looping and clamping. Ruggedly built of the finest materials it provides complete insulation, a current capacity of 30 amperes and a working voltage of 1,000 volts. Two availoble colors, red and black, provide clrcuit identification where required.

    WRITE FOR BULLETIN EP652 DESCRIBING
    THE S-WAY BINDING POSTS

    \section*{SUPERIOR ELECTRIC - SPECIALISTS IN VOLTAGE CONTROL}

    Thoroughly familiar with every type of voltage control problem, The Superior Electric Company be well qualified to help with your specific requirements. We will be glad to recommend standard equipment exactly wited to your needs - or to engineer special types or new designs for unusual applications.
    for complete information, write to

    \section*{the SUPERIOR ELECTRIC Co.}

    \section*{Manufacturers of Electronic Equipment} since 1928
    

    Engineered and designed to insure maximum performance of any television set by returning full height and width of picture when low line voltage distorts picture.
    - Reduces tube failures - increases set sensitivity
    - Eliminates intermittent sync and oscillator drift caused
    - by law line roltage
    - 10 watt rating . ample for most requirements on
    - Aułomatically operated... turns an and of with set or appliance
    - Selector switch permits boasting ar lowering of valtage - Simple external plug-in . . . 10 second installation alds
    - Reduces low line or high line hazards to electrical Reduces

    \section*{TV SERVICE ACCESSORIES}

    Hi-Voltoge Spring Clip
    

    Heary tension suring clin, tin plated . . \(10^{\prime \prime}-20 \mathrm{KV}\) dual wall polyethylene lead for \(1 /{ }^{\prime \prime}\) or \(3 / 8^{\prime \prime}\) caps.
    STOCK No. M•103-1/4" clip Suggested List 40
    STOCK No. M-104_3/8" clip
    Suggested List 404
    TV Replacement Sackei Our Perma-Power Li.L. socket with 5 or 6 leals . . . \(20^{\prime \prime}\) lons \#22 U.J. wire . . . RETMA colors.

    STOCK No. L.501 - five \(20^{\prime \prime}\) leads . . . Suggested List 904

    STOCK No. L-601 - six 20'
    leads... Suggested List \(\$ 1.00\)

    Hi-Valtage Grid Cap Black wakelite cap with molded corona guard . \(10^{\prime \prime}-20 \mathrm{KV}\) dual wall polvethylone leade
    for \(1 / 4\) or \(3 / 8\) " capis for \(1 / /^{\prime \prime}\) or \(3 / 8\) " caps.

    No. M.101-1/4" cap
    No. M. 102 Suggested
    
    

    TV Tube Extension Similar to Replapement Socket, but with \(48^{\prime \prime}\) learls and the 6 MI tuhe base. lise for set to Ford tuhe. or tulie to mood set STOCK No. L. \(604-\) six \(48{ }^{\circ}\) leads ... Suggested List \$2.15

    \section*{add increased brilliance to any TV picture tube. TV TUBE BRITENERS}
    
     instablations
    
    
    
     - misimere cotlo
     Finest Britener iltailathle, has thece hans misitions on selertur for correct
    
    
    

    MODEL C-30i Lów.cost UNivERSAL UNIT
    
    
    
     aminge design allows operation as constant woltaze (bar. Wired sets), or constant current (serics wired sets) transformer. l'owered from set.

    Perma-Power Model C-30IShigping Weizht. 10 oz. MDDEL C201 "C.BRITE Autoformer tybe for bse in sets having parallel-wled Alituents F.N wult outjut: does not relieve cathodeflament shors. lowered from set. Shipping Welght, Perma-Power Model C201 same MÓDEL'C" C202 "C-BRITE",
     Feanomy MODEL C401 "VU-BRITE",
    

    List Each \(\$ 3.45\) Fexnomy motel for use in sets hatiog parallel-wired Perma-Power Model cisoi.
    ments to give 7.8
    

    STOCK No. B-101 Suggested List Price
    

    PERMA-POWER HORIZONTAL BAR GENERATOR
    A Neon tube Relaration Oselllator that plugs onto pleture tube to provide a serles of equally spaced horlzontal lines. Installs gulekly; completely selfcontained. Fermiss preclse setting and adjustments of joke, focus coll and magnet and adjustment of verical linearlty. height and centeringice \(\mathbf{S T O . 0}\)

    \section*{made better!}

    \section*{PERMA-POWER ELECTRONIC REMOTE CONTROL}
    

    \section*{CARAGE DOOR OPENER}

    \author{
    Motorize Your Garage Door
    }

    JUST A TOUCH OF YOUR FINGER OPENS AND CLOSES YOUR GARAGE DOOR
    DOOR . . . modern garage doors are either one piece tilt-up or sectional roll-up type up to 18 ft . wide. The PERMA-POWER GARAGE DOOR OPENER will operate these doors when equipped with horizontal roller track and a \(21 / 2^{\prime \prime}\) ceiling clearance is available.

    The Perma-Power Garage thor Onener is a strcamilinwl, tumbern, nuat and simble unt. It is shipped completely aseenbled whith tratk of sumticint lengh door travel is requirat. The moner is \(1 / 3\) hip. 117 volt, single phase whin ample capacity in operate ne phece of scritional dows us to \(1 \mathrm{k} \mathrm{ft}^{\text {. whe }}\) which open between horizontal roller tracks. finished eover, All the comirols, The power unit is comecaled by \({ }^{H}\) highly finished cover, Ald the controls, relays. etc., are enclosed. liom is provided for the rado controlied recever The control circuit is low voltage (2t volts). and a push button is sumbied with the operator. This push buteon can be connect did by bell wire to the wower untt. Adilitional bustons can be eunnected in rarallel. A very schsitive clutch, easy in adjust. Is built In for safety. A thernal overload switm protects the entire circuit. down a threaded shaft
    nuts traveling un and dow be disconnected by a slight push and remoyed. Dermitting hand oneration in case of power fallure. lnstalled in the motor commartment of the automohile is a one.tube radio transmitter Which sends out a signal whenever the dash mush-button is
    actuated. With the notor mechanism is a twotube radio recelver which actuated, With the motor mechanism is a two-tube rano recerver thater
    receives the signal and turns on the motor. A simnal frum the transmitter (in the car) opens a closed donr or closes an open door. A light onerates automatically when the door is open.
    The transmilter is crystal controlled. sending out its signal on a frequency of 27.25 . me, which is authorized by the F.C.C. Ten modulating freguencies allow non-interfering neighboring installations: easily selected by plug-1n
    units. The iransmitter is deslgned to operate directly from the 6 rolt auto battery
    with extremely tow power consumption. Adapter avallable for 12 volt systems, When operation is desired from sereral autonohthes, a sellarate transmitter may be installed in each car. Complete, easy-to-follow instructions assure professional installations by one man in jusi an afternoon. No suecial tool
    

    Perma-Power Model Gi0i Garage Door Opener -Complete system including motor nechanism, radio transmitter and receiver for 6 volt system, antennas,
    mounting hardware, wiring, wall switch, etc. Shlpping weight, 100 lbs, mounding hardware, wiring, wall switch, etc. Shlpping Weight, 100 Ibs, Perma-Power Model 300A Motor Mechanism Only-Shipping Wetzht, gin ilis. Perma-Power Model RCiOI Remote Control Radio Only-Ineluctes transmiter Perma-Power Model Recioik Remote Control Radio Only-Inelutes transminter Perma-Power Model RC10it Transmitter Oniy-Shipping Weleht. 7 lis. Perma. Power Model 1 ADA Adapter Cord-Adapts transniltter for 12 wolt
    
    

    For \(11 / 2\) volt radios with 4,5 or 6 tubes. Designed to give constant power from varying line voltages. Maintains rated ouiput under varying tube loads. Universal sockets for all battery plugs. Fits in back of battery radios as well as battery compartments of most portables.
    Provides: "A" L. 45 Volts D.C. at 200 to STOCK No. A.101
    Suggested Lis
    \(21 / 0^{\prime \prime} \times 41 / 2^{\circ} \mathrm{B}^{\prime \prime} \times 60\) Volts D.C. at 13 M.A. 54095

    UL APPROVED WITH 3 YEAR GUARANTEE!
    Model "B'"
    Baftery Eliminator

    For fivolt radios. Designed with separate outputs and the filaments eliminating vibrator disturbance as. suring high fidelity radio performance. Often used
     tery charger.

    STOCK No. A-201 Provides: Two isolated sources of 6 Volts Suggested D.C. at \(11 / 2\) amps, or when connected in parallel-3 amps.
    \({ }^{5} 23^{45}\)
    \(35 / 8^{\circ \prime} \times 61 / 8^{\prime \prime} \times 51 / 2^{\prime \prime}-7 \mathrm{lbs}\).
    manufactured by
    Peimar Powercompany
    cmincaco 25, u.
    Manufacturers of electronic equipment
    since 1928
    

    \section*{MODEL PN-60}
    reversible polarity rf dc power supply
    Polarity ehanares made on front pathel. ('ontinumasly variald from " KV to fol KV. Curront wht put 1 milliampore at do K (Wicorall dimensjons \(9.21 / 2 " x=1 " x 15 "\). ldeal for electrasiati
    
    
    PN-60 Complete with Meter
    \(\$ 675.00 \mathrm{Net}\)

    \section*{MODEL LAB-60 RF TYPE}

    CONTINUOUSLY YARIABLE 0-60 KV DC REGULATED POWER SUPPLY
     50 KV to 0. Supplind with either positive polarity or nowative olarity output. Rerulation stahility- \(1 \%\) at 1 ma. 00 Ne LAB-60 PN Reversible polarity model of above... \(\$ 745.00\) net
    

    \section*{MODEL 2040 • 40 KV DC POWER SUPPLY}

    A rugeredly lnilt puwer sumply which is in constamt use in laburaturies amel industrial phants throughout the worlil for condenser charsing, electrostatio spraying and stress testiner, ete. Nothing finer awailahle at fre times the price. lesiunetl for constant use and will stand severe abuse. Available with bither positive or neqative 40 KV output. Voltage range of approx. 15 to 40 KV . The 15 to 40 KV variance in soltare is controllenl throungh a knols on the front fianel. If requirol for TV use, a voltage output of approx. 4 to fi KV is available throurla a tap. Voltages suppliof throngh a 4 ft . IIV Safety Cable. Sperify desired polarity when ordering. . \(\$ 136.90\) Net
    With IIY meter installed in front fanel. \(\$ 50\) additional
    

    \section*{MODEL LAB-40}

    CONTINUOUSLY VARIABLE REGULATED 25 to 4OKY DC POWER SUPPLY
    lnit las a 4 tu 6 KV fueus taj fur use with flying spot kineseope repord ing tubes, etc. Repulations of \(0.5 \%\) at 1 milliampere. Available cither with locking controls ar standard knols.

    With meter \(\$ 620\) Net

    Less Meter \(\$ 545\) Net

    \section*{MODEL LAB-30PN • REVERSIBLE POLARITY - Continuously Varioble 1 to 30 KY} templated In' lower supply with remulations of \(0.5 \%\) t 1 milliamura. Althourli rateri at 1 ma., this unit is (abahlu of \(\because\) nas. operation within regulation specifications. This idi tube unit is of the RF type consisting of at solvatate oscillator and huffer feeding the power oseillatur into a douliher rectidier. Regulations aceom-
     reversible from front panel, standard Rack Model-1!" wide x \(12^{\prime \prime}\) hifh x \(13^{\prime \prime}\) deep. Standard liench Model-21" wile \(\times 14^{\prime \prime}\) Jish \(x 15^{\prime \prime}\) dere, With Meter \(\$ 670\) Net - Less Meter \(\$ 595\) Net MODEL LAB-30 is a mositive polarity output requlated Hish Voltage IMC Power Suplly with samb electrical eharacteristics and dimensions as the l.all-301s. Nailable in either positive or notative polarity.

    With Meter \(\$ 570\) Net - Less Meter \(\$ 495\) Net
    

    MODEL
    4575
    41/2 KY
    POWER
    SUPPLY
    

    This compact, well desibnem, rurgelly built ma supply utilizes two fiAQs tuhes as a parallel oseillator feceling a 1 X 2 rectifier tube. For an output coltase of \(41 / 2 \mathrm{KV}\) be at 1 milliampere, the low voltare input requirement is 250 , at 50 milliamperes. By varying the IDC input the outpout woltare can le warried from apporos. 1 KV to in \(^{1 / 2}\)
     wide, In completely thelosed metal housing (not shown). Joess low voltare b( supply.... \(\$ 32.50\) Net

    MODEL PN-30R • REVERSILLE POLARITY continuously variable l.30 ky UNREGULATED DC POWER SUPPLY
    A lirht, compact unit in wibl use for insulation testins, pree-ipators and laboratory researeh. Polarity reversible from front pariel. (urrent ont put - approx. \({ }^{2}\) milliampros at 20 KJ : 2 洛 microamperes at 30 KV . lnput
     With meter installed on front panel.......... \(\$ 50\) additional

    MODEL RG-30 - Continuously Variable 15-30 XV Regulated DC Power Supply
    A high gralle supply which incorporates a voltage tap in the range of + to \(6 \mathrm{KV}^{\prime}\) for use with inWP15, STP't and flyink spot tubes. Regulations leetter than .5\% at 1 milliampure. In wide use for color tube development work, transeription recordinu systems. P'ower gup. ply also arailable with focus and converpence voltare taps for RCA Tri. Color tubes at slight adiditional cost. This molel can be adjusted for \(40 \mathrm{KV}^{\prime}\) output at . 5 milliamperes for new to Kl projection tulkes.
    \(\$ 295\) Net With meter installed on front panel........ \(\$ 50\) additional
    
    
    - BRONX, 67 , N. Y.
    
    10.15 KV
    

    Secondury Height
    Secondary Windinge
    Consisting of \(\mathbf{i}\) Pie Windings
    Diameter ....................................... \(21 / 2^{\prime \prime}\)
    Secondary Voltage Output.... 10-15 KV
    Secondary (urrent........ 2 Milliamperes
    Approx. Frequency................... 175 KC \$12.00 Net
    

    \section*{RF FILAMENT TRANSFORMERS}

    A sulf-resonant antas transformer for use with type 1 bis hactitior tule.
    W'ill operate with spellman lf coils
    TUNING PADDER iol Filament "ransformer"
    - BRONX, 67 , N. Y.

    \section*{ELECTRONIC RESEARCH ASSOCIATES, INC.}
    

    The standard 60 cycle models listed may also be operated at 400 cycles. The 400 cycle equivalents. however, are smaller and lighter for the same power rating.

    TRANSPACS

    \section*{Miniaturized Power Packs for Transistor, Vacuum Tube, and Standard Applications} SAVE SPACE, WIRING, AND WEIGHT

    Tubeless, miniaturized, self-contained, AC operated DC power packs. Wired into circuits TRANSPAC supplies a rugged, reliable source of DC power for miniature or standard size electronic devices. Design features include line isolation, rectification using semi-conductor diodes, use of selenium, gas, or magnetic amplifier regulators (dependent on model typel and high efficiency filtering. All units are in transformer type housings and specially potted to resist shock and vibration.

    \section*{STANDARD MODEL TRANSPACS}

    LOW VOLTAGE TRANSPACS
    Ideal for Magnetic Amplifier references, transistor and vacuum tube hias, and all types of regulated low voltage applications. Line and had regulated. Input 100.125 volts, 60 or 400 cyeles. Input rerulation leeter than \(\pm 2 \%\). Output regulation better than \(\pm 2 \%\). Ripple less than \(0.2 \%\).
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{Mode! No.} & \multirow[b]{3}{*}{Output Volts} & \multirow[b]{3}{*}{Current
    Ma-Max} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Case Size
    \(60 \quad 400\)}} & \multicolumn{2}{|l|}{Weight, Lbs.} & \multicolumn{2}{|r|}{Net Price} \\
    \hline & & & & & 60 & 400 & 60 & 400 \\
    \hline & & & cps & cps & cps & cps & cps & cps \\
    \hline cV5 & \% & 15 & 1 & . & 1.2 & 11.7 & \$35.00 & \$40.00 \\
    \hline cV10 & 10 & 15 & 13 & A & 1.2 & 0.7 & 35.00 & 40.00 \\
    \hline cV15 & 15 & 15 & 13 & A & 1.2 & 0.7 & 35.00 & 40.00 \\
    \hline cV20 & 20 & 15 & 13 & A & 1.2 & 0.7 & 40.00 & 45.00 \\
    \hline cV25 & 25 & 15 & 13 & A & 1.2 & 0.7 & 40.00 & 45.00 \\
    \hline CV30 & 30 & 1. & 13 & A & 1.2 & 0.7 & 40.00 & 45.00 \\
    \hline cV40 & 40 & 15 & 13 & A & 1.3 & 0.7 & 40.00 & 45.00 \\
    \hline CV50 & 50 & 15 & 13 & A & 1.3 & 0.7 & 40.00 & 45.00 \\
    \hline CV60 & ¢0 & 15 & 13 & A & 1.3 & 0.1 & 40.00 & 45.00 \\
    \hline
    \end{tabular}

    \section*{UNREGULATED TRANSPACS}

    For general tube and transistor application. Inyut 115 volts 60 or 400 cycles. Low internal imperdance. IRipple less than \(0.5 \%\)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{Model No.} & \multirow[b]{3}{*}{Output Volts} & \multirow[b]{3}{*}{Current Ma-Max} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Case Size
    \(60 \quad 400\)}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Weight, Lbs. } \\
    & 60 \quad 400
    \end{aligned}
    \]}} & \multicolumn{2}{|r|}{Net Price} \\
    \hline & & & & & & & 60 & 400 \\
    \hline & & & cps & cps & cps & cps & cps & cps \\
    \hline \(\checkmark 5\) & 5 & 50 & B & A & 1.3 & 0.15 & \$28.00 & \$35.00 \\
    \hline V10 & 10 & 50 & 13 & A & 1.3 & 0.4 & 28.00 & 35.00 \\
    \hline V20 & 20 & 50 & 13 & A & 1.3 & 0.6 & 28.00 & 35.00 \\
    \hline V30 & 30 & 50 & 13 & A & 1.3 & 0.4 & 28.00 & 35.00 \\
    \hline V60 & 60 & 50 & 13 & A & 1.3 & 1.6 & 30.00 & 40.00 \\
    \hline V135 & 135 & 50 & \({ }^{\prime}\) & 13 & 2.0 & 1.3 & 35.00 & 40.00 \\
    \hline V135-2 & 135 & 75 & ( & 13 & 2.1 & 1.3 & 45.00 & 55.00 \\
    \hline V150 & 150 & 70 & ( & I3 & 2.2 & 1.3 & 40.00 & 50.00 \\
    \hline \(\checkmark 250\) & 250 & 70 & E & ( & 3.5 & 1.5 & 40.00 & 50.00 \\
    \hline \(\checkmark 300\) & 300 & 100 & F: & ( & 5.0 & 1.5 & 50.00 & 60.00 \\
    \hline V350 & 350 & 100 & F, & 1) & 5.11 & 3.5 & 50.00 & 60.00 \\
    \hline \(\checkmark 500\) & 500 & 1.0 & ( & 13 & 3.5 & 1.5 & 40.00 & 50.00 \\
    \hline V1K5 & 1500 & 1.0 & F & I) & 5.7 & 4.2 & 55.00 & 65.00 \\
    \hline V2K4 & \(\because 400\) & 1.5) & F & 11 & 6.11 & 4.3 & 65.00 & 75.00 \\
    \hline
    \end{tabular}

    \section*{DUAL OUTPUT TRANSPACS}

    For AO operated transistor equipment. Supplies constant eurrent emitter bias and regulated collertor bias. Input \(105.125 \mathrm{VAC}, 60\) or 400 creles. Input resulation better than \(\pm 1 \%\). Emitter internal mpedance preator than 00,000 ohms. Ripule less than \(0.2 \%\). PNP or SPS (Sjecify type desired)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Model No.} & \multirow[b]{2}{*}{Emitter Volts} & \multirow[b]{2}{*}{Collector
    Ma-Max} & \multicolumn{2}{|l|}{\[
    \begin{aligned}
    & \text { Case Size } \\
    & 60 \quad 400
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{Weight, Lbs. 60400} & \multicolumn{2}{|r|}{Net Price} \\
    \hline & & & cps & cps & cps & cps & cps & cps \\
    \hline DU1 & 2 & ] & A13 & AA & 0.15 & 0.5 & \$36.00 & \$45.00 \\
    \hline DU2 & 3 & 10 & AB & AA & 0.6 & 0.5 & 36.00 & 45.00 \\
    \hline DU3 & 5 & 20 & A & AB & 1.1 & 0.6 & 40.00 & 50.00 \\
    \hline DU3V* & \(\stackrel{\square}{5}\) & 0.20 & A & Al3 & 1.1 & 0.6 & 45.00 & 55.00 \\
    \hline
    \end{tabular}

    \section*{CONSTANT VOLTAGE TRANSPACS}

    For reneral tube and transistor applications. Input 105.125 volts, F0 or 100 creles. line and load rerulated. Input rerulation hetter than \(\pm 1 \%\). Ontput regulation better than \(\pm 1 \%\). Ripple less than \(0.1 \%\).
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{Model No.} & \multirow[b]{3}{*}{Output Volts} & \multirow[b]{3}{*}{Current Ma-Max} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Case Size
    \[
    60 \quad 400
    \]}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Weight, Lbs. } \\
    & 60 \quad 400
    \end{aligned}
    \]}} & \multicolumn{2}{|c|}{Net Price} \\
    \hline & & & & & & & 60 & 400 \\
    \hline & & & c.ps & cps & cps & cps & cps & cps \\
    \hline CV75 & 75 & 20 & \((\) & - & 1.5 & & \$30.00 & \\
    \hline CV105 & 105 & 20 & 13 & A & 1.3 & 0.8 & 30.00 & 35.00 \\
    \hline CV150 & 150 & 20 & 13 & A & 1.3 & 0.8 & 35.00 & 40.00 \\
    \hline CV150-2 & 150 & 40 & C & 13 & 2.0 & 1.3 & 45.00 & 55.00 \\
    \hline CV180 & 180 & 20 & C & - & 2.0 & & 40.00 & \\
    \hline CV210 & 210 & 20 & C & B & 2.0 & 1.6 & 40.00 & 45.00 \\
    \hline CV250 & 250 & 20 & C & B & 2.0 & 1.3 & 40.00 & 45.00 \\
    \hline CV250-2 & 250 & 40 & I) & ( & 2.7 & 1.8 & 50.00 & 60.00 \\
    \hline CV300 & 300 & 20 & C & 13 & 2.0 & 1.3 & 40.00 & 45.00 \\
    \hline cV350 & 350 & 20 & 1) & C & 2.7 & 1.3 & 45.00 & 50.00 \\
    \hline CV350-2 & 350 & 40 & E. & \({ }^{\prime}\) & 4.5 & 2.0 & 55.00 & 65.00 \\
    \hline CV600 & 600 & - & E & (' & 4.5 & 2.0 & 60.00 & 65.00 \\
    \hline CV900 & 900 & 5 & E & (' & 4.5 & 2.0 & 60.00 & 65.00 \\
    \hline
    \end{tabular}

    \section*{HIGH AMPERAGE TRANSPACS}

    For hiwh brwor transistors, IDC filament. solenoid and hiph amperare abplications. Input \(11 \%\) volts. 60 or \(\$ 00\) reveles. Ripple less than a\% . Iligh voltaga iusulation greater than 2000 wolts to case.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{\[
    \begin{aligned}
    & \text { Model } \\
    & \text { No. }
    \end{aligned}
    \]} & \multirow[b]{3}{*}{Output Volts} & \multirow[b]{3}{*}{Current Amps-Max} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Case Size } \\
    & 60 \quad 400
    \end{aligned}
    \]}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Weight, Lbs. } \\
    & 60 \quad 400
    \end{aligned}
    \]}} & \multicolumn{2}{|r|}{Net Price} \\
    \hline & & & & & & & 60 & 400 \\
    \hline & & & cps & cps & cps & cps & cos & cps \\
    \hline F2 & 2.5 & 3 & \(\mathrm{F}^{\circ}\) & ( & 7.0 & 2.0 & \$48.00 & \$55.00 \\
    \hline F5 & 5.11 & 3 & F & I) & -0 & 3.8 & 48.00 & 55.00 \\
    \hline F6 & 6.3 & 3 & F & I) & 7.1 & 3.5 & 48.00 & 55.00 \\
    \hline F7 & 7.5 & 3 & F & I) & 7.1 & 3.5 & 48.00 & 55.00 \\
    \hline F10 & 10.0 & 3 & F & 1) & 7.0 & 3.5 & 48.00 & 55.00 \\
    \hline F12 & 12.6 & 2 & F & I) & 5.5 & 3.11 & 50.00 & 60.00 \\
    \hline F25 & \(2 \% .2\) & 1 & F & 1) & 6.1 & 3.4 & 50.00 & 60.00 \\
    \hline
    \end{tabular}

    CASE SIZES (Inches)
    

    CONSTANT CURRENT TRANSPACS
    For transistor, solenoid, electro-chemical, medical research, and gen eral applications. Input \(105+125\) volts, 60 or 400 cecles. Line and coad rexulated. Input reculation better than \(\pm 1 / \%\). Internal impedance approx. 250,000 ohms or greater. Ripple less than 0.1 \%
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{Model No.} & \multirow[b]{3}{*}{Output Volts} & \multirow[b]{3}{*}{\begin{tabular}{l}
    Current \\
    Ma-Max
    \end{tabular}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Case Size } \\
    & 60 \quad 400
    \end{aligned}
    \]}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Weight. Lbs. } \\
    & 60 \quad 400
    \end{aligned}
    \]}} & \multicolumn{2}{|c|}{Net Price} \\
    \hline & & & & & & & 60 & 400 \\
    \hline & & & cps & cps & cps & cps & tps & cps \\
    \hline CCl & - & 1 & . & A H & 1.2 & 0.7 & \$26.00 & \$35.00 \\
    \hline CC2 & - & \(\because\) & A & . 113 & 1.2 & 0.7 & 28.00 & 35.00 \\
    \hline CC5 & - & \% & 13 & 1 & 1.3 & 1.2 & 30.00 & 35.00 \\
    \hline cc10* & - & 11 & ( & B & 2.0 & 1.3 & 45.00 & 55.00 \\
    \hline ccl5** & - & 0.5105 .0 & 13 & A & 1.4 & 1.2 & 30.00 & 35.00 \\
    \hline CCP54** & - & 0.25 to 2.0 & 13 & A & 1.3 & 1.2 & 26.00 & 35.00 \\
    \hline \multicolumn{2}{|r|}{* 50.000} & ms internal & impre & anc & & Mult & ap desi & \\
    \hline
    \end{tabular}

    \section*{NOTES}
    standard units are supplied with solder loop terminals. Octal pin hase can also he made available on spectial order.
    . Units are normally housed in two-piece MII,-T-27 transformer housings. Deep drawn MI1.T.0T housings as well as special housings can also be supplied.
    3. In addition to the units listed, suecial models can be desizned to customer sperifications. Quotations on these motels supplied without obligation.

    ELECTRONIC RESEARCH ASSOCIATES, INC.
    nutiey. new jersey

    \author{
    TUBELESS! REGULATED DC/AC POWER SUPPLIES \\ \(\sqrt{ } \sqrt{ }\) High Conversion Efficiency \\ \(\sqrt{ }\) Low Heat Dissipation \\ , Excellent Transient Response \\ \(\checkmark\) No Tubes, Long Life \\ \(\sqrt{ } \sqrt{ }\) Zero Warm-up Time \\ \(\sqrt{ }\) Stable, Trouble-free Operation
    }

    These Tubeless Power Supplies pioneered by ERA eliminate the drawbacks inherent in standard vacuum tube equivalents. Line regulation is accomplished by passive magnetic elements. Use of variable auto-transformers provides for low loss constant impedance voltage adjustment down to zero output. Germanium junction diodes and low resistance filtering components are utilized for the DC output. This combination results in cool, high efficiency, long life operation, free from the convention control tube heat dissipation or Magnetic Amplifier transient limitations.
    

    TUBELESS DC/AC POWER SUPPLY For General Power Applications Model 312.
    Model 3193 (Motorei) Mond 312H (Motprel)
    III (Metered)

    Nut Price \(\$ 235.00\) Nut Price \(\$ 259.00\) Model 312 Mn (Metered).....nt price \(\$ 285.00\) (Model 312 M , illustrated)

    \section*{TUBELESS POWER SUPPLY}

    Model 312, combined DC/AC supply, ideal for Life Testing Racks, Computers, TV and other applications where low heat dissipation, long life, stable operation is a basic requirement. In addition to the tubeless feature this model provides regulated filament and variable AC voltages.

    \section*{SPECIFICATIONS}

    NINT
    OUTP["T VOLTAGE
    
     on 0-3/30 volt ranse
    LINE REGILATION
    \(\pm 0.5 \%\) eltange in

    \section*{TUBELESS HIGH CURRENT SUPPLY}

    Model 30 is a portable, variable low voltage, high current DC/AC supply for high amperage applications. Ideal for high current applications such as transistor anmlifiam. iesulated \(A C\) or DC filament supply, solpnoid and magnetic cluteh operations, AC motor control.

    \section*{SPECIFICATIONS}

    INPUT
    OUTPUT VOLTAGE

    OLTPLT CLRRENT
    \(100-125 \mathrm{VAC}, 60 \mathrm{cps}\).
    0.30 wols \(\mathrm{AC}^{\circ}\) or \({ }^{\circ} 0-130\) volts \(10^{\circ}\)
    1.5 amperes max. 30 va capracity
    h.INE REG[l.ATION
    lo.AD RECiCLATIOY
    RIPPLE sIZE.... Hardwood cabinet, \(8^{\prime \prime} \times 11^{\prime \prime}\) sloping panel
    \(\pm 1 \%\) change in output for \(100-125 \mathrm{v}\) input Internal by impedance loas than 3 ohms
    . Le'ss than \(1 \%\) for IXC output

    TUBELESS DUAL TRANSISTOR SUPPLY
    Model 110, for transistors and other multi-polarity low voltage applications has dual vernier DC outputs for any combination of emitter and collector bias, positive or negative. This new instant warm-up time design results in cool, high efficienry, long-life operation.

    \section*{SPECIFICATIONS}

    INPLTT.
    95-12.5 V.M0, 50 cus
    DUAL Voltage oltplots*....Either Gutput, \(0 \cdot 1 / 10 / 100\) volts CCRRENT (Max.)........Either Output,

    \section*{CONSTANT CTRRENT}

    OLTPL"TS**. . Dual 0-5 MA, 20,000 ohms impertance

    RIPPLE
    La'ss than \(19.11 \%\)
    DUAL TRANSISTOR SUPPLY
    For All Transistor and Low Voltage Applications
    \begin{tabular}{|c|c|}
    \hline odel 110 (illustrated) & Nint Price \$169.50 \\
    \hline Model 110M (Metered) & Net Price \$215.00 \\
    \hline Model 1101 & Net Price \$179.50 \\
    \hline Model 110DM (Meter & Net Price \$224 \\
    \hline
    \end{tabular}

    Constant Current Models; \(110 \mathrm{C}, 110 \mathrm{MC}, 110 \mathrm{DC}\), 110 DMC , Add \(\$ 15\) to above prices

    REGLIATION (Input) \(\pm 1 \%\) chane in output for \(95-12 \mathrm{~m} . \mathrm{s}\) INTERNAI MMPEDAN(G:
    (DC) …..............Constant woltan 13/20/100 ohms. mas.
    SIZE............... 1 !" liack amil holict
    *Models \(110,110 \mathrm{M}, 110 \mathrm{C}^{\prime}, 110 \mathrm{MC}\), Output \#2, 0.100 Volts
    * Models \(110 \mathrm{C}^{\circ}, 110 \mathrm{Mc}, 110 \mathrm{DC}, 110 \mathrm{nMC}\), only

    \section*{Associated Specialties Co.}

    OREFIELD, PA.
    

    \section*{ELECTRONICALLY REGULATED D.C. CONSTANT VOLTAGE POWER SUPPLIES}

    MODEL 1 RELAY RACK MOUNTING \(\$ 52.50\)

    Input: 105-125 volts AC. 50-60 cycles.
    DC Output Voltage: Continuously variable from 200 to 325 volts DC for load currents 0 to 100 ma .

    Regulation of DC Voltage: Better than \(1 \%\) for loads of 0 to 100 ma. and line voltage variations from 105 to 125 volts.

    Ripple Output: Less than 10 millivolts rms.
    Isolated Oulput: Both positive and negative sides of the output are isolated from ground. Either side may be grounded or the output may be left floating.

    AC Output for Filaments: An isolated AC voltage of 6.3 volts \(A C\) at 3 amperes is available at the output terminal connections.

    Overload Protection: A fuse momnted on the front panel protects supply against external overloads or internal failure.

    Input and Output Connections: All input and output comections are made to a single terminal strip conveniently located on the rear of the chassis.

    Dimensions: Standard \(19^{\prime \prime}\) relay rack mounting. D'anel Width: 19 inches: Panel Height: \(51 / 4\) inches; Hepth hehind l'anel: \(81 / 2\) inches.

    Cabinet and Panel Finish: Standard 13lack ripple enamel.

    Controls: Rear Chassis-DC output voltage control. Front P'anel-pilot light, input power switch, and fuse.
    Weight: Net weight is approximately 20 pounds.
    High Quality Components: Only components of the highest quality are used in this equipment insuring you years of trouble free dependable operation.

    Accessibility: by removing two small screws. the front panel may be remosed while the supply stays momated on a relay rack or cabinet. This allows quick and easy inspection.

    \section*{MODEL 2 SUB-CHASSIS MOUNTING \$49.50}

    Sub-chassis mounting type regulated power supplies are designed to save space and money. They can be momed on a chassis along with other components and thereby save space which wond he nsed by a relay rack mounting supply. Savings are made in the size and cost of the cabinet required for a job along with the lower cost of the sub-chassis mounting supplies.

    \section*{SAME AS MODEL 1 EXCEPT}

    Dimensions: \(9^{\prime \prime}\) wide. \(83 / 4\) " long, \(43 / 4\) " high above chassis. \(13 / 4\) " clearance required helow chassis. Size of cut-out required: \(\varepsilon^{1 / 8^{\prime \prime}}\) wide \(\times 8^{\prime \prime}\) high. Location of four monnting holes: \(85 / 8\) " wide \(x 8!!"\) high.

    Chassis Finish: Zinc plated or equivalent.
    Controls: DC output voltage control adjustable from the top side of the chassis.
    

    Weight: Net weight is approximately \(141 / 2 \mathrm{lhs}\).

    \title{
    A Cometant Volighe
    transfooring
    }

    \section*{SOLA Electric Co. - Chicago 50, III.}

    FLUCTUATING LINE VOLTAGE
    CONSTANT OUTPUT VOLTAGE
    

    \section*{Automatic Instantaneous Voltage Regulation}

    SOLA Constant Voltage Traneformers are static magnetic voltage regulators. They are designed to provide a constant output voltage which is unaffected by changes in input voltage. You will find. listed in the following pages, the widest range of ratings and types available from stock offered loy any mamniaturer.

    In addition, CISTON DESIGXED [VITS can be manufactured in caparities from 1 V.A. to 25.0100 V.A., to suit your individual -prifications. When ordered in substantial quantities. Whey cost only slighty more than standard units of the sime general size. Often, time and money ean be saved ly dirert uee or modification of a regulator from the several lmodred sperial desizns on file. Custom derigns can inelude: speclat. Vol.TAGE RATIOS, SPECIAI. FREOI ENCIES COMIENSATION FOR FREQIENCY VARIITION. HITTHE OLTIUT VOITAGES. THREE-PHIEE SERVICE. and MLITARY SIECIFICATIONS.
    sOLA Constant Voltage Transformers have eight distinct advantages over regulators which depend solely upon saturation of core materials for their regulating action, or electronic type regulators:
    1. Response time, 1.5 cycles or less.
    2. No moving or renewahle parts . . . no manual adjustments.
    3. Completely automatic contimous regulation.
    4. Self-protecting against short circuits.
    5. Current limiting characteristic protects load equipment from excessive fault currents.
    6. Can often be substituted for conveutional non-regulating transformers.
    -. Relatively compact.
    : Provide isolation hetween input and output circuits.

    For complete operational data write for Bulletin 4M-CV-200
    

    \section*{CONSTANT VOLTAGE TRANSFORMER FOR PLATE AND FILAMENT SUPPLY TYPECVE}

    A single, compact source of filament and plate supply voltages . . . regulated to within \(\pm 3 \%\) or less with line voltage variations of \(100-130\) volts. Supplied with separate capacitor.

    ELECTRICAL AND MECHANICAL SPECIFICATIONS: Input 100-130 v, 60 cycle
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Catalog Number} & \multirow[t]{2}{*}{D.C. Input Volts to Filter} & \multicolumn{2}{|l|}{FILAMENT WINDINGS} & \multicolumn{3}{|l|}{OVERALL DIMENSIONS IN INCHES} & \multirow[t]{2}{*}{Shipping Weight} \\
    \hline & & 6.3 v & 5.0v & Length & Width & Height & \\
    \hline 7104 & \[
    \begin{aligned}
    & 275 \mathrm{D.C.} @ \\
    & 50 \mathrm{M.A.}
    \end{aligned}
    \] & C.T. & 2.0 1 mmps & 413 & \(31 / 1\) & \(3 \frac{5}{16}\) & 5 \\
    \hline 7106 & 335v D.C. @
    \[
    110 \text { М.А. }
    \] & \[
    \begin{gathered}
    3.0 \text { :mps. } \\
    \text { V.T. }
    \end{gathered}
    \] & 2.0 amps & 418 & 31/4 & \(4{ }^{16}\) & 8 \\
    \hline 7107 & \[
    \begin{aligned}
    & 3801 \text { J.C. @ } \\
    & 2.50 \text { II.i. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & =1: 1.01 \text { amps } \\
    & =2: 8.0 \text { amps } \\
    & \text { umpegulated }
    \end{aligned}
    \] & 3.0 amps & 7 & \(11 / 2\) & 5 & 19 \\
    \hline
    \end{tabular}

    DATA ON STANDARD "CV" AND OTHER TYPES ON FOLLOWING PAGES
    

    \footnotetext{
    Page M-68
    }

    \title{
    STANDARD TYPE "CV"
    }

    \section*{ELECTRICAL AND MECHANICAL SPECIFICATIONS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Catalag Number} & \multirow[t]{3}{*}{Outpul Capacity in VA} & \multicolumn{2}{|c|}{voltage} & \multicolumn{5}{|c|}{\multirow[t]{2}{*}{Dimensians in Inches}} & \multirow[t]{3}{*}{\begin{tabular}{l}
    Apprax. \\
    Shipping Weight
    \end{tabular}} \\
    \hline & & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Input } \\
    & \text { Range }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \pm 1 \% \text { Regulated } \\
    \text { Output } \\
    \hline
    \end{gathered}
    \]} & & & & & & \\
    \hline & & & & A & B & c & E & F & \\
    \hline \multicolumn{10}{|l|}{TYPE 1} \\
    \hline 30488 & 15 & 95-125 & 6.0 & 5116 & 25/8 & \(31 / 2\) & \(5 \frac{1}{16}\) & \(\ldots\) & 6 \\
    \hline \(30+92\) & 15 & 95-125 & 6.3 & 511 & \(25 / 8\) & \(31 / 2\) & \(5 \frac{1}{16}\) & ........ & 6 \\
    \hline 30198 & 15 & 95-125 & 115.0 & \(51 \frac{1}{6}\) & 25/8 & \(31 / 2\) & \(5 \frac{1}{16}\) & ........ & 6 \\
    \hline \multicolumn{10}{|l|}{TYPE 12} \\
    \hline 301002 & 15 & 95-125 & 6.3 & 51/4 & \(31 / 2\) & 21/4 & 3 & 11/2 & 21/2 \\
    \hline 301003 & 15 & 95-125 & 115.0 & 51/4 & \(31 / 2\) & 21/4 & 3 & 11/2 & 21/2 \\
    \hline \multicolumn{10}{|l|}{TYPE 2} \\
    \hline 30804 & 30 & 95-125 & 115.0 & \(8 \frac{9}{16}\) & \(4 \frac{17}{17}\) & \(43 / 8\) & 7\% & 23/8 & 12 \\
    \hline 30805 & 60 & 95-125 & 115.0 & 8 13 & 4星 & 43/8 & 81/8 & 23/8 & 13 \\
    \hline 30806 & 120 & \(95 \cdot 125\) & 115.0 & 93/4 & \(4{ }^{3} 8\) & \(43 / 8\) & 9 & \(23 / 8\) & 17 \\
    \hline 30888 & 150 & 95-125 & 115.0 & 101/4 & \(4{ }^{38}\) & \(43 / 8\) & 91/2 & \(23 / 8\) & 18 \\
    \hline \multicolumn{10}{|l|}{TYPE 21} \\
    \hline 30881 & 25 & 95-125 & 6.3 & \(8{ }^{7}{ }^{7}\) & \(4 \%^{38}\) & 43/8 & 714 & 23/8 & 12 \\
    \hline 30882 & 50 & 95-125 & 6.3 & \(8 \frac{13}{16}\) & \(4 \frac{3}{16}\) & \(43 / 8\) & 81/8 & \(23 / 8\) & 13 \\
    \hline \multicolumn{10}{|l|}{TYPE 22} \\
    \hline 30885 & 60 & 95-125 & 115.0 & 103/8 & \(43^{3} 8\) & 43/8 & 95/8 & 23/8 & 13 \\
    \hline 30886 & 120 & 95-125 & 115.0 & 111/4 & \(4 \frac{3}{18}\) & 43/8 & 101/2 & \(23 / 8\) & 17 \\
    \hline \multicolumn{10}{|l|}{TYPE 3} \\
    \hline 30807 & 250 & 95.125 & 115.0 & 115/8 & \(6 \frac{18}{6}\) & 55/8 & \(31 / 4\) & 61/8 & 30 \\
    \hline 30 M 807 & 250 & 190-250 & 115.0 & 115/8 & 618 & 55/8 & \(31 / 4\) & 61/8 & 30 \\
    \hline 30808 & 500 & 95-125 & 115.0 & 141/2 & 615 & 5\%/8 & 5 & 61/8 & 40 \\
    \hline 30M808 & 500 & 190-250 & 115.0 & 141/2 & \(6 \frac{15}{15}\) & 55/8 & 5 & 61/8 & 40 \\
    \hline \multicolumn{10}{|l|}{TYPE 4} \\
    \hline 30809 & 1000 & 95-125 & 115.0 & 191/8 & 91/2 & 77/8 & 63/4 & \(81 / 2\) & 110 \\
    \hline 30M809 & 1000 & 190-250 & 115.0 & 191/8 & 91/2 & 77/8 & 63/4 & \(81 / 2\) & 110 \\
    \hline 30811 & 2000 & 95-125 & 115.0 & 311/8 & 91/2 & 71/8 & 121/4 & \(81 / 2\) & 205 \\
    \hline 30M811 & 2000 & 190-250 & 115.0 & 311/8 & 91/2 & 77/8 & 121/4 & \(81 / 2\) & 205 \\
    \hline 30968 & 2000 & 190-250 & 230.0 & 301/8 & \(91 / 2\) & 77/8 & 121/4 & \(81 / 2\) & 205 \\
    \hline \multicolumn{10}{|l|}{TYPE 5} \\
    \hline 301706 & 3000 & 95-190-125-250 & 115.0 & 2714 & 161/4 & 12 & 231/8 & 141/4 & 345 \\
    \hline 301707 & 3000 & 190-380-250-500 & 230.0 & 2718 & 161/4 & 12 & \(231 / 8\) & 141/4 & 345 \\
    \hline 301704 & 4000 & 95-190-125-250 & 115.0 & 32111 & 161/4 & 12 & 281/8 & 141/4 & 415 \\
    \hline 301702 & 5000 & 95-190-125.250 & 115.0 & \(39 \frac{1}{16}\) & 161/4 & 12 & \(341 / 2\) & 141/4 & 485 \\
    \hline 301703 & 5000 & 190.380-250.500 & 230.0 & \(39 \frac{1}{18}\) & 161/4 & 12 & \(341 / 2\) & 141/4 & 485 \\
    \hline \multicolumn{10}{|l|}{TYPE 6} \\
    \hline 301700 & 10,000 & 190/380.250/500 & 115.0 & 481/8 & 341/4 & 14 & 411/2 & 311/4 & 1025 \\
    \hline 301701 & 10,000 & 190/380.250/500 & 230.0 & 481/8 & 341/4 & 14 & \(411 / 2\) & 311/4 & 1025 \\
    \hline
    \end{tabular}

    DIMENSIONS - A: Overall Length; B: Overall Width; C: Overall Height; E \& F: Maunting Dimensians
    > "HOUSE
    > CURRENT" ANYWHERE -in car, truck, boat or plane
    

    Trav=Electric "Chief" (Filfered)
    Automatic On-Off Switch OPERATES:
    

    Trav=Electric "Super" (Filtered)

    \section*{OPERATES:}
    Dictating Machines
    Phonographs
    Radios
    Heating Pads
    Lights
    Electric Shave-s

    Wire Recorders Turntables
    Test Equipment
    Curling Irons
    Electric Clocks
    Business Machines
    Vibrators, Massage
    \begin{tabular}{llcc} 
    MODELS & WATTS & LIST & DEALER NET \\
    \(6.71160(6\) voit \()\) & 60.75 & \(\$ 37.95\) & \(\$ 25.30\) \\
    \(12-71160\left(12 \mathrm{vel}^{1+}\right)\) & 75.100 & \(\$ 42.95\) & \(\$ 28.63\)
    \end{tabular}

    Tape Recorders Dictating Machines ood \& Liquid Mixers
    Electric Drills Electric Sorders
    Electric Shavers
    Hight duty type)
    Paint Spray
    Compressors, Small
    \begin{tabular}{lrcc} 
    MODELS & WATTS & LIST & DEALER NET \\
    \(6-81160(6\) volt \()\) & \(75-100\) & \(\$ 49.95\) & \(\$ 33.30\) \\
    \(12-81180(12\) volt \()\) & \(100-125\) & \(\$ 54.95\) & \(\$ 36.64\)
    \end{tabular}

    Hand Vacuum
    Cleaners
    Amplifiers
    Address Systems
    Radios
    Lights
    Test Equipment
    Heating Pads
    

    ATTS
    

    Trav=Electric "Senior" (Filtered)
    OPERATES:
    Electric Shavers
    Radios
    Test Equipment
    Electric Clocks
    Ete. ete.

    MODELS
    6-1160 (6 volt)
    12-1160 (12 volt)

    Lights
    \begin{tabular}{lll} 
    & Lights \\
    Phonographs \\
    Tuntables \\
    Dictałing Machines \\
    Ctsmall \\
    Etc. etc.
    \end{tabular}
    

    Trav=Electric "Junior" (Filtered)
    115 Cycles
    FOR RADIOS, LIGHTS AND TEST EQUIPMENT ONLY. (Not for opera. tion of Electric Shavers.) Available in-
    \begin{tabular}{lccc} 
    MODELS & WATTS & LIST & DEALER NET \\
    6-110 (6 vols) & 30.4 y & 312.95 & \(\$ 8.64\) \\
    \(12-110(12\) volt \()\) & 4050 & \(\$ 14.95\) & \(\$ 9.97\)
    \end{tabular}

    Trav=Electric "Master"
    (Filfered)

    \section*{OPERATES:}

    Radios
    Lights
    Phonographs
    Curling Irons
    Vibrators, Massage
    Electric Clock

    Electric Shavers
    Turntables
    Dictating Machines (Edison Dictating) Test Equipment Etc., etc.
    \begin{tabular}{lccc} 
    MODELS & WATTS & LIST & DEALER NET \\
    6.51160 ( 6 volt \()\) & 40.50 & \(\$ 27.50\) & \(\$ 18.33\) \\
    \(12-51160(12\) volt \()\) & 50.60 & \(\$ 32.50\) & \(\$ 21.67\)
    \end{tabular}
    
    

    Trav=Electric "Midget"
    (Not Filtered)

    OPERATES:
    Electric Shavers Some Test Equipment Electric Eauic-ert of designated Cow waraes
    \begin{tabular}{llcc} 
    MODELS & WATTS & LIST & DEALER NET \\
    \(6-11160(6\) vol \()\) & \(10-15\) & \(\$ 11.95\) & \(\$ 7.97\) \\
    \(\left.12-11160(12 \mathrm{vc})^{\circ}\right)\) & \(15-20\) & \(\$ 13.95\) & \(\$ 9.30\)
    \end{tabular}

    \section*{TERADO COMPANY}

    EXPORT SALES DIVISION - SCHEEL INTERNATIONAL, INC. 4237 N. Lincoln Ave., Chicago, Ill., U. S. A.

    In Canada Write: Allas Radio Corp., Ltd. 560 King St. West, Toronto 28 , Ont.

    \section*{SATCTMO GENERATORS，INC． \\ DYNAMOTORS CONVERTERS}
    ＂Sangamo Generators，Inc．，a subsidiary of Sangamo Electric Company， has purchased the assets and designs of Gothard Manufacturing Company． No changes have been made in Gothard designs．＇

    \section*{SANGAMO DYNAMOTORS}
    
    
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|c|}{} \\
    \hline Volts & 11m\％ \\
    \hline ड．．f & \(\because 4\) \\
    \hline T． 1 & \(2 ;\) \\
    \hline S．4 & 2！ \\
    \hline －． 1 & ：11 \\
    \hline ：\(\%\) & 8： \\
    \hline －． 6 & i1 \\
    \hline fi，\({ }^{\text {\％}}\) & （1） \\
    \hline
    \end{tabular}
    
    \(11: 114\)
    \(\vdots 11\)
    \(\vdots\)
    1111
    111.
    110
    115
    150
    
    
    gineers．
    
    
    
    
    
    

    \section*{SANGAMO AIRCRAFT DYNAMOTORS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Frame } \\
    & \text { siz. }
    \end{aligned}
    \]} & \multicolumn{2}{|c|}{} & \multicolumn{2}{|l|}{} & & & \\
    \hline & Vinlis & Amprs． & Vinlts & 11.1 & 1．4リビリ｜ & 11iam． & Wi．islit \\
    \hline DS 12 & 1 ？ & ？，i & ？ Cl & Hill & \(4 \%^{\prime \prime}\) & \(\because s!\) & \({ }^{1} 7^{\text {\％}}\)＂ \\
    \hline DS－17 & \(1 \stackrel{1}{2}\) & ：1．1； & －3\％ & ：111 & ［5） 1,14 & \(\cdots 3\) & 3\％＂ \\
    \hline SP－12 & 1 ＂ & 1.11 & －if1 & 1110 & ＂； & 310 & \(13_{1}^{\prime \prime}\) \\
    \hline SP－17 & \(1 \%\) & \(\therefore \because\) & 3110 & 1：3 & 1）14\％ & ：12＂ & \(\therefore \begin{gathered} \\ \square\end{gathered}\) \\
    \hline SP－22 & 12 & 13.1 & 1110 & 12． & －＂＇ & 31.0 & ＂1．．＂ \\
    \hline SF－20 & \(1:\) & － 1 & 1161 & 1．71 & 1：＂\％ & 4 ＂＇ & \(\cdots\) \\
    \hline SF－25 & 19 & 111. & S110 & 1 I＇11 & －1＇1＂ & 4＂ & \(4 \%\) \\
    \hline
    \end{tabular}
    
    
    
    

    MODEL＂GP－26＂DYNAMOTOR
    
    

    MODEL＂AK－15＂CONVERTER（With Filter）
    

    MODEL＂BK－35＂CONVERTER（Less Filter）

    \section*{SANGAMO ROTARY CONVERTERS}

    TYPE＂K＂ 3600 RPM Rated Output 115 V AC 60 cycles 1 phase 0.90 p．f．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{\[
    \begin{gathered}
    \text { Muflel } \\
    \mathrm{So} .
    \end{gathered}
    \]} & \multirow[b]{3}{*}{\[
    \begin{gathered}
    \text { Frame } \\
    \text { si\%e }
    \end{gathered}
    \]} & \multirow[b]{3}{*}{lnput lolis} & \multirow[b]{3}{*}{} & \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 11011 \cdot 11 \\
    & 1.1: 11 \\
    & 0.90114
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{} & \multicolumn{2}{|r|}{1．ist 1rriuts} \\
    \hline & & & & & witlt & 1，1\％s & witt & 1．1ss \\
    \hline & & & & & F゙ilt．0 & Filtur & Filtrr & rillas \\
    \hline 6 Kll & AK－15 & \({ }^{1}\) & 34 & 110 & 30 & \(\because \pm\) & \＄152．70 & \＄134．70 \\
    \hline 12 Kll & AK－15 & 13 & 1＊ & 1111 & 30 & \(\because 4\) & 152.70 & 134.70 \\
    \hline 12 Kl 6 & AK－25 & 12 & \(\because 4\) & 1 HO & 35 & \(2!\) & 165.20 & 146.15 \\
    \hline 12 K 30 & BK－22 & 1－3 & ：3！ & 38110 & 48 & 13 & 196.70 & 158.70 \\
    \hline 24 Kll & AK－15 & \(\because 1\) & ！ & 110 & 30 & \(\because 4\) & 152.70 & 134.70 \\
    \hline 24 K 30 & AK－25 & \(\because 1\) & 1！1．4 & ： 110 & 48 & 43 & 196.70 & 158.70 \\
    \hline 24 K 50 & BK－35 & \(\because \pm\) & 30.1 & F（1） & Fiei & 51 & 232.10 & 194.10 \\
    \hline 28 K 50 & BK－35 & \(\because\)－ & \(\because 2.49\) & ：000 & Fif & 5） 1 & 232.10 & 194.10 \\
    \hline 28 K 65 & CK－35 & 28 & 85.0 & 4.50 & \(7!\) & 71 & 333.60 & 284.30 \\
    \hline \(3 \mathrm{Kl1}\) & AK－15 & 3 3 & （1．） & 110 & ［30 & \(\because 4\) & 142.70 & 125.90 \\
    \hline 3K20 & AK－25 & 3 & 10.1 & 200 & 35 & \(\because!\) & 154.40 & 136.60 \\
    \hline 3K30 & BK－22 & 32 & 14.5 & 3010 & 4 s & 13 & 183.80 & 148.30 \\
    \hline 3 K 50 & BK－35 & 3 － & 29.0 & S00 & －if & \(\therefore 1\) & 216.90 & 181.40 \\
    \hline \(4 \mathrm{Kl1}\) & AK－15 & 48 & 4,4 & 110 & 311 & \(\because 4\) & 152.70 & 134.70 \\
    \hline 4 K 20 & AK－25 & 4＊ & 7.0 & 200 & 3.5 & \(\because 3\) & 165.20 & 146.15 \\
    \hline 4 K 30 & BK－22 & 48 & ！1．7 & 8110 & 45 & 4：3 & 196.70 & 158.70 \\
    \hline 4 K 50 & BK－35 & 18 & 1\％．2 & 500 & ： 4 & \(\therefore 1\) & 232.10 & 194.10 \\
    \hline \(4 K 75\) & CK－35 & 14 & 20.7 & 7.80 & \(7!\) & 74 & 333.60 & 284.30 \\
    \hline \(1 \mathrm{Kl1}\) & AK－15 & \(11 \%\) & 1.8 & 1111 & 301 & \(\because 4\) & 142.70 & 12590 \\
    \hline 1 K 20 & AK－25 & \(11 \%\) & 8.17 & 200 & 35 & 29 & 154.40 & 136.50 \\
    \hline 1 K 30 & BK－22 & 11： & 4.2 & 3001 & 48 & 43 & 183.80 & 14830 \\
    \hline 1 K 50 & BK－35 & 115 & （i．1） & ．610 & 5 i & 51 & 216.90 & 181.40 \\
    \hline 1K75 & CK－35 & \(11 \%\) & 4.4 & －501 & \(7:\) & 74 & 311.80 & 265.70 \\
    \hline 1 K 100 & CK－35 & 11. & 12.4 & 111181 & 79 & 74 & 374.40 & 326.10 \\
    \hline 1 K 125 & CK－45 & 11. & 15.4 & 12511 & 87 & so & 394.40 & 346.10 \\
    \hline 2K11 & AK－15 & \(\because: 36\) & ．！ & 1111 & 311 & \(\because 4\) & 146.95 & 129.65 \\
    \hline 2 K 20 & AK－25 & \(\because: 30\) & 1．7 & － 01 & 35 & \(\because 9\) & 159.05 & 14070 \\
    \hline 2K30 & BK－22 & 2311 & \(\because .1\) & 3011 & 48 & 43 & 189.30 & 152.75 \\
    \hline 2K50 & BK－35 & 230 & 3.3 & 500 & 56 & 51 & 223.40 & 18685 \\
    \hline 2 K 75 & CK－35 & －30 & 4.7 & 750 & 79 & 74 & 321.15 & 273.70 \\
    \hline 2K100 & CK－35 & 230 & 6.2 & 1000 & 79 & 74 & 385.60 & 335.90 \\
    \hline
    \end{tabular}
    luall buarimes and Filturs are stamlard on all models．［＂nless orlered whurwise
    
    
     on rerpuest．

    \section*{Aldiust-A-1olt V VARIABLE TRANSFORMER}

    LR/NA
    

    \title{
    VARIABLE ISOLATION ELECTROSTATICALLY SHIELDED METERED • CASED
    }
    

    LRL

    1500BD/1520BD
    

    PAL-7/MAL-7
    
    

    PA-3

    STANDARD ELECTRICAL PROD UCTS CO. • DAYTON, OHIO
    WRITE FOR COMPLETE 18 -PAGE ADJUST-A-VOLT CATALOG

    \title{
    STANCOR TRANSFORMERS
    }

    AND RELATED COMPONENTS

    \section*{TELEVISION COMPONENTS}

    Almost 200 TV replicemont transformers and related components, the mast complete lime in the industry, are available from Chicates standard. oransformers, as wetl as yokes, vertical outputs, widith and hitearity coils
    and many other popular TV replacement units
    Ask your distributor for a free eopy of the latest edtion of the stancor replacement data on thousands of television Guide listing these units and

    \section*{STANCOR ULTRA-LINEAR HIGH-FIDELITY AMPLIFIER}
    

    Now you can bulld an uiltra-Linear verston of the famous stancorWhllamson high tidelity amplifer, using stancor Ultra-Lincar Output Trunsformer a-s072. For complete construction detalls see Stancor bulle\(\operatorname{tin} 479\).
    The original Stancor-willtanson ampliter can be converted to UltraLinear operatlon by a few simple circult changes and the instalation of the A-8072. Converston instructions are included in Bulletin 479.

    Stancor supplies a set of two completely punched and finished chassls for the Eltra-i.fnear Ampliter; Chassis Sel wat-8. \(\$ 5.75\) net. In addition to Clitra-hinear Output Transformer A-80\%2. \(\$ 15.00\) net, this ampliter uses power transformer Pe:8412, 58.58 net and filter choke C-1411, \(\$ 4.29\) net. The other components used cowt about \(\$ 25.00\). They are all stock parts and can be readily obtatned from your stancor distributor.

    Write for your FREF cony of Bulletin 479.
    
    

    \section*{HIGH FIDELITY OUTPUT TRANSFORMERS}

    \section*{Befter than \(\pm 1 \mathrm{db}\) from 20 to 20,000 cps.}

    These stancor output transtormers combine the most advanced design and manufacturlng practlces to provide outstanding audio response at low cost. Dlaximum power level is conservatively rated at of watts. They are dralgned to match the most popular types of output tubes to speaker

    Fxtensively Interienved "terlfiar" windings extremely tight coupling and careful electrical balance result in audio fldelity to please the most critical
    specialist. Inasmuch as elaborate shiclding is not required at the audio speciaist, mation level, an inexpensive, but thoroughy practical, Type C mounting is used. shtpping welght is 6.5 fbs .
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Part } \\
    & \text { No. }
    \end{aligned}
    \] & Pri. In (My. (P-l) & \begin{tabular}{l}
    sec. Imp. \\
    (il) 1010
    \end{tabular} &  & \begin{tabular}{l}
    Audio \\
    Watts
    \end{tabular} & Helsht Owerall & \begin{tabular}{l}
    Base \\
    Area
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline A-8050 & 1500 & Q. Iti & 24111 & 50 & \(4^{3} .15^{\prime \prime}\) &  & \$20.45 \\
    \hline A-8051 & 2500 & 8. 16 & 1.11 & 50 & \(4{ }^{3} /{ }^{\text {c }}\) & \(3^{9} \cdot 6^{\prime \prime} \times 44^{\prime \prime}\) & 20.45 \\
    \hline A-8052 & 3000 & \(8.14 ;\) & \(1 \%\) & 50 & \(4^{5}{ }^{\text {c }}\) & 3'10" \(\times 41 / 6^{\prime \prime}\) & 20.45 \\
    \hline A-8053 & 5000 & 8.16 & 1511 & 50 & \(4{ }^{6 \prime}\) & 3'你 \(\times 4.15\) & 20.45 \\
    \hline A-8054 & 9100 & 8. 16 & 1iil) & 50 & \(4{ }^{4} .10\) &  & 20.45 \\
    \hline A-8156 & 6600 & 8.16 & \(12 i\) & 51) & \(4^{3} 16^{\prime \prime}\) &  & 20.45 \\
    \hline A-8060 & 1500 & 500 & :2111) & 50 & \(4^{5} \mathrm{n}^{\prime \prime}\) & 3 3, \(6^{\prime \prime} \times 434\) & 20.45 \\
    \hline A-8061 & 2500 & 500 & 130 & 50 & \(4^{8} 10^{\prime \prime}\) & \(3^{\prime \prime} 8^{\prime \prime} \times 41^{\prime \prime}\) & 20.45 \\
    \hline A.8562 & 3090 & 500 & 175 & 50 & \(4{ }^{5} \cdot{ }^{\prime \prime}\) & \(33^{60} \times 44^{\prime \prime}\) & 20.45 \\
    \hline A-8063 & 500) & 590 & 150) & 50 & \(4^{3} \cdot \mathrm{n}^{\prime \prime}\) & \(3^{\prime \prime} x^{\prime \prime} \times 44^{\prime \prime}\) & 20.45 \\
    \hline A-8064 & 9000 & 500 & 1101 & 50 & \(43 / 10^{\prime \prime}\) &  & 20.45 \\
    \hline A-8072t & 7600 & 4, 8, 16 & 100 & 25 & \(45.10^{\prime \prime}\) & \(39 / 66^{7} \times 41 / 429 \times 3 \% 10\) & 25.00 \\
    \hline A-8066 & 66010 & -7" & 125 & 50 & \(45,46^{\prime \prime}\) & \(3918{ }^{\prime \prime} \times 414^{\prime \prime} 28 / 4^{\prime \prime} \times 31 / 16^{7}\) & 20.45 \\
    \hline
    \end{tabular}
    *Where more than one sccondary impedance is shown, only one vaiue ts to be used at any time.
    tPrimary provided with seven taps for Ultra-Linear application.
    

    A
    

    C
    
    a
    
    

    KC
    

    F!
    

    FK

    \title{
    DRIVER TRANSFORMERS
    }

    \author{
    CHICAGO STANDARD TRANSFORMER CORPORATION
    }

    \section*{SINGLE PLATE TO PUSH-PULL GRIDS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Part No. & Pri. Impedance in \(\mathrm{OHms}^{\mathrm{M}}\) & \[
    \begin{aligned}
    & \text { Pri. } \frac{1}{2} \text { Soce } \\
    & \text { Ratio }
    \end{aligned}
    \] & Core & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { Pri. D.C. }
    \end{aligned}
    \] & Mtg. & Ifeight © verall & Base A rea & Shpg. Wt. in Lhs. & List l'rice \\
    \hline A-4713 & 10,000 & 2:1 & \(5 / 88^{\prime \prime} \times 5 /{ }^{\prime \prime}\) & 30 ma . & A & \(15{ }^{\prime \prime}\) & 2'*"×11/8" & 0.7 & \$3.00 \\
    \hline A-4752 & 10,000 & 2/1.5/1:1 & \(34^{\prime \prime} \times 3{ }^{\prime \prime}\) & 40 mia. & A & \(2^{\prime \prime}\) & \(83^{10}{ }^{\prime \prime} \times 13^{\prime \prime}\) & 1.2 & 4.40 \\
    \hline \(\ddagger\) A-4722 & 10,000 & 2:1 & \(3_{4} 4^{\prime \prime} \times 1{ }^{\prime \prime}\) & 30 ma . & 'I'I) & \(2^{11} \mathrm{~m}^{\prime \prime}\) & \(2^{3} 4_{4}^{\prime \prime} \times 2^{3 / 16}{ }^{\prime \prime}\) & 1.7 & 6.50 \\
    \hline A-4292 & 10,000 & 2.5:1 & \(8 / 8{ }^{\prime \prime} \times{ }^{\prime \prime} x^{\prime \prime}\) & 20 ma . & A & \(15 /{ }^{\prime \prime}\) & \(2^{\prime} \times^{\prime \prime} \times 11 / 2^{\prime \prime}\) & 0.7 & 3.15 \\
    \hline A-4723 & 10,000 & 3:1 & \(8 / 8^{\prime \prime} \times 5 / 3^{\prime \prime}\) & 30 ma . & A & 16/8" & 2\%") \(\times 11 / 2^{\prime \prime}\) & 0.7 & 3.00 \\
    \hline \(\ddagger\) A-4721 & 10,000 to 22,500 & 3/2:1 & \(3^{3} 4^{\prime \prime} \times 1^{\prime \prime}\) & 25 ma . & 'I'I' & \(2{ }^{11}\) tif \({ }^{\text {f/ }}\) & \(23_{3,4}{ }^{\prime \prime} \times 2^{3} 16^{\prime \prime}\) & 1.5 & 7.10 \\
    \hline A-4210 & 1,500 10, 5,000 & 3:1 & \(1^{\prime \prime} \times 1\) " & 40 mat & (' & \(3^{3}{ }^{3}{ }^{\prime \prime}\) & \(25 / 4{ }^{\prime \prime} \times 25 /{ }^{\prime \prime}\) & 2.4 & 7.45 \\
    \hline A-4702 & 1,500 to 5,000 & 5:1 & \(1^{\prime \prime} \times 1^{\prime \prime}\) & 80 ima. & ( \({ }^{\text {c }}\) & \(3{ }^{3} u^{\prime \prime}\) & \(25 \times 10{ }^{10} 8^{\prime \prime}\) & 2.5 & 7,35 \\
    \hline
    \end{tabular}

    \section*{PUSH-PULL PLATES TO PUSH-PULL GRIDS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Part } \\
    \text { No. }
    \end{gathered}
    \] & Pri. Imp. (P.P.) &  & Cors & \[
    \begin{gathered}
    \text { Miax. } \\
    \text { Pri. II.C. }
    \end{gathered}
    \] & Ntg . & Haght Osicrall & Base Area & Shpg. Wt. in Lbs. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline A-4208: & 20,000 to 330,000 & 2.8:1 & \(1^{\prime \prime} \times 1\) " & 15 ma & ( & \(3^{3}{ }_{11}{ }^{\prime \prime}\) & 29/8" \({ }^{\prime \prime}\) x 2 \%有" & 2.5 & 3.58 \\
    \hline A-4701 & 20,000 & 3:1 & \(1^{\prime \prime} \times 1^{\prime \prime}\) & \(2 \overline{5} \mathrm{ma}\). & \((\) & \(3^{3}{ }^{1 / 1}\) & \(25^{\prime \prime \prime} \times 2{ }^{\text {c }}\), \({ }^{\prime \prime}\) & 2.7 & 9.60 \\
    \hline A-4212 & 1,500) 10 5,000 & 3.2:1 & \(1^{\prime \prime} \times 1^{\prime \prime}\) & 50 ma . & (' & \(3{ }^{3}{ }^{\prime \prime}\) & \(25 . x^{11} \times 2{ }^{5} \mathrm{~s}^{\prime \prime}\) & 3.- & 7.80 \\
    \hline A-4416 & 3,000 to 10,000 & 5:1 & \(1^{\prime \prime} \times 1^{\prime \prime}\) & 10 ma . & ( & \(3{ }^{3} \mathrm{mi}\) & \(254^{\prime \prime} \times 25{ }^{\prime \prime}\) & 2.8 & 8.70 \\
    \hline A-4703/ & 3,000 t1) 10,000 & 5:1 & \(11 / x^{\prime \prime} \times 114^{\prime \prime}\) & 9.5 ma. & C & \(3{ }^{5}{ }^{\prime \prime}\) & \(33^{\prime \prime} \times 3!{ }^{\prime \prime}\) & 3.7 & 9.50 \\
    \hline
    \end{tabular}

    POLY-PEDANCE DRIVER MULTI-TAPPED UNITS FOR USE IN CIRCUITS WHERE THE OPTIMUM RATIO CANNOT BE PREDETERMINED.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{4}{|l|}{Driver eireuit changes often require new transformers. Many times it is impossible to mateh correctly tubers involved with a specific transformer, with high distortion resulting. ['aly-l'idonee units solve that} & \multicolumn{5}{|l|}{problem: three transformers with the maximum number of usable ratios will mateh the driver tubes to any ("lass B modulator grid cheuit without exereding the powir capabilities of the driver tubes.} \\
    \hline \[
    \begin{aligned}
    & \text { Yart } \\
    & \text { No. }
    \end{aligned}
    \] & Application and Katio P'ri./'2 Sec. & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { I). }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Wudio } \\
    & \text { Watts }
    \end{aligned}
    \] & Mig. & \[
    \begin{aligned}
    & \text { Height } \\
    & \text { Wserabll }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Rase } \\
    & \text { Aro:a }
    \end{aligned}
    \] & Shug. We. in L.bs, & \[
    \begin{aligned}
    & \text { List } \\
    & \text { l'rice }
    \end{aligned}
    \] \\
    \hline A-4761 & \[
    \begin{aligned}
    & \text { Iriver to Class "B" (irids } \\
    & \text { 1.25:1/1.4:1/1.6:1/1.8:1/ } \\
    & 2: 1 / 2.2: 1 / 2.4: 1
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { I'ri- } 150 \mathrm{mat} \\
    & \text { Seec-100 mal. }
    \end{aligned}
    \] & 15 & (1) & :3 \({ }_{\text {an }}\) & \(22^{\prime \prime} \times 3{ }^{\prime \prime} 8^{\prime \prime}\) & 3.4 & \$16.65 \\
    \hline A-4762 & \[
    \begin{aligned}
    & \text { Driver to ("lass "B" (irids } \\
    & 2.6: 1 / 3: 1 / 3.2: 1 / 3.4: 1 / \\
    & 4: 1 / 4.5: 1 / 5: 1
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \mathrm{I}^{\prime} \mathrm{ri}-150 \mathrm{man} \\
    & \text { Sere-180 ma. }
    \end{aligned}
    \] & 15 & ('I) & \(33^{\prime \prime}{ }^{\prime \prime}\) & \(23^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 2.7 & 15.70 \\
    \hline A-4763 & \[
    \begin{aligned}
    & \text { Driver to Chass "B" (irids } \\
    & 1.25: 1 / 1.5: 1 / 1.75: 1 / 2: 1 \\
    & 2.25: 1 / 3.2: 1
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { I'ri-225 ma. } \\
    & \text { Sic-280 ma. }
    \end{aligned}
    \] & 33 & (1) & 35\%" & \(3^{\prime \prime} \times 4^{\prime \prime}\) & 4.3 & 13.45 \\
    \hline
    \end{tabular}

    POLY-PEDANCE LINE DRIVER MULTI-TAPPED UNIT TO MATCH ALL COMMON LINE IMPEDANCES TO GRID CIRCUIT OF MODULATOR OR CLASS "B" AMPLIFIER.
    "wigned with pie wound coila to assure low leakage inductance, low mon line imperdances to any modulator grid circuit. Individuatly boxed diatanco and low capacity, these two units will easily match all com- with complete instructions.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { l'art } \\
    & \text { No. }
    \end{aligned}
    \] & Apphication and IRatio Pri./ '., Sere. & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { D.C. }
    \end{aligned}
    \] & Audio, Wiats & Mtg. & Height ()verall & \[
    \begin{aligned}
    & \text { Basc } \\
    & .1 \text { rea }
    \end{aligned}
    \] & Nhyg. W't. in lhe. & List 'rior \\
    \hline A-4765 & Iine to (irid
    \(1: 0.75 / 1: 0.85 / 1: 1 / 1: 1.25\)
    \(1: 1.45 / 1: 1.75 / 1: 2 / 1: 2.25\)
    \(1: 2,5 / 1: 3.75\)
    \(l\) & \[
    \begin{aligned}
    & \text { l'ri- } 180 \mathrm{mat} \\
    & \text { sue- } 100 \mathrm{ma} .
    \end{aligned}
    \] & 1.5 & ( 11 & \(83^{3} 10\) & \(2 \% 8^{\prime \prime} \times 3 \%{ }^{\prime \prime}\) & 3.3 & 517.25 \\
    \hline
    \end{tabular}

    \section*{AUDIO CHOKES}
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { l'art } \\
    \text { No. }
    \end{gathered}
    \] & \begin{tabular}{l}
    Ratam! \\
    Inductancer
    \end{tabular} & \[
    \begin{aligned}
    & \text { Max } \\
    & \text { IB. }
    \end{aligned}
    \] & 1). (', Res. in Ohms & \[
    \begin{aligned}
    & \text { Teest } \\
    & \text { Volts }
    \end{aligned}
    \] & Core & Mr. & \[
    \begin{aligned}
    & \text { Height } \\
    & \text { Wworat! }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { lhase } \\
    & \text { Mrea }
    \end{aligned}
    \] & shing. IV't. in 1 d.bs. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline C-1003 & 16 hy at inl ma. & ,it ma. & :80 & 1:00 & \(\therefore 4^{\prime \prime} \times{ }^{3}{ }^{\prime \prime}\) & . 1 & 2" &  & 1.1 & 2.45 \\
    \hline C-2301 & 13.0 hy at is mat. & 111 ma . & 65150 & 150 & \(31^{\prime \prime} \times 1\) " & 11) & \(2 \square^{14}\) & \(\cdots 3^{\prime \prime} \times 2^{3} 1^{\prime \prime}\) & 1.7 & 6.35 \\
    \hline
    \end{tabular}
    "lhese units have split secomdarits for individual bias adjustment and/or use of invorse feedback.
    \$To be removed from next catalog.
    
    A
    
    B
    
    

    CHICAGO STANDARD TRANSFORMER CORPORATION
    MICROPHONE OR LINE TO LINE
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Part } \\
    & \text { No. }
    \end{aligned}
    \] & \begin{tabular}{l}
    Impedance \\
    In Ohms
    \end{tabular} & Mtg. & Height Overall & \[
    \begin{aligned}
    & \hline \text { Base } \\
    & \text { Area }
    \end{aligned}
    \] & Shpt. Wt. In Lbs. & \(\underset{\text { List }}{\text { Lrice }}\) \\
    \hline A-4350 & Pri- \(-500 / 333 / 200 / 125 / 50\)
    Sec- \(500 / 333 / 200 / 125 / 50\) & Q & \(2^{\prime \prime}\) & \(31 / 4^{\prime \prime} \times 19 / 4^{\prime \prime}\) & 1.0 & \$6.50 \\
    \hline A-4407 \({ }^{\text {¢ }}\) & \[
    \begin{array}{r}
    \mathrm{Pr}-500 / 333 / 200 / 125 / 50 \\
    \mathrm{Ser}-500 / 333 / 200 / 125 / 50 \\
    \hline
    \end{array}
    \] & D & \(3{ }^{3 / 16^{\prime \prime}}\) & \(25 / 8^{\prime \prime} \times 314^{\prime \prime}\) & 2.4 & 13.10 \\
    \hline
    \end{tabular}

    MICROPHONE PICKUP OR LINE TO GRID
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \hline \text { Part } \\
    \text { No. }
    \end{gathered}
    \] & Application & Impedance in Ohms & Turns & Mtg. & \[
    \begin{aligned}
    & \text { Height } \\
    & \text { Overall }
    \end{aligned}
    \] & Base
    Area & Shpg. Wt in L.bs. & \[
    \begin{aligned}
    & \text { Jist } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline A-4705 & S. B. Mic. to S. Grid & \[
    \begin{aligned}
    & \text { Mri-200/70 } \\
    & \text { Sec- } 80,000 \\
    & \hline
    \end{aligned}
    \] & 1:20 & A & \(13 /{ }^{\prime \prime}\) & \(23 / 87 \times 18 / 8^{\prime \prime}\) & " 0.4 & \(\mathbf{5 3 . 2 0}\) \\
    \hline A-4706 & S. B. Mic. to S. Grid & \[
    \begin{aligned}
    & \text { Pri- } 100 \\
    & \text { Sec } 60,000 \\
    & \hline
    \end{aligned}
    \] & 1:24.5 & A & \(19 / 8{ }^{\prime \prime}\) & \(23 / 88^{\prime \prime} \times 11 / 2^{\prime \prime}\) & " 0.5 & 3.25 \\
    \hline A-4708 & D. B. Mic. to S. Grid & \[
    \begin{aligned}
    & \text { I'ri-200 CT } \\
    & \text { Sec }-57.000
    \end{aligned}
    \] & 1:17 & J & \(2^{\prime \prime}\) & \(28 / 8^{\prime \prime} \times 15 / 8^{\prime \prime}\) & " 0.7 & 4.40 \\
    \hline A-4742 & S. B. Mic. to P.P. Grids & \[
    \begin{aligned}
    & \text { Pri- } 100 \\
    & \text { Sec- } 400,000 \text { CT } \\
    & \hline
    \end{aligned}
    \] & 1:64 & S & 25 ¢6" & \(27 / 8^{\prime \prime} \times 13 / 4^{\prime \prime}\) & " 1.2 & 4.70 \\
    \hline A-4743 & S. B. Mic. to P.P. Grids & \[
    \begin{aligned}
    & \text { Pri- } 100 \\
    & \text { See }-400,000 \text { CT } \\
    & \hline
    \end{aligned}
    \] & 1:64 & VE & \(2{ }^{3} / 16^{\prime \prime}\) & \(27 / 8^{11} \times 21 / 8^{\prime \prime}\) & " 1.2 & 6.45 \\
    \hline *A-4747 & S. B. Mic. or Low Imp. Line to S. Grid & \[
    \begin{aligned}
    & \text { Pri- } 10 \\
    & \text { Sec- } 1,300,000 \\
    & \hline
    \end{aligned}
    \] & 1:137 & VE & \(17 / 16^{\prime \prime}\) & \(15 / 16^{\prime \prime} \times 11 / 4^{\prime \prime}\) & " \(11 / 2^{\prime \prime} 0.5\) & 3.60 \\
    \hline A-4351* & Mic. or Line to S. Grid & \[
    \begin{aligned}
    & \text { Pri- } 500 / 333 / 200 / 125 / 50 \\
    & \text { Sec- } 89,000
    \end{aligned}
    \] & 1:13.3 & TD & \(2116{ }^{\prime \prime}\) & \(234^{\prime \prime \prime} \times 23.10^{\prime \prime}\) & " 1.4 & 6.95 \\
    \hline A-4352\# & Mic. or Line to S. Grid & \[
    \begin{aligned}
    & \text { 'ri- } 500 / 333 / 200 / 125 / 50 \\
    & \text { Sec }-89,000
    \end{aligned}
    \] & 1:13.3 & Q & \(2^{\prime \prime}\) & 31/4" \(\times 13 / 4^{\prime \prime}\) & " 1.0 & 6.05 \\
    \hline +A-4726 & Line and High Imp. to P.P. Grids & \[
    \begin{aligned}
    & \text { Pri- } 200 \mathrm{CT} / 50 \text { and } 2,500 \\
    & \text { Sec- } 100,000
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 22.4 \\
    & 1: 6.3
    \end{aligned}
    \] & TD & \(21166^{\prime \prime}\) & \(23 / 4{ }^{\prime \prime} \times 23 / 16^{4}\) & " 1.4 & 8.05 \\
    \hline A-4709 & Dynamic Mic. or Pickup to S. Grid & \[
    \begin{aligned}
    & \text { Pri- } 30 / 15 / 8 / 4 \\
    & \text { Sec } 106,000
    \end{aligned}
    \] & 1:60 & TD & \(2^{11} 16{ }^{\prime \prime}\) & \(23 / 4^{\prime \prime} \times 23 / 6^{17}\) & " 1.7 & 7.80 \\
    \hline
    \end{tabular}

    \section*{INTERCOMMUNICATOR AND TRANSCEIVER}
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline A-52-C & 1:2 & \(1 / 2^{\prime \prime} \times 1 / 2^{\prime \prime}\) & 10 ma . & A & \(18 /{ }^{\prime \prime}\) & \(23 / 8^{11} \times 18 / /^{\prime \prime}\) & 0.4 & 52.75 \\
    \hline A-62-C & 1:2 & \(5 / 8^{\prime \prime} \times 5 / 8^{\prime \prime}\) & 10 ma . & A & \(13 /{ }^{\prime \prime}\) & \(27 / 8^{\prime \prime} \times 11 / 2^{\prime \prime}\) & 0.7 & 3.10 \\
    \hline A-4745 & 1:2 & \(34^{\prime \prime} \times 1^{\prime \prime}\) & 10 ma . & TD & \(2^{11} 16^{\prime \prime}\) &  & 1.7 & 8.50 \\
    \hline \multicolumn{9}{|l|}{Recommended for use in super-regenerative circuits. Has a static shield between pri. and see. windings.} \\
    \hline A-53-C & 1:3 & \(12^{\prime \prime} \times 1 / 2^{\prime \prime}\) & 10 ma . & A & \(13 /{ }^{\prime \prime}\) & \(28 / 8^{\prime \prime} \times 18 /{ }^{\prime \prime}\) & 0.5 & 2.70 \\
    \hline A-63-C & 1:3 & \(5 / 8{ }^{\prime \prime} \times 5 / 81\) & 10 ma . & A & 13/8" & \(278{ }^{\prime \prime} \times 11 / 2^{\prime \prime}\) & 0.7 & 3.05 \\
    \hline A-73-C & 1:3 & \(8 / 4{ }^{\prime \prime} \times 8 / 4^{\prime \prime}\) & 10 ma . & A & \(2^{\prime \prime}\) & \(31 / 4^{\prime \prime} \times 18 /{ }^{\prime \prime}\) & 1.0 & 3.80 \\
    \hline A-4719 & 1:3 & \(3^{3 / 14^{\prime \prime} \times 1 "}\) & 10 ma . & TD & \(211 / 11^{17}\) & \(284^{\prime \prime} \times 2^{5} /\) /6 \(^{\prime \prime}\) & 1.7 & 7.45 \\
    \hline \(\ddagger\) A-103-C & 1:3 & \(1^{\prime \prime} \times 1^{\prime \prime}\) & 10 ma . & A & 23/8" & \(4^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 2.2 & 7.55 \\
    \hline A-64-C & 1:4 &  & 10 ma . & A & \(2^{\prime \prime}\) & 28/7" \(\times 18 / 4^{\prime \prime}\) & 0.7 & 3.65 \\
    \hline A-42068 & 1:3.25 & \(1^{\prime \prime} \times 1^{\prime \prime}\) & 15 ma . & C & 31/8\% & \(25 / 8^{\prime \prime} \times 25 / 8^{\prime \prime}\) & 2.5 & 9.85 \\
    \hline
    \end{tabular}

    MULTI-PURPOSE INTERSTAGE—SPLIT SECONDARIES May be used as a single plate to single grid, single plate to pushpull grid, or push-pull plate to push-pull grid interstate transformers. Overall ratios are \(3: 1\), however, primaries are center-tapped and secondaries pull grid, or push-pull plate to push-pull grid interstate transformers.
    
    \({ }^{7}\) Has a dual primary-when properly connectod the 500 and 200 ohm sections are center tapped. §Has split secondary.
    \(\dagger\) Has a static shield between primary and serendary windings. \(\quad \ddagger\) Designates part numbers to be removed from next catalog.
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    \section*{CHICAGO STANDARD TRANSFORMER CORPORATION}

    \section*{single plate to voice coil}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Yart } \\
    & \text { No. }
    \end{aligned}
    \] & Application & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { Pri. } \\
    & \text { D. } .
    \end{aligned}
    \] & Typical Output Tubes & Class & Audio Wats & \Itg. & Height Overa!! & Base Area & shpg. Wt. in Itbs. & List Price \\
    \hline + A - 3865 & 1,500 ohms to 6/4/2 ohms & 55 ma. & 48. 25B6, 25L6, 501.6 & A & \% & A & \(13 / 4\) & \(2 \frac{3}{4 \prime} \times 18 / 8{ }^{\prime \prime}\) & 0.4 & \$3.30 \\
    \hline A-3332 & 2,000 ohms to 3.2 ohms & 50 ma . & \[
    \begin{aligned}
    & 25 B 5,25 B 6,25 L 6, \\
    & 35.15,35 L, 5,50 L 6
    \end{aligned}
    \] & A & 3 & . 1 & \(1^{3} 16^{\prime \prime}\) & \(21 / 8^{\prime \prime} \times 1^{\prime \prime}\) & 0.4 & 1.60 \\
    \hline A-3876 & 2,000 thms to 4 ohms & 60 ma. & \(2.43,6.43,6 \mathrm{B4}, 6 \mathrm{~W} 6,6 \mathrm{Y} 6\), \(25 \mathrm{AC5}, 25 \mathrm{B5}, 25 \mathrm{~B} 6,25 \mathrm{~L} 6\), 35.45, 35L.6, 50L6 & A & . & A & \(13 / 8{ }^{\prime \prime}\) & \(23 / 81 \times 138^{\prime \prime}\) & 0.4 & 1.90 \\
    \hline A-3328 & 4,000 ohms to 3.5 ohms & 10 ma , & 1S4. 3S4 & . 1 & 3 & A & \(1^{3} 16^{\prime \prime}\) & \(21 / 8^{\prime \prime} \times 1^{\prime \prime}\) & 0.4 & 2.05 \\
    \hline A-2203 & 4,000 ohms to 8 ohms & 40 ma . & 43, 45, 48. 12A5. 25,16 & A & 5 & A & \(15 / 8^{\prime \prime}\) & \(21 / 8^{\prime \prime} \times 15 / 8^{\prime \prime}\) & 0.7 & 3.70 \\
    \hline A-3877 & 5.000 ohms to 4 ohms & 40 ma . & \(43,59,6 \mathrm{~V} 6.7 \mathrm{7}, 25.25\) & . 1 & 5 & A & 13/" & \(23 / 3^{\prime \prime} \times 13 /{ }^{\prime \prime}\) & 0.4 & 2.00 \\
    \hline A-3310 & 5,000 ohms to \(500 / 15 / 8 / 4\) ohms & 55 ma . & 45. 6L6, 6V6, 25.16, \(25 . \mathrm{A7}\) & A & 20 & ( & \(3^{3} \mathrm{max}^{\prime \prime}\) & \(25 / 8{ }^{\prime \prime} \times 25 / 8^{\prime \prime}\) & 2.5 & 8.05 \\
    \hline A-3878 & 7,000 ohms to 4 ohms & 30 ma . & \[
    20,31,33,42,2,45,6 \mathrm{AC5}
    \]
    \[
    6 \mathrm{H5}, 6 \mathrm{~F} 6.6 \mathrm{~K} 6.6 \mathrm{~N} 6,7 \mathrm{~B}
    \] & A & 5 & A & \(13 / 4{ }^{\prime \prime}\) & \(23 / 8^{\prime \prime} \times 13 / 8{ }^{\prime \prime}\) & 0.4 & 1.95 \\
    \hline A-2313 & 7,000 ohms to 8 ohms & 40 ma . & \[
    \begin{aligned}
    & 33,41,42,47,59,89,2 A 5 \\
    & 6 A C 5,6 \text { F }^{6}, 6 \mathrm{~K} 6,6 \pm 6, \text { тB5 }
    \end{aligned}
    \] & A & 10 & A & \(2^{\prime \prime}\) & \(31 / 4^{\prime \prime} \times 1 / 4^{\prime \prime}\) & 1.0 & 3.40 \\
    \hline A-8114 & 7,600 ohms to 3.2 ohms & 32 ma & \[
    33,41,42,47,59,89,2,15
    \]
    \[
    6 A C 5,6 F 6,6 \mathrm{~K} 6,6 \mathrm{~N} 6,7 \mathrm{B5}
    \] & A & 5 & A & \(1 \% / 8{ }^{\prime \prime}\) & \(23^{\prime \prime} \times 15 / 8^{\prime \prime}\) & 0.4 & 2.65 \\
    \hline A-3329 & 8,000 ohms to 3.5 ohms & 10 ma . & \[
    \begin{aligned}
    & \text { 1C5-GT, 1G5-G, } \\
    & \text { 1Q5-GT/G, 1S4, } 3 S 4
    \end{aligned}
    \] & A & 3 & A & \(13^{3} 16^{\prime \prime}\) & \(21 / 8^{\prime \prime} \times 1^{\prime \prime}\) & 0.4 & 1.90 \\
    \hline A-3879 & 10,000 ohms to 40 hms & 30 ma . & 1J6, 3C5, 6A4, 6Gi6, 6N7 & 1 & 5 & A & \(13 /{ }^{\prime \prime}\) & \(23 / 4^{\prime \prime} \times 13 /{ }^{\prime \prime}\) & 0.4 & 1.90 \\
    \hline A-3881 & 15.000 ohms to 4 ohms & 10 ma . & \[
    \begin{aligned}
    & \text { 1D8, 1E7, 1F4, 1F5, 1J5, } \\
    & \text { 1Tō, 6V7, 6Y7, 12.17 }
    \end{aligned}
    \] & A & - & A & \(13 / 4\) & \(23^{\prime \prime} \times 1 \frac{3}{*}{ }^{\prime \prime}\) & 0.4 & 2.15 \\
    \hline A-3327 & 25,000 ohms to 4 ohms & 5 ma . & \[
    \begin{aligned}
    & \text { 1A5, } 1 \text { D8-GT, 1F4, } 1 \text { F5-G. } \\
    & 1 \mathrm{~L}_{4}, 1 \mathrm{LB} 4 . \text { iN6-G: }
    \end{aligned}
    \] & A & 5 & \(A\) & \(13{ }^{\prime \prime}\) & \(23^{\prime \prime} \times 14{ }^{\text {a }}\) ( & 0.4 & 2.45 \\
    \hline
    \end{tabular}

    PUSH-PULL PLATES TO VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \(\pm\) + \({ }_{\text {- }}\) (306 & P. P' P'ar. 2,500 ohms to \(500 / 15 / 8 / 4\) ohms & 100 ma . & 45, 48, 2A3, 25.6 & A \({ }^{\text {3 }}\) & 25 & C & 35/8" & \(3^{\prime \prime}\) & \(\times 31 / 8{ }^{\prime \prime}\) & 3.8 & \$10.95 \\
    \hline +A-3301 & 3,000 ohms to \(500 / 15 / 8 / 4\) ohms & \(5 \overline{5} \mathrm{ma}\). & 48, 2A3, 6A3, 6B4, 25L6 & AB & 30 & C & 35/8" & \(3{ }^{\prime \prime}\) & \(\times 31 / 8{ }^{\prime \prime}\) & 3.7 & 10.20 \\
    \hline A-3802 & \(3,800 / 3,300\) to \(500 / 250 / 8 / 4\) ohms & 250 ma . & 45, 6L6, P'ar. 6L6 & AB2, AB1 & 75 & C & 43/4" & 4" & \(\times 37 / 8\) & 7.9 & 14.25 \\
    \hline A-5528 & 4,000 ohms to \(500 / 15 / 8 / 4\) ohms & 65 ma . & 6 Y 6, 25 LC & AB & 8 & C & \(3{ }^{3} 15^{\prime \prime}\) & 25/8" & x \(21 / 4^{\prime \prime}\) & 1.9 & 8.00 \\
    \hline A-3851\% & 4,400 ohms to \(500 / 250 / 15 / 8 / 4\) ohms & 70 ma . & 6 L6 & AB1 & 30 & C & 35/8" & \(3^{\prime \prime}\) & \(\times 31 /{ }^{\prime \prime}\) & 3.6 & 10.80 \\
    \hline A-3872 & 5,000 ohms to \(15 / 8 / 4\) ohms & 75 ma . & 45. 2, \({ }^{\text {a }}\) 6.13. 6L6 & AB & 18 & TD & \(2^{11} 116^{\prime \prime}\) & 23/4" & \(\times 2^{3}\) /18 \(^{1 /}\) & 1.7 & 7.00 \\
    \hline A.3800 & 5,000 ohms to \(500 / 250 / 15 / 8 / 4\) ohms & 80 ma . & 45, 2A3, 6:33, 6L6 & AB & 30 & C & 35/8" & 3 " & \(\times 33 / 8{ }^{\prime \prime}\) & 3.7 & 8.70 \\
    \hline A-3307 & \(6,000 \mathrm{ohms}\) to \(500 / 15 / 8 / 4\) ohms & 100 ma . & 46, 59, 42, 21 \(\overline{\text { v. }} 6 \mathrm{FF} 6\), Par. 53. \(6.16,6 \mathrm{~N} 7\) & \[
    \begin{gathered}
    \mathrm{B} \\
    .132
    \end{gathered}
    \] & 30 & C & \(35 / 8\) & \(3^{\prime \prime}\) & \(\times 31 / 8{ }^{\prime \prime}\) & 3.5 & 11.30 \\
    \hline A-3801 & 6,600 ohms to 500/250/15/8/4 ohms & 150 ma . & 61.6 & AB1 & 35 & C & 4" & \(31 / 4{ }^{\prime \prime}\) & x 3 3/4" & 5.8 & 10.45 \\
    \hline A-3885 & 9,000 ohms to \(500 / 250 / 15 / 8 / 4\) ohms & 150 ma. & 61.6 & AB1 & 35 & C & 4" & \(31 / 4^{\prime \prime}\) & x \(33 / 4 /\) & 4.5 & 12.70 \\
    \hline A-3304 & \(10,000 / 7,000\) ohms to \(500 / 15 / 8 / 4\)
    ohms & \[
    60 \mathrm{ma} .
    \] & \(45,66^{\circ} 6,6.1(\%)\) & A! & 25 & C & 33,18" & \(25 / 8^{\prime \prime}\) & \(\times 25 / 8{ }^{\prime \prime}\) & 2.7 & 9.65 \\
    \hline A-3311 & 10.000 ohms to \(500 / 15 / 8 / 4\) ohms & 70 ma. & 6F6. 6V6. 6.1(\%) & AIt & 25 & C & \(35 / 8{ }^{\prime \prime}\) & \(3^{\prime \prime}\) & x \(31 /{ }^{\prime \prime}\) & 3.5 & 9.10 \\
    \hline A-3831 & 10,000 ohms to \(8 / 4 / 2 \mathrm{ohms}\) & 40 ma . & 30, 49 & A \({ }^{\text {d }}\) & 5 & A & 15/8" & \(2^{\prime \prime}\) & x 1 /1/ \({ }^{\prime \prime}\) & 0.7 & 3.35 \\
    \hline A-3335 & 10,000 ohms to 6-8/3.2-4 ohms & 40 mat . & 10 & S & 23/16" & \(2^{13} / 16^{\prime \prime}\) & \(\times 13 /{ }^{\prime \prime}\) & 23/8" & & 1.0 & 4.40 \\
    \hline A-2312 & 14,000 ohms to 4 ohms & 40 ma . & \[
    33,41,42,17,44,2.45,
    \] 6F6, 6K6. 7В 5 & . 113 & 10 & A & \(2^{\prime \prime}\) & 31/4" & x 13/4* & 1.0 & 3.50 \\
    \hline A-3496 & 14,000 ohms to 4 ohms & 25 ma . & \[
    \begin{aligned}
    & 33,41,42, \frac{47,49,2 \mathrm{~A} .}{6 \mathrm{~F}^{\prime} 6,6 \mathrm{~K}, 7 \mathrm{~B}} .
    \end{aligned}
    \] & AB & 5 & A & 13/8" & \(23 / 8^{\prime \prime}\) & x 1 \%/8 \({ }^{\prime \prime}\) & 0.4 & 3.20 \\
    \hline A-3303 & 14,000 ohms to \(500 / 15 / 8 / 4\) ohms & 55 ma . & \[
    \begin{aligned}
    & 41,42,47,59,89,245 . \\
    & 6{ }^{\circ} 6,6 \mathrm{~K} 6,7 B 5
    \end{aligned}
    \] & AB & 20 & C & \(3^{3} 16{ }^{\prime \prime}\) & \(25 / 8{ }^{\prime \prime}\) & x \(25 / 8{ }^{\prime \prime}\) & 2.7 & 9.80 \\
    \hline A-3857 & 25,000 ohms to 4 ohms & 10 ma . & \[
    \begin{aligned}
    & 1 \mathrm{~F}, 1 \mathrm{~F}, 1 \mathrm{~J}, 1 \mathrm{~T}, 6 \mathrm{G} 6 \\
    & 12 \mathrm{~A}, 950
    \end{aligned}
    \] & A & 5 & A & 1/8" & 23/8" & 1\%/4" & 0.4 & 2.55 \\
    \hline
    \end{tabular}

    HUM-REDUCING TRANSFORMERS, Single Plate to Voice Coil
    \begin{tabular}{ccc}
    \(\mathbf{A - 3 3 3 0}\) & \(\dagger 2,000\) ohms to 3.5 ohms & 60 ma.
    \end{tabular}

    \section*{CRYSTAL RECORDER OUTPUT}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { t'art } \\
    & \text { N } r \text { t }
    \end{aligned}
    \] & Application & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { Pri. D. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Mudio } \\
    & \text { Watts }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Core } \\
    & \text { Size }
    \end{aligned}
    \] & MItg. & \begin{tabular}{l}
    Height
    Overall \\
    Overa
    \end{tabular} & \[
    \begin{aligned}
    & \text { Base } \\
    & \text { Area }
    \end{aligned}
    \] & Shpg. Wt in Lbs. & \[
    \begin{aligned}
    & \hline \text { List } \\
    & \text { P'rice }
    \end{aligned}
    \] \\
    \hline A-3853 & Single 7.000 ohm plate to 70.000 ohm crystal cutter (OR 4 ohm voice coi! & 35 ma . & ; &  & . & \(2^{\prime \prime}\) & \(31 / 4{ }^{\prime \prime} \times 13 / 4{ }^{\prime \prime}\) & 1.0 & \$5.95 \\
    \hline A-3854 & Single 7,000 ohm plate to \(70,000 \mathrm{ohm}\) crystal cutter AND 4 ohm voice coil & 35 ma . & 10 & \(\because "\) x ", & A & 21/4" & \(3 / 4^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 1.5 & 6.60 \\
    \hline A-3859 & Push-pull \(\mathbf{1 0 , 0 0 0} \mathrm{ohm}\) plates to \(70,000 \mathrm{ohm}\) crystal cutter OR \& ohm voice coil & 30 ma. ea. \({ }^{1}\) & 5 & \(3_{4}^{\prime \prime} \times 3{ }^{\prime \prime}\) & A & \(2^{\prime \prime}\) & \(31 / 4^{\prime \prime} \times 134^{\prime \prime}\) & 1.0 & 6.40 \\
    \hline A-3860 & Push-pull 10,000 ohm plates to 70,000
    ohm ervatal cutter \(A N D 4\) ohm voice coil & 3.5 ma. ea. \({ }^{1}\) & 10 & 7/8" \(\times 1 / 8^{\prime \prime}\) & A & \(21 / 4^{\prime \prime}\) & \(33 / 4{ }^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 1.5 & 7.20 \\
    \hline
    \end{tabular}

    \footnotetext{
    + 1 dis rapped primary for use in hum-reducing circuit. SThis unit has a tertiary winding to provide \(10 \%\) inverse feedback
    }
    
    CD
    
    
    
    0
    
    s
    
    TO
    
    Wi-2

    \title{
    OUTPUT TRANSFORMERS
    }

    CHICAGO STANDARD TRANSFORMER CORPORATION
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{9}{|l|}{UNIMERSAL OUTPUT} \\
    \hline Part No. & Application & Max.
    Pri. D.C. & Audio Watts & Mtg. & Height Overall & Base Area & Shpg. Wt. in Lbs. & List Price \\
    \hline A-3856 & Single or Push-pull plates ( 4,000 to \(14,000 \mathrm{ohms}\) ) to voice coil & 35 ma . & 4 & Q & \(18 / 8{ }^{\prime \prime}\) & \(28 / 8^{\prime \prime} \times 18 /{ }^{\prime \prime}\) & 0.4 & \$2.90 \\
    \hline A-3822 & Single plate ( 7,000 to \(10,000 \mathrm{ohms}\) ) to voice coil & 35 ma . & 4 & Q & 18/8" & \(28^{\prime \prime} \times 18 / 8^{\prime \prime}\) & 0.4 & 2.75 \\
    \hline A-38488 & Single plate (7,000 to 16,000 ohms) to voice coil & 10 ma . & 5 & Q & \(18 /{ }^{\prime \prime}\) & \(2 \frac{3}{8 / 8} \times 1 \frac{8}{}{ }^{\prime \prime}\) & 0.4 & 3.90 \\
    \hline A-3823 & Single or Push-pull plates (4,000 to 14,000 ohms) to voice coil & 40 ma . & 8 & Q & \(15 / 8{ }^{\prime \prime}\) & \(28 / 8^{\prime \prime} \times 1 \frac{1}{2 \prime} 2^{\prime \prime}\) & 0.7 & 3.10 \\
    \hline A-3850 & Single or Push-pull plates ( 4,000 to 14,000 ohms) to voice coil & 40 ma . & 8 & J & \(2^{\prime \prime}\) & \(28 / 4^{\prime \prime} \times 11 / 2^{\prime \prime}\) & 0.7 & 3.60 \\
    \hline A-3825 & Single plate ( 1,500 to 4,500 ohms) to voice coil & 75 ma . & 8 & Q & \(2^{\prime \prime}\) & \(31 / 4^{\prime \prime} \times 15 / 8^{\prime \prime}\) & 0.9 & 3.95 \\
    \hline A-38248 & Single or Push-pull plates ( 6,000 to \(10,000 \mathrm{ohms}\) ) to voice coil & 75 ma . & 8 & Q & \(2^{\prime \prime}\) & \(3 \%^{\prime \prime} \times 2^{\prime \prime}\) & 1.4 & 4.95 \\
    \hline A-3849 & Single plate ( 1,500 to 10,000 ohms) to voice coil & 55 ma . & 10 & Q & 15/8" & \(27 / 8^{\prime \prime} \times 11 / 2^{\prime \prime}\) & 0.7 & 3.15 \\
    \hline A-3880 & Push-pull plates ( 4,000 to 14,000 ohms) to voice coil & 40 ma ea. \(1 / 2\) & 15 & Q & \(2 \frac{1}{4 \prime}\) & \(38 / 4^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 1.7 & 5.95 \\
    \hline A-2855 & Push-puil plates ( 4,000 to 14,000 ohms) to voice coil & 50 ma. ea. \(1 / 2\) & 15 & L & \(2^{11}{ }^{16}{ }^{\prime \prime}\) &  & 1.0 & 5.30 \\
    \hline A-3890 & Puah-pull plates ( 4,000 to 14,000 ohma) to voice coil & 50 ma . ea. \(1 / 2\) & 15 & TD & \(2^{11} 166^{\prime \prime}\) & \(23 / 4{ }^{\prime \prime} \times 2^{3} 15^{\prime \prime}\) & 1.5 & 8.15 \\
    \hline --3852 & Push-pull prates ( 4,000 to 14,000 ohms) to voice coil & 40 ma. ea. \(1 / 2\) & 18 & J & 25/16 \({ }^{\prime \prime}\) & \(27 / 8^{\prime \prime} \times 2^{\prime \prime}\) & 1.3 & 4.00 \\
    \hline --3870 & Push-pull plates ( 4,000 to 14,000 ohms) to voice coil & 50 ma . ea. \(1 / 2\) & 18 & Q & \(2^{\prime \prime}\) & \(31 / 4^{\prime \prime} \times 2^{\prime \prime}\) & 1.3 & 4.95 \\
    \hline --3830 & Push-pull plates ( 3,000 to 10.000 ohms) to voice coil & 60 ma . ea. \(1 / 2\) & 20 & J & \(2^{11} h_{1}{ }^{\prime \prime}\) & \(33^{3 / 16} \times 21 /{ }^{\prime \prime}\) & 1.8 & 5.40 \\
    \hline
    \end{tabular}
    \({ }^{4}\) Secondary impedance \(0.7,1,1.4,2,2.8,4\) ohms. \(\quad\) Secondary impedance, \(1,2,4\) ohms.

    \section*{TUBE TO LINE}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Part No. & Application & Impedance in Ohms & \[
    \begin{gathered}
    \text { Max. } \\
    \text { Pri. D.C. }
    \end{gathered}
    \] & Audio Watts & Mtg. & Height Overal! & \[
    \begin{aligned}
    & \text { Base } \\
    & \text { Area }
    \end{aligned}
    \] & Shpg. Wt. in Lbs. & \[
    \begin{aligned}
    & \text { Lisi } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline A-3841 & Single plate to line & \[
    \begin{aligned}
    & \text { Pri-7,000/6,000/5,000/4,000/2,500 } \\
    & \text { Sec-500 }
    \end{aligned}
    \] & 60 ma . & 10 & J & \(2^{11} 116^{\prime \prime}\) & \(3{ }^{3 / 1619} \times 21 / 4^{7}\) & 1.5 & \$7.50 \\
    \hline A-3842 & Push-pull plates to line & \[
    \begin{aligned}
    & \text { Yri-14,000/12,000/10,000/8,000 CT } \\
    & \text { Sec-500 }
    \end{aligned}
    \] & 55 ma . & 10 & J & \(2^{11 / 16}\) & \(3{ }^{\circ} \%^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 1.7 & 7.80 \\
    \hline A-4770 & Single plate to line & \[
    \begin{aligned}
    & \text { Pri-7,000/6,000/5,000/4,000/2,500 } \\
    & \text { Sec-500 }
    \end{aligned}
    \] & 60 ma . & 20 & J & \(31 / 81\) & \(35 / 8^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 2.4 & 7.90 \\
    \hline A-3250 & Single plate or Push-pull plates to line & \[
    \begin{aligned}
    & \text { P'ri- } 20,000 / 10,000 / 5,000 \\
    & \text { Pri- } 20,000 \mathrm{CT} \\
    & \text { Sec- } 500 / 333 / 200 / 125 / 50
    \end{aligned}
    \] & 15 ma . & - & Q & \(2^{\prime \prime}\) & \(31 / 4{ }^{\prime \prime} \times 14^{\prime \prime}\) & 1.0 & 4.95 \\
    \hline A-3315 & Single plate or Push-pull plates to line & Pri-20,000/10,000/5,000
    Pri- \(20,000 \mathrm{CT}\)
    \(\mathrm{Sec}-500 / 333 / 200 / 125 / 50\) & 35 ma. & - & D & \(3^{3}{ }^{16}\) & \(25 / 8^{\prime \prime} \times 25 / 8{ }^{\prime \prime}\) & 2.7 & 11.30 \\
    \hline
    \end{tabular}

    \section*{LINE TO VOICE COIL}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Part No. & Impedance in Ohms & Audio Watts & Mtg. & Height Overall & \[
    \begin{aligned}
    & \text { Base } \\
    & \text { A rea }
    \end{aligned}
    \] & Shpg. Wt. in Lbs. & List Price \\
    \hline A-8101 & Pri-500 See-3.2/6-8 & 5 & Q & \(18 / 8{ }^{\prime \prime}\) & 2\%年 \(\times 13 /{ }^{\prime \prime}\) & 0.4 & \$2.20 \\
    \hline A-3883 & Pri-500 Sec-15/8/6/4 & 25 & J & \(2^{5}\) /6" & \(27 / 8^{\prime \prime} \times 13 / 4^{\prime \prime}\) & 1.1 & 4.70 \\
    \hline A-3882 & Pri-500/333/250 Sec-15/8/4 & 25 & D & 3 , 16" & \(25 / 3^{\prime \prime} \times 31 / 2^{\prime \prime}\) & 2.4 & 9.30 \\
    \hline A-3838 & \begin{tabular}{l}
    \(500 / 250 / 175 / 150 / 140 / 125 / 100 / 85 / 45 / 14 / 4 / 0.7\) \\
    This Unit is designed to operate one or more speakers in series across
    \end{tabular} & \[
    \stackrel{30}{\text { ohm lit }}
    \] & \[
    \begin{array}{r}
    \mathrm{B} \\
    \text { or to }
    \end{array}
    \] & \[
    \begin{gathered}
    31 / 8^{\prime \prime} \\
    \text { atch une }
    \end{gathered}
    \] & \begin{tabular}{l}
    \[
    21 / 3^{\prime \prime} \times 21 / 4^{\prime \prime}
    \] \\
    ual lines.
    \end{tabular} & 2.3 & 7.35 \\
    \hline A-3818 & Pri-1,500/1,000/500 Sec-15/8/4 & 25 & J & 31/8" & \(3{ }^{3} / 8^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 2.2 & 5.45 \\
    \hline A-7947 & Pri-2,000/1,500/1,000/500 Sec-6 ohms & 8 & Q & 15/8" & 213 ,16 \({ }^{\prime \prime} \times 1 \% / 6^{\prime \prime}\) & 0.7 & 3.20 \\
    \hline A-7949 & Pri-2,000/1.500;1,000/500 Sec-6-8 ohms & 12 & J & \(2{ }^{5} / 66^{\prime \prime}\) & \(27 / 8^{17} \times 1^{13} / 6_{6}^{\prime \prime}\) & " 1.1 & 4.25 \\
    \hline A-3820 & Pri-2,000/1.500/1,000/500 See-15/8/4 & 40 & D & \(45 / 6^{\prime \prime}\) & \(35^{5 \prime} \times 41 / 2^{\prime \prime}\) & 5.0 & 15.20 \\
    \hline A-8104 & \[
    \begin{aligned}
    & \text { Pri-3,000/2,000/1,500/1,000/500 } \\
    & \text { Sec- } 16 / 8 / 4
    \end{aligned}
    \] & 10 & J & \(25 / 1{ }^{\text {" }}\) & \(2^{15} / 6^{\prime \prime} \times 1{ }^{1 / 4}\) & "2咟" 1.5 & 6.10 \\
    \hline A-3837 &  & \begin{tabular}{l}
    \[
    15
    \] \\
    ohm
    \end{tabular} & J & \(2 \cdot 16{ }^{5}\) & \(27 / 8^{\prime \prime} \times 2^{\prime \prime}\) & 1.4 & 5.50 \\
    \hline
    \end{tabular}

    \subsection*{70.7 VOLT LINE TO VOICE COIL}
    

    20-337 Adapter Hardware Set \(\quad\) Nor clamping Yart Numbers A-333 and A-3334 to the mounting each of screws, nuts and lockwashers to secure transformer assembiv bracket of a trumpet projector. Set consists of holding plate and four to speaker bracket up to \(2^{n}\) wide. brackst of a trumpet projector. Set consists of holding plate and our to speaker bracket up to \(2^{n}\) wide.
    
    
    B
    
    

    CHICAGO STANDARD TRANSFORMER CORPORATION
    COMBINATION PLATE AND FILAMENT SUPPLY
    

    PUWER TRANSFORMERS FOR USE WITH CHOKE INPUT FILTER，VR－TUBE REGULATED SUPPLY，SPEAKER FIELD IN FILTER，OR HIGHER VOLTAGE MITH CONDENSER INPUT FILTER
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \hline \text { PC8406 } \\
    & \text { PM8406 }
    \end{aligned}
    \] & 325－0－325 & 40 & 5.0 & 2.0 & 6.3 （TT & 2.0 & \[
    \begin{aligned}
    & 25 / 8^{\prime \prime} \times 23^{\prime \prime} \\
    & 2!6^{\prime \prime} \times 3^{\prime \prime}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3^{3} 16_{1}^{\prime \prime} \\
    & 2^{3} / 1^{\prime \prime}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2^{\prime \prime} \times 111 / 6^{\prime \prime} \\
    & 2^{\prime \prime} \times 21 / 2^{\prime \prime}
    \end{aligned}
    \] & 2.4 & \＄ 6.90 \\
    \hline PC8407 & 5－0－325 & 5 & & 0.0 & 6.3 CT & & \(25 / 8^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 3＂，10＂ & \(2^{\prime \prime} \times 2^{1} 16^{\prime \prime}\) & 32 & 760 \\
    \hline PM8407 & （）－32 & & & & （ & 2. & \(21 / 2^{\prime \prime} \times 3^{\prime \prime}\) & 31／8＂ & \(2^{\prime \prime} \times 21 /{ }^{\prime \prime}\) & 3.2 & 7.6 \\
    \hline PC8422 & 30－0－\({ }^{-10}\) & 50 & 5.11 & 30 & c．3（TT & － 0 & \(31 / 4{ }^{\prime \prime} \times 37 /{ }^{\prime \prime}\) & \(4^{\prime \prime}\) & \(21 / 2^{\prime \prime} \times 2.16^{\prime \prime}\) & & \\
    \hline PM8422 & 32．）－0－9．•• & 50 & 0.1 & 3.0 & 6.3 C． & 0.0 & \(31 / 8\)＂\(\times 33 / 4{ }^{\prime \prime}\) & \(33^{\prime \prime}\) & \(21 / 2 \times 31 / 8^{\prime \prime}\) & 5.8 & 13.45 \\
    \hline PC8408 & & & & & & & \(3^{\prime \prime} \times 33_{4}\) & 3 \({ }^{\prime \prime} 8^{\prime \prime}\) & \(21 / 4^{\prime \prime} \times 21 / 8^{\prime \prime}\) & & \\
    \hline PM8408 & 340－0－310 & 70 & 5.0 & 2.0 & 6.3 CT & 2.5 & 27／8＂\(\times 3 \times 8{ }^{\prime \prime}\) & \(31 / 2{ }^{\prime \prime}\) & \[
    2^{1,4^{n}} \times 2^{13 / 101 "}
    \] & 3.8 & 8.60 \\
    \hline PC8409 & 150－\％ & 10 & 5.1 & 0 & 6.3 CT & & \(3{ }^{\prime \prime} \times 35{ }^{\prime \prime}\) & 35／8＂ & \(21 / 4^{\prime \prime} \times 23 / 8^{\prime \prime}\) & & \\
    \hline PM8409 & 350－0－8．0 & － & 5.1 & 2.0 & 0.3 （1） & 3.0 & \(27 / 8^{\prime \prime} \times 33 \%^{4}\) & \(33^{\prime \prime}\) & \(21 / 4^{\prime \prime} \times 2{ }^{13} \%_{6}^{\prime \prime}\) & 4.5 & 9.60 \\
    \hline PC8410 & & & & & & & \(31 / 4^{\prime \prime} \times 3 \pi /{ }^{\prime \prime}\) & \(4^{\prime \prime}\) & \(21 / 2^{\prime \prime} \times 2{ }^{7} 0^{\prime \prime}\) & & \\
    \hline PM8410 & 360－0－36il & 120 & 5．0 & 3.0 & 6.3 CT & 3．5 & \(31 / 8^{\prime \prime} \times 33 /{ }^{\prime \prime}\) & & \[
    21 / 2^{\prime \prime} \times 31 / 8 "
    \] & 5.5 & 10.60 \\
    \hline PC8411 & 375－0－375 & 150 & 5.0 & ＊ 0 & 6.3 & & \(35 / 8^{\prime \prime} \times 4^{\prime \prime}\) & 43610 & \(234^{\prime \prime} \times 2{ }^{13} 1{ }^{\prime \prime}{ }^{\prime \prime}\) & & \\
    \hline PM8411 & 360－0－3．5．） & 1.80 & 8.0 & 3．0 & 6.3 C & 4.5 & \(31 / 2^{\prime \prime} \times 41 / 8\) & \(37 /{ }^{\prime \prime}\) & 23／1＂\(\times 3\) ？ \(15^{\prime \prime}\) & 5.8 & 12.70 \\
    \hline PC8412 & & & & & & & \(4^{\prime \prime} \times 4^{\prime \prime}\) & 4\％4＂ & \(3^{\prime \prime} \times 2^{13}{ }_{16}{ }^{\prime \prime}\) & & \\
    \hline PM8412 & 400－0－400 & 200 & 5.0 & 3.0 & 6.3 （＇T & 5.0 & \[
    3^{3 / 1 "} \times 41 / 2^{\prime \prime}
    \] & & \[
    3^{\prime \prime} \times 33 /
    \] & 8.2 & 14.30 \\
    \hline PC8413 & 400－0－4001 & 2.50 & 5.0 & 4.0 & 6.3 （\％ & 5.0 & \(4^{\prime \prime} \times 4^{10 \prime \prime}\) & \(4^{3 \prime}{ }^{\prime \prime}\) & \(33^{\prime \prime} \times 3.100^{\prime \prime}\) & 10.0 & 17.95 \\
    \hline \multirow[t]{2}{*}{PC8414} & 600－0－600 & 200 & 5.0 & 3.0 & 6.3 & 3.0 & \multirow[t]{2}{*}{\(4^{\prime \prime} \times 4^{\prime \prime}\)} & \multirow[t]{2}{*}{\(4^{3 / 4}\)} & \multirow[t]{2}{*}{\(3^{n} \times 2^{13} / 6^{\prime \prime}\)} & \multirow[t]{2}{*}{8.3} & \multirow[t]{2}{*}{18.05} \\
    \hline & & & & & 6.3 & 3.0 & & & & & \\
    \hline \multicolumn{12}{|l|}{POWER TRANSFORMERS FOR USE WITH 6AX5，6×4，6x5，OR SELENIUM RECTIFIERS} \\
    \hline PS8415 & 125 1／2－wave & 15 & ．． & ．．． & 6.3 & 0.6 &  & \(2^{\prime \prime}\) & \(2^{\prime \prime}\) & 0.7 & 53.15 \\
    \hline PS8416 & 125－0－125 & 25 & ． & & 6.3 & 1.0 & \(2{ }^{7 \prime \prime} \times 14^{\prime \prime}\) & \(2^{3}{ }^{\text {a }}\) & \(2^{3}\)＂ & 1.0 & 3.95 \\
    \hline ＊PA8421 & \(1251 / 2\)－wave & 50 & －．． & －－－ & 6.3 & 2.0 & \(33 / 4{ }^{\prime \prime} \times 21 / 8{ }^{\prime \prime}\) & 2！ ¢＂\(^{\prime \prime}\) & 31／8＂ & 1.5 & 5.25 \\
    \hline PC8417 & 220－0－2：3） & 50 & 6．：） & 0.6 & 25．2 & 0．．） & \(25^{\prime \prime} \times 2{ }^{11}\) & \(3{ }^{3} n^{\prime \prime}\) & \(2^{\prime \prime} \times 1{ }^{\prime \prime} \mathrm{H}^{\prime \prime}\) & 2.2 & 7.40 \\
    \hline PC8418 & & & & & & & \(25 / 87 \times 25 / 81\) & \(3{ }^{3},{ }^{10}{ }^{\prime \prime}\) & \(2^{\prime \prime} \times 1^{9} 16^{\prime \prime}\) & & \\
    \hline PM8418 & 230－0－230 & 3） & \(\ldots\) & ．． & 6.3 & 2.5 & 2 亿＂\(\times 3\)＂ & 25\％＊ & 2 ＂\(\times 213\) & 2.2 & 6.55 \\
    \hline PC8419 & & & & & & & 25／8＂×2「へ＂ & \(3^{5} \mathrm{fs}{ }^{\text {a }}\) & \(2 " \times 1{ }^{13} 10^{\prime \prime}\) & & \\
    \hline PM8419 & \(240-0-240\) & 71 & ．\(\cdot\) & & 6.3 & 3.0 & \[
    2^{1 / 2 "} \times 3^{\prime \prime}
    \] & 2゙，＂ & \[
    2^{\prime \prime} \times 21 / 2^{\prime \prime}
    \] & 2.6 & 7.50 \\
    \hline PC8420 & 060 & 0 & & & 6.3 & － & \(3^{\prime \prime} \times 3{ }^{\prime \prime \prime}\) & 3！2＂ & \(2^{\prime \prime} \times 21 / 4^{\prime \prime}\) & & \\
    \hline PM8420 & 260－0－260 & \％ & －• & ．． & 6.3 & 4.0 & 2：＂x 33，\({ }^{\circ}\) & 316＂ & \(21 / 1^{\prime \prime} \times 2^{13} \mathrm{~min}\) & 3.5 & 8.35 \\
    \hline
    \end{tabular}

    \section*{REPLACEMENT POWER TRANSFORMERS（Misc．）}
    
    PC

    \title{
    POWER TRANSFORMERS
    }

    \section*{CHICAGO STANDARD TRANSFORMER CORPORATION}

    \section*{REPLACEMENT POWER TRANSFORMERS (Misc.)}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Part No. & \begin{tabular}{l}
    Plate \\
    A. (. Volts
    \end{tabular} & \[
    \begin{aligned}
    & \text { Supply } \\
    & \text { D. Ma. }
    \end{aligned}
    \] & Rectitier Filament Volts-Amperes & \begin{tabular}{l}
    Other Windings \\
    Volts-A mperes
    \end{tabular} & Mtg. & Hoight Overall & \[
    \begin{aligned}
    & \text { Base } \\
    & \text { Areat }
    \end{aligned}
    \] & Shpy. Wet. in l.hes. & \[
    \underset{\text { Price }}{\text { List }}
    \] \\
    \hline \(\ddagger\) P-4043 & 350-0-350 & 90 & 5.0-3.0 & 2.5 CT-3.5 2.5-9.0 & C & \(4^{5} 16^{\prime \prime}{ }^{\prime \prime}\) & " \(35^{5} 8^{\prime \prime} \times 33^{3}{ }^{\prime \prime}\) & 4.8 & 14.75 \\
    \hline \(\pm\) +P-4048 & 350-0-850 & 90 & 5.0-3.0 & 2.5 (\%T-10.0 6.3--3.5 & ( & \(4{ }^{4} 15^{\prime \prime}\) & \(35 / 8{ }^{71} \times 3^{3} 4^{\prime \prime}\) & 5.2 & 14.20 \\
    \hline P-6007 & 400-0-400 & 110 & 5.0 (\%T-3.0 &  & M & \(33 /{ }^{\prime \prime}\) & \(31 / 8^{\prime \prime} \times 33^{\prime \prime}\) & 5.1 & 14.15 \\
    \hline P-6006 & \(350-0-350\) & 120 & 3.0 (ГT-3.0) & 2.5 CT-12.5 \(\quad 2.5\) ('T-3.5 & M & \(35 / 8{ }^{17}\) & \(31 / 8^{\prime \prime} \times 35 /{ }^{\prime \prime}\) & 5.5 & 14.95 \\
    \hline P-3005 & \[
    \begin{aligned}
    & 360-0-360 \\
    & 80 \text { v. 13ias }
    \end{aligned}
    \] & 125 & \[
    \begin{gathered}
    5.0)(T-3.0 \\
    5.0(: T-2.0
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 2.5 \text { (T-10.0 } \\
    & 6.3 \text { (T-4.0 }
    \end{aligned}
    \] & ( & \(43 / 4{ }^{17}\) & \(4^{\prime \prime} 37 / 8^{\prime \prime}\) & 8.0 & 20.30 \\
    \hline P-6143 & 4.40-()-440 & 130 & 5.0-3.0) & 6.3 C.T-3.5 & ( & \(4{ }^{5} / 46^{\prime \prime}\) & \(35 / 8{ }^{17} \times 3.8{ }^{17}\) & 7.0 & 15.25 \\
    \hline P-4004 & \[
    \begin{aligned}
    & 400-0-100 \\
    & 80 \text { v. Hias }
    \end{aligned}
    \] & 175 & 5.0 (СT-3.0 & \[
    \frac{2.5-1.75}{6.3 \text { CT-2.5 }} \frac{2.3 \text { CT-2.5 }}{}
    \] & C & \(434^{\prime \prime}\) & \(4^{\prime \prime} \times 37 / x^{7 \prime}\) & 8.3 & 17.85 \\
    \hline P-5059 & 337.5-11-3337.5 & 200 & 5.0) (\%'Г-3.0 & 6.3 ( \(\mathrm{T}-5.0\) & ( & \(43 / 7{ }^{\prime \prime}\) & \(4^{\prime \prime} \times 41 / 4^{\prime \prime}\) & 9.6 & 16.90 \\
    \hline P-6315 & 370-0-370 & 275 & 5.0 ('T-3.0 & 6.3 (\% 9 -7.0 & M & \(11 /{ }^{17}\) & \(333^{11} \times 41 / 2^{11}\) & 9.3 & 19.50 \\
    \hline
    \end{tabular}
    \#Primary for \(117 / 107\) Volts. \$1Designates part number to be romoved from next catalog.
    VIBRATOR TRANSFORMERS WITH 6 VOLT D.C. PRIMARY
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { liart } \\
    & \text { No. }
    \end{aligned}
    \] & \begin{tabular}{l}
    Secondary \\
    A.C. Volts
    \end{tabular} & Secondary Volts & \begin{tabular}{l}
    D.C. to Filter \\
    Milliamperes
    \end{tabular} & Recommendend Buffer (`ap. & IItg. & Height Gverall & Base I rea & Shpg. Wt. in L.bs. & \[
    \begin{aligned}
    & \text { 1,ist } \\
    & \text { 'rice }
    \end{aligned}
    \] \\
    \hline P-6301 & 210-0-210 & 150 & 40 & 0.008 mfd . & \(s\) & \(2^{3} 100\) & \(2^{7} 4^{\prime \prime} \times 1{ }^{3} 4\) " & 1.2 & \$5.20 \\
    \hline P-4060 & 2413-0-2.40 & 225 & 40 & 0.008 mfd . & N & \(31 \times\) & \(21 / 2^{\prime \prime} \times 25 / 8^{\prime \prime}\) & \(2 . \overline{3}\) & 6.75 \\
    \hline P-4061 & 290-0-290 & 250 & 511 & 0.0066 mdd . & N & 31\%" & \(2^{1} 2^{\prime \prime} \times 2.5{ }^{\prime \prime}\) & 2.5 & 6.50 \\
    \hline P-4062 & 300-()e300 & 260 & 4.9 & 0.0106 mfd . & N & 31/4" & \(21.2^{\prime \prime} \times 2^{51} 4^{\prime \prime}\) & 2.3 & 7.15 \\
    \hline P-4063 & 320-1)-320 & 28.5 & 7.5 & 0.0066 mfl . & N & 3' \({ }^{14}\) & \(2^{1} 2^{\prime \prime} \times 2^{3} \square^{\prime \prime}\) & 2.8 & 9.10 \\
    \hline P.6131 & 37110-8\%11 & 380 & 1011 & \(0.01(27 \mathrm{mfd}\). & N & \(33^{\prime \prime}\) & \(33^{\prime \prime} \times 2^{\prime \prime}{ }^{\text {a }}\) & 33.5 & 10.05 \\
    \hline
    \end{tabular}

    VIBRATOR TRANSFORMER WITH 6 VOLT D.C. AND 117 VOLT A.C. PRIMARY
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline P-6166 & 3500-(0)-350 & - & 135 & \(4^{-4} 4^{\prime \prime}\) & 4 & x \(3^{517}\) & (i.) & \$16.85 \\
    \hline
    \end{tabular}

    \section*{AUTO RADIO VIBRATOR TRANSFORMERS-EXACT DUPLICATE}

    Fivart duphicate of mounting type used in original equipment.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { l'art } \\
    & \text { No. }
    \end{aligned}
    \] & ()riginal Prart No, & Original Manufacture & 1). C. Volts at Filter Input. & \[
    \begin{aligned}
    & \text { D. }{ }^{\prime} . \\
    & \text { Ma. }
    \end{aligned}
    \] & Recommended Buffer (ia). & Height (Iveral! & \[
    \begin{aligned}
    & \text { Basa } \\
    & A_{\Gamma \cdot a}
    \end{aligned}
    \] & Shpg. W" 1 . in I,bs. & \begin{tabular}{l}
    List \\
    Price
    \end{tabular} \\
    \hline P-4064 & 7240519 & United Motora (Deleo) & 280 & 65 & 0.015-0.015 mfd. & \(3^{3}{ }^{3} 10 i^{\prime \prime}\) &  & 2.5 & \$11.75 \\
    \hline P-4065 & 72.5881 & United Motors (Dileo) & 265 & 56 & 0.001 mmfd . & \(4{ }^{1} 10.0\) & \(2^{3} \square^{\prime \prime} \times 3^{7} 0^{\prime \prime}\) & 2.6 & 10.90 \\
    \hline P-6470 & 140-111 & IRugal (5-tube univ. series) & 145 & 50 & 0.0099 mid . & \(2^{31} 10{ }^{16}\) &  & 1.4 & 7.65 \\
    \hline P-6471 & 2513472533 & Motorola (408. jon, etto) & 235 & 70 & 0.006 mid . & \(33^{\prime \prime}\) & \(83^{3}{ }^{17} \times 2^{3} 10^{11}\) & 2.11 & 7.60 \\
    \hline P-6472 & \[
    \begin{aligned}
    & 1171014 \\
    & \text { (: } 217020 \\
    & 61014 \\
    & 251370950
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Colonial-Detrola No. } 8072 \\
    & \text { Colonal-Bendia M1 } \\
    & \text { Colonial-Motorola } \\
    & \text { Motorola ( } 105,50, \text { etc.) }
    \end{aligned}
    \] & 270 & 56 & 0.007 mid. & \(2 \%\) \% & \(22^{\prime \prime} \times 2^{\prime \prime}\) & 2.0 & 7.60 \\
    \hline P-6473 & 95-1073 & Zenith & 272 & 73 & 0.0088 mid. & \(3^{31} 0^{\prime \prime}\) & \(23^{\prime \prime} \times 21 / 2{ }^{\prime \prime}\) & 2.4 & 8.65 \\
    \hline P-6474 & \(95-1066\) & Zonith & 246 &  & 0.0108 mid. & \(31: 3\) & 23, " \(3^{31} 2^{\prime \prime}\) & 2.2 & 7.90 \\
    \hline P-6476 & D 70267
    (: 70267 & \begin{tabular}{l}
    Folonial-Detrola No. 7070 \\
    (oul.-Mot.-Det. No. 80:30
    \end{tabular} & 220 & 53.5 & (0.0008 mia. & \(2{ }^{-3}{ }^{\text {a }}\) & \(33^{\prime \prime} \times 2 \times 1\) & 3.11 & 7.80 \\
    \hline P-6477 & \(2 \mathrm{SC} 50018!\) & Motorola & 150 & 50 & . \(0: 3 \mathrm{mmd}\). & \(2^{\prime \prime}\) & \(1{ }^{-1} \times 2{ }^{\text {a }}\) & 1.0 & 4.65 \\
    \hline P-6478 & \(25 \times 501644\) & Motorula & 225 & 70 & . 122 mfd . & 214 & \(26^{3} \times 25^{4 \prime}\) & 1.5 & 5.05 \\
    \hline P-6479 & (6.)-0:358 & I'hilen & 260 & 60 & . 00.5 mid . & 3' 2 " & \(3^{33} 3^{17} \times 33^{\prime \prime}\) & 2.3 & 6.30 \\
    \hline P-6480 & (6i) 01317 & Phileo & 225 & 70 & . 000333 mfd . & \(22^{3 / 1}\) &  & 1.5 & 5.35 \\
    \hline P-6481 & 32-8:313-1 & I'hiler & 250 & 60 & . \(10+58 \mathrm{mld}\). & \(3^{1} 4{ }^{\prime \prime}\) &  & 1.5 & 5.70 \\
    \hline P-6482 & 6064, 6066 & *33-7. \({ }^{\text {Buick, (adillac - } 12}\) & volt 250 & 60 & . 001 & 314" & \(2^{\prime \prime} 1_{10}{ }^{\prime \prime} \times 2^{\prime 1}{ }^{\prime \prime \prime \prime \prime}\) & 2.5 & 8.75 \\
    \hline P-6483 & \E-169 & Farnsworth & 240 & 50 & . 10106 & \(310{ }^{\prime \prime}\) & \(\underline{2} 2^{\prime \prime} \times 2^{3}{ }^{\prime \prime}\) & \(2!\) & 7.50 \\
    \hline P-6484 & 251570950-E4 & Motorola & 26.5 & 70 & .007 & \(3^{1} 165^{\prime \prime}\) & \(3^{1} 2^{\prime \prime} \times 22^{3}{ }^{\prime \prime}\) & 212 & 8.40 \\
    \hline P-6485 & 95-1071 & \%erith & 2.40 & 70 & . 1008 & :3'15" &  & 212 & 8.70 \\
    \hline P-6486 &  & Motorola & \(2 \cdot 40\) & 80 & . 007 & :3', &  & 31: & 9.25 \\
    \hline P-6487 & 2513-2313033 & Motorola & 170 & 6) & .1007 & \(2{ }^{11} 110^{\prime \prime}\) &  & 13. & 7.05 \\
    \hline P-6488 & こ5(-521151 & Moborola & 225 & 50 & . 007 & 2"\% & \(3^{3} 16^{\prime \prime} \times 22^{3 / 1}\) & 2 & 5.90 \\
    \hline P-648: & 150tio, 6067 & \(\cdots 3.51\) Ohlsmobile 12 volt & ( 250 & 60 & . 00.4 & \(2^{18} 14 \%\) & \({ }^{2}{ }^{10} \times 22^{\prime \prime}\) & 2 & 5.00 \\
    \hline
    \end{tabular}
    
    
    Stion
    
    

    SMOOTHING CHOKES FOR D．C．POWER SUPPLIES．
    Inductance varies with the amount of DC．flowing through the coil，are rated at 10 volts， 60 cycles．with maximum D．C．in winding． therefore these units have been tested under uniform conditions．They Tolerance of plus \(15 \%\) is maintained on all ratings．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Part No． & \multicolumn{3}{|l|}{Induc．at Ma，D．C．} & D．C．IRes． in Ohms & R．M．S．V． Insu！． & Mitg． & Height Overall & \begin{tabular}{l}
    Base \\
    Area
    \end{tabular} & Shing．W＂t． in Lbs． & I ist I＇rice \\
    \hline C－1515 & 20.0 hy． & at & 15 ma ． & 900 & 1500 & A & \(1 \frac{5}{8 \prime \prime}\) & \(2^{7} 8^{\prime \prime} \times 1{ }^{1 / 2^{\prime \prime}}\) & 0.7 & \＄2．20 \\
    \hline C－1706 & 4.5 hy． & at & 50 ma ． & 300 & 1500 & A & 13.1 & \(238^{\prime \prime} \times 1^{3}{ }^{\prime \prime}\) & 0.4 & 1.85 \\
    \hline C－1707 & 7.0 hy． & at & 50 ma ． & 550 & 1500 & A & \(13{ }^{\prime \prime}\) & \(23 /{ }^{\text {m }} \times 13 /{ }^{\text {² }}\) & 0.4 & 1.95 \\
    \hline C－1003 & 16.0 hy． & at & 50 mas ． & 580 & 1500 & A & \(2^{\prime \prime}\) & \(31 / 4{ }^{\prime \prime} \times 1{ }^{\prime \prime}\) & 1.1 & 2.45 \\
    \hline C－1708 & 13.0 hy＊． & at & 65 ma ． & 500 & 1500 & A & \(2^{\prime \prime}\) & \(31 / 4 \times 134^{\prime \prime}\) & 1.0 & 3.05 \\
    \hline C－1355 & 8.0 hy． & at & 75 ma ． & 290 & 1500 & 1. & \(2^{1}{ }^{*}\) &  & 1.0 & 3.05 \\
    \hline C－1002 & 15.0 hy． & at & 75 ma． & 400 & 1500 & A & \(21 / 4{ }^{\prime \prime}\) & \(334^{\prime \prime} \times 21 / 4^{\prime \prime}\) & 1.7 & 3.25 \\
    \hline C－1420 & 16.0 hy． & at & 80 ma ． & 360 & 1500 & （ & \(3^{2 / 17}\) & \(25 / 8^{\prime \prime} \times 25 / 8\) & 2.5 & 5.40 \\
    \hline C－1709 & 8.0 hy． & at & 85 ma． & 250 & 1500 & A & \(2^{\prime \prime}\) & \(314^{\prime \prime} \times 2^{\prime \prime}\) & 1.4 & 3.40 \\
    \hline C－2305 & 5.0 hy． & at & 100 ma ． & 300 & 1500 & TD & 2110 & \(233^{\prime \prime} \times 2^{3 \prime \prime}\) & 1.5 & 4.70 \\
    \hline C－1001 & 10.5 hy． & at & 110 ma ． & 225 & 3000 & A & \(25 / 3{ }^{\prime \prime}\) & \(4^{\prime \prime}{ }^{\prime \prime} \times 2 \times 1 /{ }^{\prime \prime} \times 1{ }^{\prime \prime}\) & 2.3 & 4.45
    3.10 \\
    \hline C－2303 & 2.5 hy ． & at & 130 ma & 100 & 2000 & 1 & \(2 "\) & \(31 / 4{ }^{\prime \prime} \times 13 / 4{ }^{\prime \prime}\) & 1.0 & 3.10 \\
    \hline C－1421 & 7.0 hy． & at & 140 ma ． & 165 & 3000 & （ & \(3^{3} \mathrm{lvin}\) & \(25 / 8{ }^{\prime \prime} \times 25 / 8^{\prime \prime}\) & 2.5 & 6.15 \\
    \hline C－2304 & 2.3 hy． & at & 150 ma & 60 & 1500 & 1 & \(2^{n \prime \prime}\) & \(314^{\prime \prime} \times 134{ }^{\prime \prime}\) & 1.0 & 3.20 \\
    \hline C－2309 & 3.0 hy ． & at & 150 mat ． & 90 & 2000 & A & \(21 / 4{ }^{\prime \prime}\) & 33／4＂\(\times 214^{\prime \prime}\) & 1.7 & 3.85 \\
    \hline C－1710 & 7.0 hy ． & at & 150 ma ． & 200 & 1500 & A & 25／8＂， & \(4^{\prime \prime}{ }^{\prime \prime} \times 2114^{\prime \prime}\) & 2.2 & 4.95 \\
    \hline C－1410 & 4.0 hy－ & at & 175 ma & 100 & 3000 & （ & \(3^{3,16,1}\) & \(23^{\frac{5}{\prime \prime}} \times 2 \times 8{ }^{\prime \prime}{ }^{\prime \prime}\) & 2.4 & 6.36 \\
    \hline C－2327 & 1.5 hy． & at & 200 ma ， & 85 & 1500 & A & \(15 / 8{ }^{\prime \prime}\) & \(27 / 8^{\prime \prime} \times 1 \frac{110 \prime \prime}{}\) & 0.8 & 2.45 \\
    \hline C－1646 & 5.0 hy． & at & 200 ma ． & 90 & 5000 & （ & \(4^{\prime \prime \prime}\) & \(3113^{\prime \prime} \times 3^{3}\)＂ & 4.5 & 9.66 \\
    \hline C－1411 & & at & 200 ma ． & 80 & 3000 & \((\) & \(33^{3}{ }^{\prime \prime}\) & \(3^{\prime \prime} \times 31 / 8^{n}\) & 3.5 & 7.15 \\
    \hline C－1721 & 8.5 hy － & at & 200 ma ． & 120 & 3000 & N & \(3 \%\) & \(31 / 8^{\prime \prime} \times 3^{\prime \prime}\) & 4.4 & 8.20 \\
    \hline C－1703 & 4.0 hy ． & at & 250 ma ． & 60 & 3000 & 13 & \(3!5\) & \(27 / 8^{\prime \prime} \times 31 / 8{ }^{\prime \prime}\) & 4.2 & 9.10 \\
    \hline C－1412 & 4.0 hy． & ut & 250 ma ． & 60 & 3000 & \({ }^{\circ}\) & \(35 \%\) & \(3{ }^{\prime \prime} \times 31 / 2^{\prime \prime}\) & 4.3 & 10.45 \\
    \hline C－1722
    \(\mathrm{C}-2308\) & 8.0 hy． & at & 300 ma ． & 80
    80 & 3000
    3000 & N &  & \({ }^{33 / 44^{\prime \prime} \times 31 / 2^{\prime \prime}} 4^{\prime \prime} \times{ }^{\prime \prime}\) & 7.3 & 13.60
    13.75 \\
    \hline C－2308 & 8.0 hy ． & at & 300 ma ． & 80 & 3000 & （＊ & \(4^{3} 4_{4}{ }^{\prime \prime}\) & \(4^{\prime \prime} \times 3^{7 /} h^{\prime \prime}\) & 78 & 13.75 \\
    \hline C－1413 & 8.0 hy． & at & 300 ma & 80 & 5000 & I） & \(43 / 1{ }^{\prime \prime}\) & \(4^{\prime \prime} \times 1 \times 41 / 8^{\prime \prime}\) & 7.8 & 13.75 \\
    \hline C－2328 & 0.8 hy． & at & 375 ma ． & 25 & 1500 & A & 21／2＂ & \(33 / 44^{\prime \prime} \times 2^{\prime \prime}\) & 1.5 & 5.05 \\
    \hline C－1414 & 7.5 hy． & at & 400 mr ． & 60 & 5000 & \(1)\) & \(43{ }^{3 / 4}\) & \(4^{\prime \prime} \times 5 \times 1 / 8\) & 11.8 & 19.80 \\
    \hline C－1415 & 6.0 hy ． & at \({ }^{+}\) & 500 ma ． & 75 & 7500 & FS & 75 & \(61 / 8{ }^{10} \times 7^{\prime \prime}\) & 23.7 & 45.80 \\
    \hline
    \end{tabular}

    SWINGING CHOKES FOR INPUT SECTION OF D．C．POWER SUPPLIES．
    Inductance varies with the amount of D．C．flowing through the coil， \(10 \%\) of maximum D．C．in windings．Tolerance of plus \(15 \% / c_{c}\) is main therefore these units have been tested under uniform conditions．tained on all ratings Swinging chokes are rated at 10 volts， 60 eycles，from maximum to
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline l'art
    No. & Min．Swg． Induc． & D．C．Rus． in Ohms & \multicolumn{3}{|l|}{Approx．Range of Induc．at D．C．Ma．} & R.M.S. V.
    Insul. & Mtg． & Height Overall & Base Area & Shpg．Wit． in Lbs． & tisr Price \\
    \hline C－1718 & 10 hy ． & 130 & 13．8－3．5 hy． & & 15－150 & 2000 & C & \(3{ }^{3}\) ， \(\mathrm{li}_{\text {\％}}\) & \(25 / 8\)＂\(\times 21 / 2^{\prime \prime}\) & 2.3 & \＄6．35 \\
    \hline C－1400 & 10 hy ． & 100 & 12－2 & at & 17．5－175 & 3000 & （ & \(3^{3}{ }^{3}\)＂， & \(25 / 8^{\prime \prime} \times 258^{\prime \prime}\) & 2.4 & 7.10 \\
    \hline C－1401 & 10 hy ． & 80 & 12－2 & at & 20－200 & 3000 & （＇ & \(35 / 8\)＂ & \(3^{\prime \prime} \times 31 / 8^{\prime \prime}\) & 3.5 & 8.10 \\
    \hline C－1645 & 10 hy ． & 90 & \(12+2\) & at & 20－200 & 5000 & （ \({ }^{\circ}\) & \(4^{\prime \prime}\) & \(31 / 4^{\prime \prime} \times 33{ }^{\prime \prime}\) & 4.5 & 9.30 \\
    \hline C－1702 & 10 hy ． & 60 & 12－2 & at & 25－250 & 3000 & B & 312＂ & 2\％\％\(\times 31 /{ }^{\prime \prime}\) & 4.3 & 9.30 \\
    \hline C－1402 & 10 hy ． & （9） & 12－2 & at & \(2 \mathrm{~T}-250\) & 3000 & 1 & \(3{ }^{3} / 8^{\prime \prime}\) & \(3^{\prime \prime} \times 31 /{ }^{\prime \prime}\) & 4.3 & 10.45 \\
    \hline C－1720 & 16 hy ． & 80 & 20－1 & at & 30－300 & 3000 & \(N\) & \(4 \%\)＂ & \(3{ }^{\prime 3} 4^{\prime \prime} \times 31 / 2^{\prime \prime}\) & 7.2 & 13.30 \\
    \hline C－2307 & 16 hy ． & 80 & 20－4 & at & 30－300 & 3000 & （ & 434 & \(4^{\prime \prime} \times 3^{\prime \prime \prime}\) & 7.9 & 15.15 \\
    \hline C－1403 & 16 hy ． & 80 & 20－1 & at & 30－300 & 5000 & I） & \(43{ }^{\text {¢ }}\) & \(4^{\prime \prime} \times 41 x^{\prime \prime}\) & 7.7 & 13.50 \\
    \hline C－1404 & 1.1 hy ． & 60 & 17－3 & at & 40－400 & 5000 & 1） & \(434 \prime\) & \(4^{\prime \prime} \times 51 /{ }^{\prime \prime}\) & 11.7 & 19.80 \\
    \hline C－1405 & 12 hy ． & 75 & 16－1 & at & \(50-500\) & 7500 & F゙S & 7ヶヶ＂ & \(61 / 8^{\prime \prime} \times 7^{\prime \prime}\) & 24.3 & 40.70 \\
    \hline
    \end{tabular}

    SMOOTHING CHOKES FOR USE IN A．C．－D．C．POWER SUPPLIES．
    Inductance varies with the amount of D．C．Howing through the coil，chokes are rated at 10 volts， 60 cycles，with maximum \(D . C\) ．in windings therefore these units have been tested under uniform conditions．Filter Tolerance of plus 15 che is maintained on all ratings．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { I'irt } \\
    \text { Nro. }
    \end{gathered}
    \] & \multicolumn{3}{|c|}{Rating} & D．C．lees． in 0 hms & \[
    \begin{aligned}
    & \text { R.M.S. V. } \\
    & \text { Insul. }
    \end{aligned}
    \] & Mitg． & Height Overall & \[
    \begin{aligned}
    & \text { Base } \\
    & \text { Area }
    \end{aligned}
    \] & Shpg．W＇t． in L．bs． & \[
    \begin{aligned}
    & \text { I, ist } \\
    & \text { 'rice }
    \end{aligned}
    \] \\
    \hline C－1080 & 3.5 hy ． & at & 50 ma ． & 200 & 1500 & A & 15／8＂ & 27／4＂\(\times 118{ }^{\prime \prime}\) & 0.7 & \＄2．15 \\
    \hline C－1325 & 5.0 hy ． & at & 50 ma ． & 250 & 1500 & A & 15／3＂ & \(2^{\prime} 8^{\prime \prime} \times 11 /{ }^{\prime \prime}\) & 0.7 & 2.30 \\
    \hline c－1277 & 7.0 hy－ & at & 50 ma ． & 300 & 1500 & 1 & \(15 /{ }^{\prime \prime}\) & \(2^{7 \prime \prime} \times 1{ }^{\prime \prime}\) & 0.7 & 2.55 \\
    \hline C－1723 & 4.5 hy ． & at & 50 ma ． & 325 & 1.500 & 1 & 13. & \(2^{3}{ }^{\prime \prime} \times 1^{3}\)＂， & 0.4 & 2.00 \\
    \hline C－1227 & 7.0 hy． & at & 50 ma ． & 350 & 1500 & ． & \(18 / 8{ }^{\prime \prime}\) &  & 4.7 & 2.50 \\
    \hline C－1279 & 8.5 hy． & at & 50 ma & 400 & 1500 & \(\cdots\) & \(1 \%\)＂ & \(2{ }^{7} \times \times 14 \%\) & 0.7 & 2.20 \\
    \hline C－1333 & 8.0 hy－ & at & 50 ma & 450 & 1500 & 1 & \(1{ }^{5}\) & \(2^{7} 3^{3 \prime \prime} \times 118\) & 0.7 & 2.25 \\
    \hline C－1215 & 9.0 hys． & at & 50 mH ． & 500 & 1500 & ． 1 & \(15^{5 \prime}\) &  & 0.7 & 2.05 \\
    \hline
    \end{tabular}

    \section*{SPEAKER FIELD SUBSTITUTE CHOKE}
    

    \title{
    MODULATION TRANSFORMERS
    }

    CHICAGO STANDARD TRANSFORMER CORPORATION

    \section*{PLATE MODULATION}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Part No. & Impedance in Ohms & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { D.C. } \\
    & \text { Pri. }
    \end{aligned}
    \] & Ma. Tube Sec. & Typical Output Tubes & Class & Audio Watts & Mtg. & Height Overall & Base Area & \begin{tabular}{l}
    Shpg. \\
    Wt. \\
    in Lbs.
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { l'rice }
    \end{aligned}
    \] \\
    \hline A-3812 & \[
    \begin{aligned}
    & \operatorname{Pri}-10,000 \mathrm{CT} \\
    & \mathrm{Sec}-4,000
    \end{aligned}
    \] & 32 & 50 & \[
    \begin{gathered}
    \text { Sgl.-37, 38, 41, 1G5, 6K6 } \\
    \text { Sgl- } 19,1(\mathrm{i} 6,1 \mathrm{~J} 6,6 \mathrm{E}, \\
    6 \mathrm{G} 6,627 \\
    \text { P.P. } 30,49,1 \mathrm{Ha}
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \mathbf{A} \\
    & \mathbf{B} \\
    & \mathbf{B}
    \end{aligned}
    \] & 5 & A & 18/8" & \(27 / 8^{\prime \prime} \times 11^{\prime \prime}\) & 0.7 & \$3.65 \\
    \hline A-3871 & \[
    \begin{aligned}
    & \mathrm{Pri}-4,500 \\
    & \mathrm{Sec}-8,500 \\
    & \text { Secondary used as primary. }
    \end{aligned}
    \] & 60 & 50 & \[
    \begin{gathered}
    \mathrm{Sgl}-6 \mathrm{~L} 6, \text { II Y69 } \\
    \text { Sgl.-6135, 6F6, } 6 \mathrm{~N} 6
    \end{gathered}
    \] & \[
    \mathrm{A}
    \] & 10 & TD & 21\%16" & \(23.4{ }^{\prime \prime} \times 23 / 6^{\prime \prime}\) & 1.4 & 6.65 \\
    \hline \$A-3873 & \[
    \begin{aligned}
    & \text { Pri-8,500 CT } \\
    & \text { Sec } 8,000
    \end{aligned}
    \] & 100 & 100 & \begin{tabular}{l}
    Sgi.-6B5, 6F6, 6N6 \\
    
    \end{tabular} & \[
    \stackrel{A}{A B}
    \] & 25 & C & \(33 / 16^{\prime \prime}\) & \(25 / 8^{\prime \prime} \times 35 / 8^{\prime \prime}\) & 4.2 & 10.55 \\
    \hline A-3845 & \[
    \begin{aligned}
    & \text { Pri- } 10,000 \mathrm{CT} \\
    & \text { Sec- } 8,0006,500 / 5,000 / 3,000
    \end{aligned}
    \] & 100 & 100 & Sgl. 53, 79, 6.16, 6N7, 6Y7 \(\mathrm{I}^{\prime} \cdot \mathrm{I}^{\prime} \cdot-42,2 \wedge 5,6 \mathrm{~F} 6,6 \mathrm{~V} 6\) & \[
    \begin{gathered}
    \mathrm{B} \\
    \mathrm{~B} 2
    \end{gathered}
    \] & 25 & C & 33/16 \({ }^{\prime \prime}\) & \(25 / 8^{\prime \prime} \times 23 / 4{ }^{\prime \prime}\) & 2.8 & 8.35 \\
    \hline \$ A-3835 & \[
    \begin{aligned}
    & \text { Pri-5,000,3,000 CT } \\
    & \text { Sec- } 10,000 \text { 8,3.30/5,3.50 }
    \end{aligned}
    \] & 80 & 100 & \[
    \text { P.P. }-45,50, \underset{6 A 5}{2 A}, 6 \mathrm{BA}, 6 \mathrm{~L} 6,6
    \] & AB & 25 & C & \(4^{\prime \prime}\) & 31/4" \(\times 318{ }^{\prime \prime}\) & 4.0 & 11.30 \\
    \hline A-3808 & \[
    \begin{aligned}
    & \text { Pri-3,800 3,300 CT } \\
    & \text { Sec- } 10,000,7,500 / 5,000,1,0100
    \end{aligned}
    \] & 260 & 170 & \[
    \begin{aligned}
    & \text { P.P. }-6 \mathrm{~L} 6,807, \text { HY' } 61, \\
    & \text { RK41 } \\
    & \text { P.P. Par- } 6 \mathrm{~L} 6
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \mathrm{AB} 2 \\
    & \mathrm{AB} 1
    \end{aligned}
    \] & 60 & D & \(43 / 4{ }^{\prime \prime}\) & 4" \(\times 27 / 8{ }^{\prime \prime}\) & 7.7 & 18.75 \\
    \hline \# A-2907 & \[
    \begin{aligned}
    & \text { Pri- } 8,000 \mathrm{CT} \\
    & \text { Sec- } 12,5009,000 / 6,800 / \\
    & 5,0003,300
    \end{aligned}
    \] & 200 & 150 & \[
    \begin{gathered}
    \text { P.P. }-10, \text { T20, TZ20, } \\
    \text { H25, } 46,801,825,841
    \end{gathered}
    \] & B & 90 & D & \(43 /{ }^{\prime \prime}\) & \(4^{\prime \prime} \times 51 / 4^{\prime \prime}\) & 9.7 & 21.30 \\
    \hline \(\ddagger\) A-2908 & \[
    \begin{aligned}
    & \text { Pri- } 12,000 / 7,200 \text { CT } \\
    & \text { See- } 6,250 / 5,350 / 4,500 / 3,(000
    \end{aligned}
    \] & 260 & 220 & P.P-RK18, T20, T720, HY25, RK31, 35T, 50T, \(800,801,83013,1623\) & B & 120 & D & \(4^{3 / 4}\) & \(4^{\prime \prime} \times 5 \frac{5}{8 \prime}\) & 9.7 & 22.90 \\
    \hline A-3829 & \[
    \begin{aligned}
    & \text { Pri- } 9,000 / 6,900 C^{\prime} T \\
    & \text { Sec- } 6,250 / 5,000 / 4,000 / 3,300
    \end{aligned}
    \] & 250 & 300 & \[
    \begin{aligned}
    & \text { P.P. }=\mathrm{RK} 12, \mathrm{HY} 25,35 \mathrm{~T}, \\
    & \text { HY40Z, } 140, \text { TZ40, } \\
    & \text { 100TL, HK354, } 756, \\
    & 809,830 \mathrm{~B}
    \end{aligned}
    \] & B & 175 & D & \(43 / 4{ }^{\prime \prime}\) & \(4^{\prime \prime} \times 61 / 8^{\prime \prime}\) & 11.4 & 23.75 \\
    \hline
    \end{tabular}

    POLY-PEDANCE MODULATION MULTI-TAPPED UNITS TO PROPERLY MATCH THE OUTPUT OF THE MODULATOR STAGE TO THE MODULATED LOAD. WILL MATCH ALL COMMON IMPEDANCES OF CLASS "B" MODULATOR ( 2,000 to 20,000 OHMS) TO CLASS "C" LOAD IMPEDANCES OF 2,000 TO 20,000 OHMS.

    The number of excellent transmitting tubes available is constantly matching some given modulator tubes or R.F. load. These units give increasing. R.F. applications, too, have increased and it is sometimes an almost unlimited range in power and impedance ratings to assure increasing. R.F. applications, to obtain the correct modulation transformer suitable for a correct impedance match in all cases.
    \begin{tabular}{lclllll}
    \begin{tabular}{c} 
    Part \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    Max. \\
    Walts
    \end{tabular} & Max. D.C.
    \end{tabular}

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    \section*{CHICAGO STANDARD TRANSFORMER CORPORATION}

    FILAMENT TRANSFORMERS WITH SINGLE SECONDARY
    

    FILAMENT TRANSFORMERS WITH MULTIPLE SECONDARY
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline P－6144 & \begin{tabular}{ll}
    2.5 & CT \\
    5.0 & CT \\
    6.3 & CT
    \end{tabular} & \[
    \begin{aligned}
    & 3.3 \\
    & 3.0 \\
    & 3.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2,500 \\
    & 2,500 \\
    & 2,500
    \end{aligned}
    \] & 117 & C & \(3{ }^{5}\) & \(3^{\prime \prime} \times 3 \pm 8^{\prime \prime}\) & 3.7 & \＄11．70 \\
    \hline P－6338 & \[
    \begin{array}{ll}
    2.5 & \\
    5.0 & \\
    5.0 & \text { CT } \\
    6.3 & \text { СT }
    \end{array}
    \] & \[
    \begin{aligned}
    & 3.0 \\
    & 3.0 \\
    & 2.0 \\
    & 3.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2,500 \\
    & 2,500 \\
    & 2,500 \\
    & 2,500
    \end{aligned}
    \] & 117 & N & \(31 / 2{ }^{\prime \prime}\) & \(28^{\prime \prime} \times 23_{4}^{\prime \prime}\) & 3.4 & 11.10 \\
    \hline P－5009 & \[
    \begin{array}{lc}
    \hline 5.0 & \mathrm{CT} \\
    6.3 & \mathrm{~T} T
    \end{array}
    \] & \[
    \begin{aligned}
    & 3.00 \\
    & 6.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3,500 \\
    & 2,500
    \end{aligned}
    \] & 117／107 & C & \(4^{\prime \prime}\) & \(3{ }^{1 / 4} \times \times 314{ }^{\prime \prime}\) & 4.5 & 13.35 \\
    \hline P－5008 & \begin{tabular}{ll}
    5.0 & CT \\
    6.3 & ＇T
    \end{tabular} & \[
    \begin{aligned}
    & 4.0 \\
    & 3.6
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2,500 \\
    & 2,500
    \end{aligned}
    \] & 117／107 & （ & 35.8 & \(3{ }^{\prime \prime} \times 3{ }^{\prime \prime}\) & 3.8 & 11.75 \\
    \hline P－4022 & \begin{tabular}{ll}
    5.0 \\
    6.3 & CT
    \end{tabular} & \[
    \begin{aligned}
    & 6.0 \\
    & 6.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2,500 \\
    & 2,500
    \end{aligned}
    \] & 117／107 & （ & \(4 "\) & \(314{ }^{\prime \prime} \times 3{ }^{3}{ }^{\prime \prime}\) & 1.8 & 12.55 \\
    \hline P－6333 & 5.0
    5.0
    6.3 CT
    \(7.5 / 6.3 \mathrm{CT}\) & \[
    \begin{aligned}
    & 3.0 \\
    & 3.0 \\
    & 4.0 \\
    & 3.0 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2,500 \\
    & 2,500 \\
    & 2,500 \\
    & 2,500
    \end{aligned}
    \] & 117 & 1 & 3］ \(3^{\prime \prime}\) & 2シ8＂\(\times 3\) シャ＂ & 4.7 & 12.90 \\
    \hline
    \end{tabular}

    \section*{TUBE CHECKER MULTI－TAPPED FILAMENT TRANSFORMER}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { l'art } \\
    \text { No. }
    \end{gathered}
    \] & Secondary Volts & \[
    \begin{aligned}
    & \text { Primary } \\
    & \text { Folts }
    \end{aligned}
    \] & Mtg． & \[
    \begin{aligned}
    & \text { Height } \\
    & \text { Overall }
    \end{aligned}
    \] & Base ireti & \[
    \begin{aligned}
    & \text { Shpg. Wrt. } \\
    & \text { in Lbs. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { list } \\
    & \text { I'rice }
    \end{aligned}
    \] \\
    \hline P－1834－3 & \(1.1 / 1.4 / 1.5 / 2.0 / 2.5 / 3.0 / 3.3,5.0 / 6.3 / 7.0 /\) & 125／115／105 & A & 25.81 & \(4^{\prime \prime} \times 2{ }^{\prime \prime}\) & 2.4 & \＄14．20 \\
    \hline
    \end{tabular}
    
    

    \title{
    PLATE TRANSFORMERS
    }

    \section*{CHICAGO STANDARD TRANSFORMER CORPORATION}

    \section*{PLATE TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Part \\
    No.
    \end{tabular} & \[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { Volts }
    \end{aligned}
    \] & Sec. A.C. Volts at Plate & D.C & Ma. 1CAS & \[
    \begin{aligned}
    & \text { I'ri. } \\
    & \text { Volts }
    \end{aligned}
    \] & Mtg. & Height Overall & \begin{tabular}{l}
    Base \\
    Area
    \end{tabular} & Shpg. W't. in Lbs. & Ifist Price \\
    \hline P-8040 & \[
    \begin{array}{r}
    400 \\
    40
    \end{array}
    \] & \(500 / 10-0-500\) & 300 & 375 & 115 & C & \(43_{4}{ }^{\prime \prime}\) & \(4^{\prime \prime} \times 4 \% 2^{\prime \prime}\) & 9.8 & \$19.05 \\
    \hline P-8041 & \[
    \begin{array}{r}
    500 \\
    400 \\
    40
    \end{array}
    \] & 615/520 40-0-520,615 & 250 & 310 & 115 & c & \(4^{33} 1^{11}\) & \(4^{\prime \prime} \times 5!8^{\prime \prime}\) & 13.6 & 20.65 \\
    \hline P-8042 & \[
    \begin{array}{r}
    600 \\
    400 \\
    40
    \end{array}
    \] & 770/510/40-5-510/770 & 300 & 375 & 11.5 & C & \(4^{3} 4^{\prime \prime}\) & \(4^{\prime \prime} \times 6^{3}{ }^{\prime \prime}\) & 18.0 & 30.45 \\
    \hline P-8043 & \[
    \begin{array}{r}
    750 \\
    600 \\
    40
    \end{array}
    \] & \(950.750 .40-0-7.50) 950\) & 300 & 37.5 & 11.3 & FS & 7\%/ \({ }^{\text {\% }}\) & \(6^{1 / 1} \times 8^{\prime \prime}\) & 29.0 & 56.70 \\
    \hline \$P-8045 & \[
    \begin{array}{r}
    1000 \\
    750 \\
    \hline
    \end{array}
    \] & 1225/850-0-850/1225 & 250 & 310 & 115 & FS & 75\% & \(6 \frac{1818}{} 8^{\prime \prime} \times 8^{\prime \prime}\) & 28.5 & 61.00 \\
    \hline P-8025 & \[
    \begin{array}{r}
    1000 \\
    750 \\
    \hline
    \end{array}
    \] & 1230/9 10-0-940/1230 & 400 & 500 & 115 & FS & 75/8" & \(61 / 8{ }^{\prime \prime} \times 834^{\prime \prime}\) & \(3 \overline{5.0}\) & 71.95 \\
    \hline P-8026 & \[
    \begin{aligned}
    & 1250 \\
    & 1000
    \end{aligned}
    \] & 1475/1175-0-1175/1475 & 300 & 375 & 11.5 & FS & \(7^{3} 4^{\prime \prime}\) & \(7{ }^{8} \times^{\prime \prime} \times 84^{1 /}\) & 36.5 & 68.45 \\
    \hline P-8027 & \[
    \begin{aligned}
    & 1250 \\
    & 1000
    \end{aligned}
    \] & 1510/1210-0-1210 1510 & 500 & 625 & 11.5 & FS & \(7^{3} 4^{\prime \prime}\) & \(7^{3} \times^{77} \times 9^{\prime \prime}\) & 45.2 & 80.90 \\
    \hline P-8028 & \[
    \begin{aligned}
    & 1500 \\
    & 1250
    \end{aligned}
    \] & 1710/1160-C-1460/1740 & 300 & 375 & 11.5 & FS & \(74^{\prime \prime}\) & \(73 / x^{\prime \prime} \times 8^{\text {t }}\) " & 38.7 & 72.45 \\
    \hline P-8029 & \[
    \begin{aligned}
    & 1500 \\
    & 1250
    \end{aligned}
    \] & 1775/1500-0-1500 1775 & 500 & 625 & 115230 & FS & \(11^{1} 4^{\prime \prime}\) & 73* \% 8 \(^{3} 4^{\prime \prime}\) & 65.0 & 112.35 \\
    \hline \$P-8030 & \[
    \begin{aligned}
    & 1750 \\
    & 1500 \\
    & \hline
    \end{aligned}
    \] & 2100.1800-0-1800 2100 & 300 & 375 & 115 & FS & \(7{ }^{3} 4^{\prime \prime}\) & \(74^{3 \prime} \times 9^{\prime \prime}\) & 45.8 & 79.90 \\
    \hline +P-8031 & \[
    \begin{aligned}
    & 1750 \\
    & 1500 \\
    & \hline
    \end{aligned}
    \] & 2075/1775-0 1775 2075 & 500 & 123 & 115-230 & FS & 111" & \(7{ }^{3}{ }^{\prime \prime} \times 8^{3 \prime} 4^{\prime \prime}\) & 65.5 & 110.60 \\
    \hline +P-8032 & \[
    \begin{aligned}
    & \hline 2000 \\
    & 1750
    \end{aligned}
    \] & \(2100 / 2100-0-21002.400\) & 300 & 375 & 11.5 & FS & \(7^{317}\) & \(7^{3} 3^{\prime \prime} \times 914^{\prime \prime}\) & 46.0 & 94.55 \\
    \hline P-8033 & \[
    \begin{aligned}
    & 2000 \\
    & 1750
    \end{aligned}
    \] & 237.5/2065-0-206.5 2375 & 500 & 625 & 115-230 & FS & 1114" & \(7^{3} 4^{\prime \prime} \times 9^{1} 2^{\prime \prime}\) & 77.0 & 138.35 \\
    \hline P-8034 & \[
    \begin{aligned}
    & 2500 \\
    & 2000
    \end{aligned}
    \] & 2900 2385-0-2385,2900 & 300 & 375 & 115-230 & Fs: & \(11^{\prime \prime}\) & \(7^{3}{ }^{\prime \prime} \times 8^{3}{ }^{\prime \prime}\) & 62.8 & 134.50 \\
    \hline P-8035 & \[
    \begin{aligned}
    & 2.500 \\
    & 2000
    \end{aligned}
    \] & \(2950 \cdot 2375-0-237.5 \cdot 2950\) & 500 & 575 & 115230 & FS & 11/4" & 73 , \(7^{17} 9^{3} 4^{\prime \prime}\) & 80.0 & 146.90 \\
    \hline \({ }_{+}^{+} \mathbf{P - 9 9 2 0}\) & \[
    \begin{aligned}
    & 2500 \leqslant \\
    & 2000 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{array}{ll}
    2480-0 & 2980 \\
    2450-0 & 2450
    \end{array}
    \] & \[
    \begin{aligned}
    & 350 \\
    & 500 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{array}{r}
    450 \\
    625 \\
    \hline
    \end{array}
    \] & 117 & Y & 91/8" & \(11.818 \times 978\) & 122.0 & 229.85 \\
    \hline
    \end{tabular}

    PLATE TRANSFORMERS—NEW FUNCTIONAL UNITS
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multicolumn{7}{|l|}{No exposed iterminals. Insulated leads provide protected routing to circuits. Simplified design olfers ease of mounting and neat, convenient circuit wiring. No difficult cutouts nereded.} \\
    \hline \multicolumn{7}{|l|}{D.C. output rated (CS at load terminals of single-seetion reactor-input filter, IC.IS with single-section capacitor-input filter. Primaries for 117 volts, 60 cycles.} \\
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { fart No. }
    \end{aligned}
    \] & \begin{tabular}{l}
    Secondary \\
    A. \(\mathrm{C}^{\circ}\) Volis
    \end{tabular} & \multicolumn{2}{|l|}{\[
    \text { Volts }{ }^{\text {D.C. Output }}
    \]} & Type Filter & Rectifier & List Pric \\
    \hline \multirow[t]{2}{*}{PC8301} & \multirow[t]{2}{*}{415-0-11.5} & 300 & 200 & Reactor Inpul & \(5 \mathrm{U4} \mathrm{\%}\) & \multirow[t]{2}{*}{\$12.05} \\
    \hline & & 42.5 & 160 & Capacitor Input & STli & \\
    \hline \multirow[t]{2}{*}{PC8302} & \multirow[t]{2}{*}{515-0-51.5} & 385 & 23.5 & Reactor Input & 5U14 & \multirow[t]{2}{*}{15.45} \\
    \hline & & 500 & 200 & Capacitor Input & 5R4GY & \\
    \hline \multirow[t]{2}{*}{PC8303} & \multirow[t]{2}{*}{665-(0)-66.5} & 500 & 250 & Reactor Input & \(5 \mathrm{R4GY}\) & \multirow[t]{2}{*}{19.55} \\
    \hline & & 750 & 200 & Capacitor Input & 3R4GY & \\
    \hline \multirow[t]{2}{*}{PC8304} & \multirow[t]{2}{*}{7.30-0-7.50} & 600 & 265 & Reactor Input & 2-514GY & \multirow[t]{2}{*}{21.90} \\
    \hline & & 850 & 200 & Capacitor Input & 5 K 4 GY & \\
    \hline \multirow[t]{2}{*}{PC8305} & \multirow[t]{2}{*}{920-0-420} & 750 & 250 & Reactor Input & \(2-5124 \mathrm{GY}\) & \multirow[t]{2}{*}{22.85} \\
    \hline & & 1000 & 200 & Capacitor Input & 6124GY & \\
    \hline \multirow{4}{*}{PC8306 \({ }^{\text {\% }}\)} & \multirow[t]{2}{*}{920-1)-420} & 750 & 150 & Reactor Input & \(5 \mathrm{R4GY}\) & \multirow{4}{*}{23.20} \\
    \hline & & 1100 & 12. & ('apacitor Input & 5 R 4 GY & \\
    \hline & \multirow[t]{2}{*}{500-(0)-300} & 380 & 150 & Reactor Input & 5U4G & \\
    \hline & & 3.90 & 125 & (capacitor Input & 5U4G & \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type and & \[
    \begin{aligned}
    & \text { Secondary } \\
    & \text { S. Volts }
    \end{aligned}
    \] & D.C. Volts & CCS & D.C. Ma. JCAS & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline PT8311 & 1200-0-1200 & 1000 & 225 & 280 & 525.20 \\
    \hline PT8312 & 1200-0-1200 & 1000 & 325 & 405 & 41.70 \\
    \hline PT8313 & 1475-0-1475 & 1250 & 250 & 310 & 39.95 \\
    \hline PT8314 & 1790-01-1790 & 1500 & 225 & 280 & 46.10 \\
    \hline PT8315 & 2065-0-0-206\% & 1750 & 200 & 250 & 46.50 \\
    \hline
    \end{tabular}

    \section*{BIAS SUPPLY TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \overline{\text { Part }}
    \] & \multicolumn{7}{|c|}{\begin{tabular}{l}
    Hizh Soltage Supply \\
    1.C. Volts at D.C. Nilliamps.
    \end{tabular}} & \[
    \begin{aligned}
    & \text { Reet } \\
    & \text { Volts }
    \end{aligned}
    \] & Fil. nperes & Mtg. & Height Overall & Base Area & Shpg. W't. in Lubs. & List Price \\
    \hline P-6317 & \(200 \quad 170 \quad 1309\) & 0090 & 130 & 170200 & (a) & 200 & ma. & 5.0 & 3.0 & CD & 4 " & \(33_{4}{ }^{\prime \prime} \times 3{ }^{5} 8^{\prime \prime}\) & 4.9 & \$17.20 \\
    \hline P-6318 & \(450400 / 350250\) & 0250 & & 400450 & (a) & 200 & & 5.0 & 3.0 & CD & \(4{ }^{\text {\% }}{ }^{\text {a }}\) & \(358^{\prime \prime} \times 4{ }^{\prime \prime}\) & 7.0 & 19.55 \\
    \hline
    \end{tabular}

    All Primary Windings for 60 cycle operation. \(\ddagger\) Designates part number to be removed from next catalog.
    soutput changed by means of tap on primary winding. Rating is for a single section choke input filter using a 6 mfd . condenser.

    ISOLATION AND AUTOFORMERS

    \section*{CHICAGO STANDARD TRANSFORMER CORPORATION}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Part } \\
    & \text { No. }
    \end{aligned}
    \] & Wattage & Primary \({ }^{\text {a }}\) & Secondary & Mtg. & Height Overall & \[
    \begin{aligned}
    & \text { Base } \\
    & \text { Area }
    \end{aligned}
    \] & Shpg. Wt. in l.hs. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { l'rice }
    \end{aligned}
    \] \\
    \hline P-6160 & 100 & 125/115/105 & 115 & K. 1 & \(44^{3 \prime \prime}\) & \(4^{\prime \prime} \times 35 / 8^{\prime \prime}\) & 7.0 & 519.00 \\
    \hline P-6161 & 250 & 125/115/105 & 115 & \(\mathrm{K} A\) & 43.4 & \(4^{\prime \prime} \times 53 /{ }^{\prime \prime}\) & 14.2 & 35.75 \\
    \hline P-6298 & 500 & 125/115/105 & 115 & FK & \(75 / 8^{\prime \prime}\) & \(61 / 8^{\prime \prime} \times 71 / 8^{\prime \prime}\) & 28.0 & 55.95 \\
    \hline P-6125 & 1000 & 125/115/105 & 115 & FK & \(734^{\prime \prime}\) & 73/8" \(\times 678{ }^{\prime \prime}\) & 34.8 & 73.35 \\
    \hline P-6123 & 1500 & 125/115/105 & 115 & FK & \(734^{\prime \prime}\) & \(73 /{ }^{\prime \prime} \times 81 / 2^{\prime \prime}\) & 49.8 & 91.50 \\
    \hline \multicolumn{9}{|l|}{STEP-DOWN ISOLATION-250/230/210 VOLTS TO 115 VOLTS.} \\
    \hline P-6383 & 100 & 250/230/210 & 115 & KA & \(4{ }^{3 \prime \prime}\) & \(4^{\prime \prime} \times 35 / 8{ }^{\prime \prime}\) & 7.3 & 520.80 \\
    \hline P-6385 & 250 & 250/230/210 & 115 & KA & \(4{ }^{3 \prime \prime}\) & \(4^{\prime \prime} \times 53\), \({ }^{\prime \prime}\) & 14.2 & 33.70 \\
    \hline P-6387 & 500 & 250/230/210 & 115 & FK & \(7{ }^{\text {\% }}\) " & \(61 /{ }^{\prime \prime} \times 71 / 8^{\prime \prime}\) & 29.5 & 57.75 \\
    \hline P-6389 & 1000 & 250/2:30/210 & 115 & FK & 73/ \({ }^{\prime \prime}\) & \(73 / 8^{\prime \prime} \times 6{ }^{7 \prime \prime}\) & 33.8 & 74.40 \\
    \hline P-6390 & 1500 & 250/230/210 & 115 & ドK & \(734 \prime\) & 78/7" \({ }^{\prime \prime}\) 81/2" & 50.3 & 102.95 \\
    \hline \multicolumn{9}{|l|}{ISOLATION TESTING TRANSFORMER} \\
    \hline P-6415 & 350 & 117 & 105/115/125 & KC & \(5 \frac{3}{8 \prime \prime}\) & 41/2" \(\times 534^{\prime \prime}\) & 17.0 & \$30.25 \\
    \hline \multicolumn{9}{|l|}{Large enough to handle almost any television or radio receiver on test. 115 and 125, with 117 volts, A.C., from Has three standard receptacles, providing output voltages of 105 , for correction of high or low line vo} \\
    \hline \multicolumn{9}{|l|}{AUTOFORMERS} \\
    \hline P-6287 & 10 & 2:30 & 115 & K & \(41 /{ }^{\prime \prime}\) & \(3^{\prime \prime}\) Diatri. can & 2.7 & \\
    \hline P-5062 & 80 & 2330 & 115 & K & \(35 / 8^{\prime \prime}\) & \(3^{\prime \prime}{ }^{\prime \prime} \times 33^{\prime \prime}{ }^{\prime \prime}\) & 3.8 & 10.20 \\
    \hline P-5063 & 100 & 230 & 115 & K & \(44^{\prime \prime}\) & \(314^{\prime \prime} \times 314^{\prime \prime}\) & 4.5 & 11.55 \\
    \hline P-5064 & 1.5) & 230 & 115 & K & \(44^{\prime \prime \prime}\) & \(35 / 8^{\prime \prime} \times 358^{\prime \prime}\) & 5.2 & 13.35 \\
    \hline P-5065 & 300 & 230 & 115 & K & & \(44^{\prime \prime} \times 41 /{ }^{\prime \prime}\) & 8.8 & 17.60 \\
    \hline P-6141 & 500 & 230 & 115 & K & 4 \({ }^{4 \prime \prime}\) & \(4^{\prime \prime} \times 51 / 8^{\prime \prime}\) & 13.7 & 23.10 \\
    \hline P-6124 & 1000 & 230 & \(\frac{115}{150}\) & FK & \(7{ }^{\prime \prime} 8^{\prime \prime}\) & \(61 / 8^{\prime \prime} \times 61 / 2^{\prime \prime}\) & 24.5 & 50.30 \\
    \hline P-6299 & 150 & 115150 & 30/120/110/ & K A & 4 " & \(31 / 4^{\prime \prime} \times 4{ }^{3 \prime} 4^{\prime \prime}\) & 6.0 & 19.05 \\
    \hline \multicolumn{9}{|l|}{Testing Autoformer-Designed especially for various service and devices being serviced, which will indicate and cause suspected parts test application. Incorporaters a convenient tap switch to permit variable voltages from 90 to 150 volts. It may be used to apply an overload voltage to amplifiers, radio receivers, or other electronic} \\
    \hline
    \end{tabular}

    \section*{LINE ADJUSTING AUTOFORMERS}

    Stancor Line Adjusters permit operation of clectrical devices at 115 of a solector switch and is accurately indicated by an output voltmeter, volts when the supplied voltage is \(65,75,90,100,115,130\) or 145 . The meter has a convenient red-line marker at 115 volts on a 150 volt They are also useful for altering a 115 volt line above or below that scale level. The line adjuster input is correctable in seven steps by means
    

    \section*{PHOTOFLASH POWER TRANSFORMER}
    

    \section*{SPEAKER FIELD SUPPLY TRANSFORMER}
    

    \section*{POWER TRANSFORMERS-PLATE AND FILAMENT SUPPLY}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{3}{|l|}{High Voltage Secondary} & \multicolumn{4}{|c|}{Filaments} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Wt. } \\
    & \hline \text { tbs. }
    \end{aligned}
    \]} & \multicolumn{3}{|l|}{H-Type Mounting} & \multicolumn{3}{|l|}{S-Type Mounting} & \multicolumn{3}{|l|}{C-Type Mounting} \\
    \hline Volts & \multicolumn{2}{|l|}{Ma. Output D-C V.D-C} & \multicolumn{2}{|l|}{Rectifier Volts Amps.} & \multicolumn{2}{|l|}{Others Volts Amps.} & & Cat. No. & \[
    \begin{gathered}
    \text { Case } \\
    \text { No. }
    \end{gathered}
    \] & List Price & Cat. No. & Case No. & List Price & Cat.
    No. & \[
    \begin{gathered}
    \text { Case } \\
    \text { No. }
    \end{gathered}
    \] & List Price \\
    \hline 250-1)-250 & 10 & 320 & 6.3 & 1.2 & 6.3 & 0.5 & 11/4 & PHC-10 & 14 & \$18.75 & & & & & & \\
    \hline - \(250-10-250\) & 20 & 300 & 6.3 & 1.2 & 18.3 & 10.6 & \(1^{3}\) & PHC-20 & 15 & 19.00 & & & & & & \\
    \hline 225-0-225 & 40 & 210 & 5 & , & 6.3CT & & 31/4 & PHC-40 & 17 & 21.50 & PSC-40 & 17 & \$12.190 & PCC-40 & 16 & \$8.50 \\
    \hline 270-1)-270 & 55 & 260 & 5 & 2 & 6.3 CT & 2 & \(31 / 2\) & PHC-55 & 17 & 21.90 & PSC-55 & 17 & 14.10 & PCC-55 & 16 & 9.15 \\
    \hline 300-1)-300 & 60 & 285 & 5 & 2 & 6.3 CT & 3 & \(41 / 2\) & PHC-60 & 19 & 23.80 & PSC-60 & 19 & 14.85 & PCC-60 & 18 & 10.50 \\
    \hline 335-1)-335 & 70 & 320 & 5 & 2 & 6.3CT & 3 & \(41 / 2\) & PHC-70 & 19 & 24.25 & PSC-70 & 19 & 16.20 & PCC-70 & 18 & 11.25 \\
    \hline 330-0-330 & 85 & 320) & 5 & 2 & 8.3CT & 3 & 0 & PHC-85 & 20 & 26.00 & PSC-85 & 20 & 18.65 & PCC-85 & 20 & 13.00 \\
    \hline 345-1)-345 & 105 & 320 & 5 & 2 & (i). 3 CT & 3.5 & 61/2 & PHC-105 & 21 & 27.70 & PSC-105 & 21 & 19.75 & PCC-105 & 20 & 14.10 \\
    \hline 375-1)-375 & 120 & 380 & 5 & 3 & 6.3CT & 4 & 91/2 & PHC-120 & 21 & 29.30 & PSC-120 & 22 & 20.80 & PCC-120 & 22 & 15.85 \\
    \hline 370-1)-370 & 150 & 390 & 5 & 3 & 8,3CT & 4 & & & & & & & & & & \\
    \hline 385-0-385 & 200 & 390 & 5 & 3 & 6.3CT
    6.3 CT & & 111/2 & PHC-150 & 22 & 38.90 & PSC-150 & 22 & 27.50 & PCC-150 & 22 & 18.15 \\
    \hline & & & & & 6.3 CT & & 121/4 & PHC-200 & 22 & 41.65 & PSC-200 & 22 & 29.25 & PCC-200 & 22 & 21.15 \\
    \hline \[
    \begin{array}{r}
    400-80-0- \\
    80-400
    \end{array}
    \] & & 410 & & \({ }^{6}\) & \({ }_{5}^{10.3 C T}\) & 7
    2 & 15 & PHC-250 & & 45.6 & PSC-250 & 24 & 33.85 & PCC-250 & 24 & 26.05 \\
    \hline 625-1-625 & 300 & 685 & 5 & 4 & \[
    \begin{gathered}
    5.3 \\
    6.3 \\
    6 i .3
    \end{gathered}
    \] & \begin{tabular}{l}
    8 \\
    3 \\
    \hline
    \end{tabular} & & & & & & & & & & \\
    \hline & & & & & 6. 3 & 3 & 21 & & & & PSC-300 & 24 & 51.80 & PCC-300 & 24 & 31.50 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline 350-0)-350 & 55 & 260 & 5 & 2 & (i.3) \({ }^{\text {c }}\) & 2 & \multirow[t]{4}{*}{\[
    \begin{aligned}
    & 3 \frac{1}{4} \\
    & 41 / 2 \\
    & 6 \\
    & 61 / 2
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{\multirow[t]{4}{*}{\[
    \begin{aligned}
    & \text { PHR-55 } \\
    & \text { PHR-70 } \\
    & \text { PHR-85 } \\
    & \text { PHR-105 }
    \end{aligned}
    \]}} & \multicolumn{2}{|l|}{\multirow[t]{4}{*}{\begin{tabular}{ll}
    17 & \(\$ 21.65\) \\
    19 & 23.45 \\
    20 & 25.15 \\
    21 & 27.70
    \end{tabular}}} & \multirow[t]{4}{*}{\[
    \begin{aligned}
    & \text { PSR-55 } \\
    & \text { PSR-70 } \\
    & \text { PSR-85 } \\
    & \text { PSR-105 }
    \end{aligned}
    \]} & \multirow[t]{4}{*}{\[
    \begin{aligned}
    & 17 \\
    & 19 \\
    & 20 \\
    & 21
    \end{aligned}
    \]} & \multirow[t]{4}{*}{\[
    \begin{array}{r}
    \$ 14.50 \\
    16.50 \\
    19.00 \\
    20.00
    \end{array}
    \]} & \multirow[t]{4}{*}{\begin{tabular}{l}
    PCR-55 \\
    PCR-70 \\
    PCR-85 \\
    PCR-105
    \end{tabular}} & \multirow[t]{4}{*}{16
    19
    20
    20
    20} & \multirow[t]{4}{*}{\[
    \begin{array}{r}
    \$ .50 \\
    10.75 \\
    12.50 \\
    13.35
    \end{array}
    \]} \\
    \hline 425-()-425 & 70 & 320 & 5 & 2 & 6. \({ }^{3} \mathrm{Cl}^{\prime}\) & 3 & & & & & & & & & & & \\
    \hline 440-()-440 & 85 & 325 & 5 & 2 & \(1.33 \mathrm{Cl}^{\prime}\) & 3 & & & & & & & & & & & \\
    \hline 450-0-450 & 105 & 320 & 5 & 2 & 0.33 CT & 3.5 & & & & & & & & & & & \\
    \hline \(500-0.500\) & \(121)\) & 340 & 5 & 3 & 1.3CT & 4 & \(91 / 2\) & \multicolumn{2}{|l|}{PHR-120} & 21 & 2930 & PSR-120 & 2 & 21.25 & PCR-120 & \multirow[t]{2}{*}{22} & 14.95 \\
    \hline 510-0-510 & 150 & 345 & 5 & 3 & 1.3 CT & 4 & & & & & & & & & & & \\
    \hline & & & & & 10,3C' & 1 & 111/2 & \multicolumn{2}{|l|}{PHR-150} & 22 & 36.30 & PSR-150 & 22 & 27.85 & PCR-150 & 22 & 19.75 \\
    \hline \(520-0-520\) & 200 & 390 & 5 & 3 & 6.3C' & 4.5 & & & & & & & & & & \multirow[b]{2}{*}{22} & \\
    \hline & & & & & 6.3.3CT & 1 & 121/ & \multicolumn{2}{|l|}{PHR-200} & 22 & \(3 \times 20\) & PSR-200 & 22 & 29.75 & PCR-200 & & 21.50 \\
    \hline \multicolumn{3}{|l|}{\multirow[t]{3}{*}{\[
    \begin{array}{cc}
    550)-370-75-300 & 420 \\
    11-75-370-550 & \\
    480-(1-480 \quad 300 & 380
    \end{array}
    \]}} & 5 & \(1{ }^{1}\) & 6.30 & 1 & \multirow[b]{3}{*}{\[
    171 / 2
    \]} & \multicolumn{2}{|l|}{\multirow{3}{*}{PHR-300}} & \multirow{3}{*}{24} & \multirow{3}{*}{52.15} & \multicolumn{3}{|l|}{\multirow[b]{3}{*}{\[
    \begin{array}{ll}
    \text { PSR-300 } 24 \\
    \text { PSR-300A } 24
    \end{array}
    \]}} & \multicolumn{2}{|l|}{\multirow[b]{3}{*}{\[
    \begin{array}{ll}
    \text { PCR-300 } & 24 \\
    \text { PCR-300A } & 24
    \end{array}
    \]}} & \multirow[b]{3}{*}{\[
    \begin{aligned}
    & 30.50 \\
    & 31.05
    \end{aligned}
    \]} \\
    \hline & & & & & 6.3CT & 5 & & & & & & & & & & & \\
    \hline & & & 5 & 6 & 13.3 & 10 & & & & & & & & & & & \\
    \hline \multicolumn{18}{|c|}{For REGULATED POWER SUPPLIES, CAPACITOR INPUT-Primary 117 Volts, 50.60 Cycles} \\
    \hline \multicolumn{3}{|l|}{\multirow[t]{3}{*}{High Voltage Secondary Volts Ma. Output A-C C-C V.D-C.}} & \multicolumn{7}{|c|}{Filaments} & \multicolumn{2}{|r|}{\multirow[b]{3}{*}{\begin{tabular}{l}
    Wt. \\
    Lbs.
    \end{tabular}}} & \multicolumn{3}{|l|}{H-Type Mounting} & \multicolumn{3}{|l|}{S-Type Mounting} \\
    \hline & & & \multicolumn{2}{|l|}{Rectifier} & \multicolumn{5}{|c|}{Others} & & & \multirow[t]{2}{*}{Cat. Case No. No.} & \multicolumn{2}{|r|}{\multirow[t]{2}{*}{List Price}} & \multirow[t]{2}{*}{\[
    \begin{array}{ll}
    \text { Cat. } \\
    \text { No. } \\
    \mathrm{Ne}
    \end{array}
    \]} & \multirow[t]{2}{*}{Case
    No.} & \multirow[t]{2}{*}{List Price} \\
    \hline & & & Volts & Amps. & Volts & \multicolumn{2}{|c|}{ps} & Volts & Amps & & & & & & & & \\
    \hline +41-(1)-440 & 165 & 430 & 5 & 3 & \[
    \begin{aligned}
    & 6.3 \\
    & 6.3
    \end{aligned}
    \] & & & & \[
    3
    \] & \multicolumn{2}{|r|}{12} & \multicolumn{3}{|l|}{PHC-165 22 8 87.65} & \multicolumn{2}{|l|}{PSC-165} & \$34.7.is \\
    \hline 150-(1)-450 & 200 & 442 & 5 & 2 & \begin{tabular}{l}
    4,3 \\
    6.3 \\
    \hline
    \end{tabular} & 4 & & 13.3 & & \multicolumn{2}{|r|}{12} & \multicolumn{3}{|l|}{PHC-200A 20.12 .05} & \multicolumn{2}{|l|}{PSC-205} & 83.8 \\
    \hline
    \end{tabular}

    FILTER REACTORS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Inductance in Henries & Max. Current Ma. D-C & \[
    \begin{aligned}
    & \text { D-C } \\
    & \text { Resistance } \\
    & \text { in Ohms }
    \end{aligned}
    \] & Insulation Test Volts & Wt. Lbs. & \multicolumn{3}{|l|}{H-Type Mounting} & S-Type
    Cat.
    No. & Moun
    Case
    No. & List
    Price & C-Type
    Cat.
    No. & Mour
    Caso
    No. &  \\
    \hline 1.5 & 10 & 680 & 1,000 & 1 & RH-1510 & 8 & \$ 11.75 & & & & & & \\
    \hline 15 & 20 & lise & 1.0010 & 1 & RH-1520 & 8 & 10.30 & & & & & & \\
    \hline 15 & 40 & 475 & 2.5101 & 11/2 & RH-1540 & 12 & 10.611 & RS-1540 & 12 & \$ 6.010 & RC-1540 & 12 & \$ 4.25 \\
    \hline 15 & 55 & 4:0 & 2.500 & 3 & RH-1555 & 13 & 10.75 & RS-1555 & 13 & 7.00 & RC-1555 & 12 & 5.20 \\
    \hline 1.5 & 85 & 285 & 2.5010 & 23. & RH-1585 & 14 & 11.40 & RS-1585 & 15 & 8.45 & RC-1585 & 14 & 6.30 \\
    \hline 12 & 105 & 170 & 2.500 & 4 & RH-12105 & 17 & 13.35 & RS-12105 & 17 & 8.50 & RC-12105 & 11 & 7.35 \\
    \hline 12 & 150 & 150 & 3.500 & 51/2 & RH-12150 & 19 & 15.30 & RS-12150 & 19 & 11.35 & RC-12150 & 18 & 4.75 \\
    \hline 12 & 200 & 140 & 2.500 & - & RH-12200 & 20 & 18.10 & RS-12200 & 21 & 13.30 & RC-12200 & 20 & 11.50 \\
    \hline 10 & 55 & 230 & \(\stackrel{3}{2}\),5(1) & 134 & RH-1055 & 13 & 10.75 & RS-1055 & 13 & (6.tis & RC-1055 & 12 & 4.95 \\
    \hline 10 & 85 & 175 & 2.500 & \(24 / 2\) & RH-1085 & 14 & 11.40 & RS-1085 & 15 & \(7.10)\) & RC-1085 & 14 & 5.85 \\
    \hline 8 & 105 & 100 & 2,500) & \(33 / 4\) & RH-8105 & 17 & 13.35 & RS-8105 & 17 & 8.50 & RC-8105 & 16 & \(7 .(0)\) \\
    \hline 8 & 150 & 100 & 2,500 & \(51 / 4\) & RH-8150 & 18 & 15.30 & RS-8150 & 19 & 11.00 & RC-8150 & 18 & 9.685 \\
    \hline 8 & 200 & 85 & 2.500 & 7 & RH-8200 & 20 & 1800 & RS-8200 & 21 & 13.00 & RC-8200 & \(\cdots\) & 11.35 \\
    \hline 8 & 250 & 90 & 2,500 & 101/2 & RH-8250 & 22 & 21.70 & RS-8250 & 22 & 15.75 & RC-8250 & \(\underline{2}\) & 12.40 \\
    \hline 8 & 300 & 55 & 3,500) & \(121 / 2\) & RH-8300 & 2 & 25.85 & RS-8300 & 22 & 18.75 & RC-8300 & 22 & 15.40 \\
    \hline
    \end{tabular}

    FILAMENT TRANSFORMERS—Primary 115-230 Volis, 50-60 Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Volts} & \multirow[b]{2}{*}{Secondary} & \multirow[b]{2}{*}{Amps.} & \multirow[b]{2}{*}{Insulation Test Volts} & \multirow[b]{2}{*}{Wt. Lbs.} & \multicolumn{3}{|l|}{H-Type Mounting} & \multicolumn{3}{|c|}{S-Type Mounting} \\
    \hline & & & & & Cat. No. & Case No. & List
    Price & \[
    \begin{aligned}
    & \text { Cat. } \\
    & \text { No. }
    \end{aligned}
    \] & Case No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 2.50 T & - & 5.25 & 3,500 & 2 & FH-25 & 15 & \$15.45 & F-25 & 14 & \$ 10.55 \\
    \hline 2.5 CT & & 10.0 & 5,000 & 3 & FH-210 & 15 & 22.15 & F-210 & 17 & 15.15 \\
    \hline 2.5 CT & & 10.0 & 9,600 & 4 & FH-210H & 14 & 25.75 & \(\mathrm{F}-210 \mathrm{H}\) & 19 & 17.75 \\
    \hline 2.5 CT & & 15.0 & 9,000 & (i) & FH-215H & 21 & 30.95 & F-215H & \(\because 0\) & 21.25 \\
    \hline 5 CT & & 4.0 & 2,500 & 211 & FH-54 & 15 & 16.10 & F-54 & 15 & 10.85 \\
    \hline 5 Cl & & 10.0 & 2.500 & \(31 / 2\) & FH-58 & 17 & 22.15 & F-58 & 17 & 14.50 \\
    \hline 5 Cl & & 10 & 8,000 & 18 & FH-510H & 21 & 33.00 & F-510H & 21 & 22.50 \\
    \hline \(5 \mathrm{Cl}^{\circ}\) & & 20.0 & 2,500 & 61/2 & FH-516 & 21 & 32.00 & F-516 & 21 & 21.85 \\
    \hline 5 CT & & 20 & 10,000 & 13 & FH-520HB & 2 & 41.25 & F-520HB & 22 & 28.25 \\
    \hline 5 (TT & & 30) & 2,500 & 101/2 & FH-530 & 22 & 41.25 & F-530 & 22 & 28.25 \\
    \hline 6.3CT & & 1.5 & 2,500 & 1 & FH-615 & 12 & 11.75 & F-615 & 12 & 8.25 \\
    \hline 6.3 CT & & 3 & 2,500 & 2 & FH-63 & 14 & 15.95 & F-63 & 14 & 8.75 \\
    \hline 6.3 ( 7 & & 5.5 & 2,500 & 3 & FH-65 & 16 & 18.55 & F-65 & 17 & 12.75 \\
    \hline 6.30T & & 10.0 & 2,500 & 5 & FH-610 & 19 & 26.25 & F-610 & 19 & 16.30 \\
    \hline 7.50 & & 5.0 & 2,500 & \(31 / 4\) & & & & F-75 & 17 & 12.25 \\
    \hline -5CT & & 12 & 2.500 & 611/2 & & & & F-712 & 21 & 21.25 \\
    \hline 7.50T & & 25.0 & 2.500 & 12 & & & & F-725 & 22 & 28.25 \\
    \hline 10 CT & & 4.0 & 2,500 & 31 & FH-104 & 17 & 14.05 & F-104 & 17 & 13.00 \\
    \hline 10CT & & 6.5 & 2.500 & 5 & FH-106 & 19 & 21.25 & F-106 & 19 & 17.95 \\
    \hline 10CT & & 10.0 & 2.500 & \(61 / 2\) & FH-1010 & 21 & 30.95 & F-1010 & 21 & 21.25 \\
    \hline 11(\% & & 10.0 & 2.500 & \(01 / 2\) & FH-1110 & 21 & 32.95 & F-1110 & 22 & 20.50 \\
    \hline
    \end{tabular}

    C-Type. With \(10^{\circ}\) colorcoded stripped and tinned leads brought out through Flong cover flonge-mounted unat
    

    Two efficient reactors, indluctance values 8 and 2.4 henrys respectively, are designed for noise suppression circuits, but can be used in any tuned circuit requiring the given inductances. Inductance values aceurate hin \(-5 \%\) with up to 15 ma. d-c. Mi. um Q of 20. Mounted in drawn steel cases,
    
    \begin{tabular}{|c|c|c|}
    \hline Cat. No. & Inductance & List Price \\
    \hline NSI-1 & . 8 h hy. & \$9.7.5 \\
    \hline NSI-2 & 2.4 hy . & 9.75 \\
    \hline
    \end{tabular}

    \section*{FULL FREQUENCY RANGE AUDIO TRANSFORMERS Frequency Response within \(=1 / 2 \mathrm{db}, 30\) to 15,000 Cycles \\ INPUT TRANSFORMERS \\ H-Type (Cat. No. BIH) and B-Type (Cat. No. BI) Mountings}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Application & \begin{tabular}{l}
    Impedance \\
    Primary Secondary
    \end{tabular} & Max. Power Level & Hum Shielding & Case Size & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \] & Cat. No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline Line to Single or P-P Grids & \[
    \begin{aligned}
    & \text { *Pri: } 800150 \text { ohms CT } \\
    & * \text { Sec: } 50.000 \text { ohms CT }
    \end{aligned}
    \] & +15 dhm. & -70 dbm. & 13 & 11. & \[
    \begin{aligned}
    & \text { BIH-1 } \\
    & \text { BI-1 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \$ 15.40 \\
    & : 28.7 .5
    \end{aligned}
    \] \\
    \hline Line to Single or P-P' Grids & \begin{tabular}{l}
    *Pri: 600150 ohms CT \\
    \({ }^{*}\) Sec: \(\mathbf{5 0 , 0 0 0}\) ohms CT
    \end{tabular} & +15 dbm . & -90 dbm . & 13 & 11/2 & \[
    \begin{aligned}
    & \text { BIH-2 } \\
    & \text { BII-2 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 50.8 .5 \\
    & 34.75 .5
    \end{aligned}
    \] \\
    \hline Line bridging to P-P Grids & *Pri: \(8,000,6,000\) ohms CT *See: 50,000 ohms CT & +15 dbm. & -70 dbm. & 13 & 113 & \[
    \begin{aligned}
    & \mathrm{BIH}-3 \\
    & \mathrm{BI}-3
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 47.45 \\
    & 29.95
    \end{aligned}
    \] \\
    \hline Line to line & Pri: 400150 ohms CT Sec: \(600 / 150\) ohms CT & +1.5 dbm. & -70 dbm. & 13 & 112 & \[
    \begin{aligned}
    & \hline \mathrm{BIH}-4 \\
    & \mathrm{BI}-4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 43.35 \\
    & 27.35
    \end{aligned}
    \] \\
    \hline line to Line & *Pri: 600,150 ohms CT
    *Sec: \(600 / 150\) ohms CT & +30 dbm. & -90 dbm . & 18 & 314 & \[
    \begin{aligned}
    & \text { BIH-5 } \\
    & \text { BI-5 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 61.95 .5 \\
    & 39.15
    \end{aligned}
    \] \\
    \hline Interstage: P-P Plates to Sgl. or P-P Grids & *Pri: 20,000 ohms CT
    *Sec: 50,000 ohms CT & +15 dbm. & -70 dbm. & 13 & 11-2 & \[
    \begin{gathered}
    \text { BIH } \\
    \text { BI-6 }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 45.41 \\
    & 28.75
    \end{aligned}
    \] \\
    \hline Low Imperl. Mike, l'ickup, or Multiple line to Grid & \begin{tabular}{l}
    Pri: 50/150/250/600 \\
    \({ }^{3}\) Sec: 50,000 ohms CT
    \end{tabular} & T 15 dbm . & -70 dbm . & 13 & 112 & \[
    \begin{aligned}
    & \text { BIH-7 } \\
    & \text { BI- } 7 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 47.45 \\
    & 29.95
    \end{aligned}
    \] \\
    \hline Single Plate to P'ushruil Grids & Pri: \(\quad 10,000\) ohms
    \(*\) See: 50,000 ohms CT & +15 dbm. & -70 dbm . & 13 & 112 & \[
    \begin{aligned}
    & \text { BIH-8 } \\
    & \text { BI-8 } \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 45.40 \\
    & 28.7 .5 \\
    & \hline
    \end{aligned}
    \] \\
    \hline Single Plate to PushPull (irids** & \[
    \begin{aligned}
    & \text { Pri: } 10,000 \text { ohms } \\
    & \text { *Sec: } 50,000 \text { ohms CT } \\
    & \hline
    \end{aligned}
    \] & +15 dbm . & -70 dbm . & 18 & 314 & \[
    \begin{aligned}
    & \text { BIH-9 } \\
    & \mathrm{BI}-9
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 53.70 \\
    & 19.35 \\
    & \hline
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    \section*{OUTPUT TRANSFORMERS}

    H-Type (Cat. No. BOH) and B-Type (Cat. No. BO) Mountings
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Application & Impedance Primary-Secondary & Max. Power Level & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \] & Wt. Lbs. & \[
    \begin{aligned}
    & \text { Cat. } \\
    & \text { No. }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \text { List } \\
    \text { Price }
    \end{array}
    \] \\
    \hline Single Plate to Line & \[
    \begin{aligned}
    & + \text { Pri: } 150,000 \text { ohms } \\
    & \text { *Sec: } 600150 \text { ohms CT }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & +15 \mathrm{dhm} . \\
    & (22 \mathrm{mw})
    \end{aligned}
    \] & 14 & 21.4 & \[
    \begin{aligned}
    & \mathrm{BOH}-1 \\
    & \mathrm{BO}-1
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 24.811 \\
    16.95
    \end{array}
    \] \\
    \hline P-p Plates to Line & \begin{tabular}{l}
    *Pri: 20,000 ohms CT \\
    \({ }^{4}\) See: 600150 ohms CT
    \end{tabular} & \[
    \begin{array}{r}
    -30 \mathrm{dhm} . \\
    \\
    (1 \text { watt }) \\
    \hline
    \end{array}
    \] & 16 & 3 & \[
    \begin{aligned}
    & \mathrm{BOH}-2 \\
    & 130-2
    \end{aligned}
    \] & \[
    \begin{array}{r}
    34.20 \\
    22.50
    \end{array}
    \] \\
    \hline P-P Plates to Line & \begin{tabular}{l}
    Pri: 5.000 ohms CT \\
    Sec: \(1300 \quad 150\) ohms CT
    \end{tabular} & \[
    \begin{aligned}
    & -40 \mathrm{dbm} . \\
    & (10 \text { watts })
    \end{aligned}
    \] & 20 & 53/4 & \[
    \begin{aligned}
    & \mathrm{BOH}-3 \\
    & \mathrm{BO}-3
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.5 .111 \\
    & 22.15
    \end{aligned}
    \] \\
    \hline P-P Plates to Line & \begin{tabular}{l}
    Pri: 7,500 ohms CT \\
    sec: 500 :50 ohms CT
    \end{tabular} & \[
    \begin{aligned}
    & +43 \mathrm{dbm} \\
    & \text { (20 watts) }
    \end{aligned}
    \] & 20 & 6 & \[
    \begin{aligned}
    & \text { BOMH-4 } \\
    & 130-4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 37.10 \\
    & 23.50
    \end{aligned}
    \] \\
    \hline P-P Plates to Line or Voice Coil & \begin{tabular}{l}
    *Pri: \(\overline{10,000}\) ohms ("T \\
    Sec: 600158 ohms CT and \(150+\mathrm{ohms}\)
    \end{tabular} & \[
    \begin{gathered}
    +37 \text { dbm. } \\
    (5 \text { watts) }
    \end{gathered}
    \] & 18 & 4 & \[
    \begin{aligned}
    & \mathrm{BOH}-5 \\
    & \mathrm{BO}-5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 19.50 \\
    & 27.20
    \end{aligned}
    \] \\
    \hline P-I' Plates to Voice Coil & \begin{tabular}{l}
    \[
    \text { Pri: } 7,500 \text { ohms CT }
    \] \\
    Spe: 820 ohms +
    \end{tabular} & \[
    \begin{aligned}
    & 243 \text { dlim. } \\
    & \text { ( } 20 \text { watts) }
    \end{aligned}
    \] & 20 & 13 & \[
    \begin{aligned}
    & \text { BOH-6 } \\
    & \text { BO-6 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    17.45 \\
    29.25
    \end{array}
    \] \\
    \hline Line to Voice Coil & I'ri: \(1800 / 150\) ohms Set: 820 ohms & \[
    \begin{aligned}
    & \text { T45 dbm } \\
    & \text { (30 watts) }
    \end{aligned}
    \] & 20 & \(6{ }^{12}\) & \[
    \begin{aligned}
    & \text { BOH-7 } \\
    & \text { BO- }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    15.711 \\
    23.30
    \end{array}
    \] \\
    \hline P-P' Parallel Pl. to Line or Vice Coil & \begin{tabular}{l}
    Pri: 1500 ohnos C'T \\
    Sec: tion 168 ohms CT and 1.504 ohms
    \end{tabular} & -4.5 dbm . (30 watts) & 21 & 6 \% 2 & \[
    \begin{aligned}
    & \text { HOH-8 } \\
    & \text { BO-8 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 41.9 .5 \\
    & 30.80
    \end{aligned}
    \] \\
    \hline P-P'rlates to Line or Voice (i,il) & \begin{tabular}{l}
    Pri: \(5000 ; 3000\) ohms ("T \\
    *spe: 100,168 ohms CT and 1504 ohms
    \end{tabular} & \begin{tabular}{l}
    -12 dbm . \\
    (15 watts)
    \end{tabular} & 20 & 6 & \[
    \begin{aligned}
    & \text { BOH-3 } \\
    & \text { BO-9 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.50 \\
    & 28.75
    \end{aligned}
    \] \\
    \hline P'- P' low Level l'lates to line & \begin{tabular}{l}
    I'ri: 20,000 ohms ('T \\
    Sere: 6001.50 ohms (TT
    \end{tabular} & \[
    \begin{aligned}
    & -15 \mathrm{dbm} . \\
    & (22 \mathrm{mw})
    \end{aligned}
    \] & 13 & 112 & \[
    \begin{aligned}
    & \text { B6) } 18-10 \\
    & 130-10
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 43.35 \\
    & 27.50
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { P-1 Plates } 10 \text { Lime or } \\
    & \text { Vine Coil }
    \end{aligned}
    \] & \begin{tabular}{l}
     \\
     athd 1.30 I ohm
    \end{tabular} & - 16 , (b) 40 watts) & 21 & \(9^{12}\) & I3O-I] & 41.45 \\
    \hline P-i Plates to Line or Voice. Coil' & \begin{tabular}{l}
    Pri: 10.000 ohms CT \\
    Sec: 600168 ohms
    \end{tabular} & \(\rightarrow 40 \mathrm{dhm}\). 10 watts) & 22 & 9 & BO-12 & 29.75 \\
    \hline P-J Plates to Voice Coil & Pri: 10,000 ohms Sec: 1f 8 i ohms & -43 dbm. 20 wates & 21 & 7 & BO-13 & 29.75 \\
    \hline
    \end{tabular}

    \section*{DETAILS OF NEW EQUIPMENT LINE MOUNTINGS}

    H-TYPE MOUNTING-Hermetic sealing meets S-TYPE MOUNTIG-Precision-fitted steel all MIL-T-27 specifications. Steel base cover is bonded into the case by deep-seal soldering. Terminals are hermeticall: sealed by unique rubber gasket-ceramic bushing construction. Units are stud mounted.
    C-TYPE MOUNTING-Moisture-resistant compound surrounds coil and core. Ten-inch, \(12.11 .1-\) color-coded leads, ends stripped and tinned for easy soldering. Flange-mounted drawn steel
    base-covers and terminal boards, plus compound filling, keep moisture out. Solder-lug terminals are ctearly identified, easy to use. Drawn sterel cases are llange-mounted.

    B-TMPE MOINTING Steel bases are bonded into the drawn steel cases by deep-seal soldering to make units completely moisture proof. Studmounted cases take minimum chassis space.

    BIASTRANSFORMERS-Combination Plate and Filament Primary 50-60 Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Primary Volts} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{High Voltage Secondary AC Volts CT CC Ma.}} & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{Rect. Fita. Volts Amps.}} & \multicolumn{3}{|l|}{H-Type Mounting
    Cat. Case List} & \multicolumn{3}{|l|}{S-Type Mounting} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { C-Type } \\
    & \text { Cat. } \\
    & \text { No. }
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{Mounting} \\
    \hline & & & & & Cat. No. & \begin{tabular}{l}
    Case \\
    ト
    \end{tabular} & List Price & \begin{tabular}{l}
    Cat. \\
    No.
    \end{tabular} & Case No. & \begin{tabular}{l}
    List \\
    Price
    \end{tabular} & & Case No. & List Price \\
    \hline 115 & 1*(t-16t-1 + (1-12) & 150 & 5.1 & \({ }^{2} .0\) & 18H-150 & 14 & 5? 2 ¢i.80 & 18S-150 & 19 & \$16.45 & 18C-150 & 18 & \$10.75 \\
    \hline 230) & 191-1601-14-120) & 15t) & 5.0 & 3.11 & 2BH-150 & 14 & 210.25 & 28S-150 & \(!9\) & 16.(t) & 2BC-150 & 18 & 110.50 \\
    \hline
    \end{tabular}

    \section*{AUDIO TRANSFORMERS}

    CHICAGO STANDARD TRANSFORMER CORPORATION

    \section*{TRANSISTOR TRANSFORMERS}

    Here are the smallest iron core audio transformers ever built. They weigh less than \(1 / 10\) ounce and are no larger than the transistors they power. Write for Bulletin 462 showing typical circuit application.

    These transformers are designed primarily for transistor mudio application but they can be used wherever low power is involved. Useful range, below 1 mw level. They are constructed of extremely fine wire, wound on molded nylon bobbins, with special nickel alloy steel laminations. Mounting style is coil and iron only, type UM.

    SPECIAL Chicago-Stancor ultra-miniature transistor transformers, designed and built to your requirements, can be supplied in quantities of five or more. Send your specifications for information on price and delivery.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline P'art
    \[
    \mathrm{No} .
    \] & Application & \begin{tabular}{l}
    Pri. \\
    Imp.
    \end{tabular} & Sec. Imp. & Pri. DC Res. & \begin{tabular}{l}
    Sec. \\
    DC Res.
    \end{tabular} & Dimensions \$ & Weight in ounces & \[
    \underset{\text { List }}{\text { List }}
    \] \\
    \hline UM-110 & Interstage & 20,000 & 1,000 & 1675 & 285 & \(1 / 4 \times 3 / 8 x^{\prime \prime} \times{ }^{\prime \prime}\) & 0.07 & \$12.25 \\
    \hline UM-111 & Output or matehing & 1.000 & 50,60 & 120) & 9.0 & \(3 / x^{\prime \prime} \times 3 / 8{ }^{\prime \prime} \times 3 / 8{ }^{\prime \prime}\) & 0.10 & 10.50 \\
    \hline UM-112 & High impe mice input & 200,000 & 1,000 & 4000 & 195 & \(3 / 8{ }^{\prime \prime} \times 8 / 8{ }^{\prime \prime} \times 3 / 8{ }^{3}\) & 0.10 & 13.75 \\
    \hline UM-113 & Interstage & 20.000 & 1,000 & 1:350 & 205 & \(3 /{ }^{\prime \prime} \times 3 / 88^{\prime \prime} \times 3 / 40\) & 0.10 & 11.00 \\
    \hline UM-114 & Output or matching & 500 & 5060 & 70 & 9.0 & \(3 / 81 \times 3 / 8{ }^{\prime \prime} \times 3 /{ }^{\prime \prime}\) & 0.10 & 10.50 \\
    \hline \multicolumn{9}{|c|}{§Dimensions \(\pm .015\) ".} \\
    \hline
    \end{tabular}

    \section*{MINIATURE HIGH FIDELITY AUDIO TRANSFORMERS}

    Chicago-Stancor Tinytrans are miniature transformers made with nickel steel laminations. They have an exceptional frequency response for units of this size; \(\pm 1 \mathrm{db} .30-1 \overline{0}, 000 \mathrm{cps}\), Maximum level 0 db . Write for Bulletin 463 showing frequency response curves on these transformers.

    These units are sealed and potted in \(7 / 8^{\prime \prime}\) square, anodized aluminum cases with phenolic terminal boards. Total height, including terminals, is \(11 / 4^{\prime \prime}\). The case has two \(2-56\) threaded inserts, \({ }^{11}\) 年" centers, for easy
     chassis mounting. The entire transformer weighs only 1.3 ounces.
    \begin{tabular}{|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    part \\
    No.
    \end{tabular} & Application & Primary Impedance & Secondary Impedance & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Pricee }
    \end{aligned}
    \] \\
    \hline TT-11 & Mic., pickup or line to single grid & 50, 200,250, 500 600 & 50,000 & 514.15 \\
    \hline TT-12 & Mic., pickup or line to push-pul! grids & 50, 200,250, 500/600 & 50,000 & 14.75 \\
    \hline TT-13 & I)ynamic mic. to single grid & 7.5/30 & 50,000 & 13.45 \\
    \hline TT-14 & Single plate to single grid & 15,000* & 60,000 & 11.60 \\
    \hline
    \end{tabular}

    \section*{PUBLIC ADDRESS RANGE TRANSFORMERS}

    \section*{Frequency Response within \(\pm 1 \mathrm{db}, 50\) to 10,000 Cycles}

    Driver and output transformers in this CHI-
    CA(iO series are designed for three general power levels to fit a wide range of application. Up-to-date secondary impedances match 600 or 150 -ohm lines, 16,8 , and 4 -ohm speakers.
    ( \(16 / 8 / 8\)-ohm taps also suitable for \(20 / 6 / 3.2\)-ohm speakers.) Output transformers have tertiary windings for \(10 \%\) inverse feedback that minimizes distortion and provides extra audio watts without loss of fidelity.

    DRIVERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Application & Primary Impedance & Max. D.C.
    Pri. & Ratio, Pri. to 1/2 Sec. & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \] & Wt. Lbs. & Cat. No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline P-I' Plates to 1'- \({ }_{\mathbf{g}}\) Grids & 20,000 ohms (Pri. CT) & 10 ma . & 3:1 & 14 & 21/4 & \[
    \begin{aligned}
    & \text { PHI } 10 \\
    & \text { PSI } 10 \\
    & \text { P(CI }-10
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 15 .(1) \\
    10.20 \\
    7.00
    \end{array}
    \] \\
    \hline P-P Plates to P-P Grids & \begin{tabular}{l}
    20,000 ohms \\
    (Pri. CT)
    \end{tabular} & 25 ma. & 3:1 & 15 & 21/4 & \[
    \begin{aligned}
    & \text { PHI - } 25 \\
    & \text { P'SI- } 25 \\
    & \text { P(DI-25 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    14.45 \\
    9.90 \\
    6.65
    \end{array}
    \] \\
    \hline P-P Plates to I'-P Grids & \[
    \begin{aligned}
    & 5,000 / 10,000 \\
    & \text { ohms (Pri. CT) }
    \end{aligned}
    \] & 100 ma . & 5:1 & 18 & \(41 / 2\) & \[
    \begin{aligned}
    & \text { PHT)-100 } \\
    & \text { PSi -100 } \\
    & I^{\prime}\left({ }^{\prime}\right)-100
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 24.75 \\
    & 16.90 \\
    & 11.95
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    OUTPUTS \({ }_{\text {H-Type (Cot. No. PHO), S-Type (Cat. No. PSO) and C-Type (Cat. No. PCO) Mountings }}\)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Application & Impedances & Typical Output Tubes & Class & \begin{tabular}{l}
    Max. \\
    Audio \\
    Watts
    \end{tabular} & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { D.c. } \\
    & \text { Pri. Cr }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size } \\
    & \text { Wt. }
    \end{aligned}
    \] & Cat. No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline P-I' I'lates to Line or Yoice Coil & Primary: 5,000 ohms, CT Secondary: * 600/150/16's/4 ohms & 6B4G, 6L6,
    \[
    6 \mathrm{~V} 6 \text {, etc. }
    \] & \[
    \begin{aligned}
    & \mathrm{A}_{1} \\
    & \mathrm{AB}^{2}
    \end{aligned}
    \] & 20 & \[
    \begin{aligned}
    & 120 \\
    & \text { ma. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 20: \\
    & 61 / 2 \\
    & \text { tbs. }
    \end{aligned}
    \] & PHO-80 1580-80 I'CO-80 & \[
    \begin{array}{r}
    \$ 30.95 \\
    21.25 \\
    15.55
    \end{array}
    \] \\
    \hline P-P' Plates to Line or Voice Coil & \begin{tabular}{l}
    Primary: \\
    10,000 ohms, CT Secondary: 600/150/16,8/4 ohms
    \end{tabular} & 6Y6, 6F6, 6 K 6 , etc. & \[
    \begin{aligned}
    & \mathrm{AB} \\
    & \mathrm{AB}_{1}
    \end{aligned}
    \] & 15 & \[
    \begin{aligned}
    & 200 \\
    & \text { ma. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    19: \\
    5 \\
    \text { lbs. }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { PHO-150 } \\
    & \text { PSO-150 } \\
    & \text { PCO-150 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 27.85 \\
    & 19.00 \\
    & 13.40
    \end{aligned}
    \] \\
    \hline I- P' Plates to line or -oice Coil & \begin{tabular}{l}
    Primary: \\
    6,000 ohms, CT Secondary: 600/150/16. \(\mathrm{K} / 4 \mathrm{ohms}\)
    \end{tabular} & Two 61.6's. Four 6V6's. or similar & \[
    \stackrel{\mathrm{B},}{\mathrm{AB}} \mathrm{~B}
    \] & 30 & \[
    \begin{aligned}
    & 250 \\
    & \mathrm{ma}
    \end{aligned}
    \] & \[
    \begin{gathered}
    22: \\
    9 \\
    \text { lbs. }
    \end{gathered}
    \] & I'HO-200 1'4O-200 1'('O-200 & \[
    \begin{aligned}
    & 34.60 \\
    & 2.25 \\
    & 17.60
    \end{aligned}
    \] \\
    \hline
    \end{tabular}
    

    TYPE UM
    

    H-TYPE MOUNTING

    S-TYPE MOUNTING
    
    

    MS（MILITARY STANDARD）POWER AND FILAMENT TRANSFORMERS
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Case } \\
    & \text { Type }
    \end{aligned}
    \]} & \multicolumn{5}{|c|}{Dimensions in Inches} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Stud } \\
    & \text { Size }
    \end{aligned}
    \]} \\
    \hline & A & C & D & H & K & \\
    \hline 1：B & \(1{ }^{15} 56\) & \(1{ }^{13} 16\) & 2316 & \(1^{3}\) ， & 11 & （6，il2 \\
    \hline Fis & \(\stackrel{3}{16}\) & \(2{ }^{116}\) & \(21 / 2\) & \(1_{16}\) & \(1^{176}\) & （6－32 \\
    \hline （113 & \(23_{4}^{68}\) & 23＂， & \(2{ }^{2}\) if & \(\because\) & \(13_{4}\) & 16－32 \\
    \hline 1113 & 31.6 & 20 & ， \(\mathrm{s}_{16} \mathrm{i}_{6}\) & 219， & \(\mathrm{l}^{5{ }^{5}{ }_{\text {c／i }}}\) & K－32 \\
    \hline II．\({ }^{\text {a }}\) & \(3{ }^{1616}\) & 5象 & \(41 \%\) & 20， & 1．3， 61 & 8 －32 \\
    \hline Jis & 3，\({ }^{16}\) & \(3^{1116}\) & 376 & 25 \％ & 21． & 8 8－32 \\
    \hline Ki & \(33^{15}\) & \(3^{310}\) & \(4{ }^{\text {\％}} 16\) & 3 & 年， & 10－32 \\
    \hline LS & 4：16 & \(3^{111}\) & \(41 / 2\) & \(3{ }^{3}\) & & \\
    \hline AB & \(4{ }^{11 / 6}\) & \(4{ }^{\text {lif }}\) & 415 的 & \(3^{11_{66}}\) & 3. & 1／2－20 \\
    \hline NH & 51／6 & 星伯 & \(51 / 2\) & \(4{ }^{119}\) & \(3{ }^{3} 15\) & 1／4－20 \\
    \hline
    \end{tabular}
    

    POWER TRANSFORMERS—Primary，105／115／125 V．－Frequency，54－66 Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{MIL－T－27 Classification} & \multirow[b]{2}{*}{\begin{tabular}{l}
    MIL－T－27 \\
    Part No．
    \end{tabular}} & \multicolumn{2}{|l|}{High Voltage Secondary} & \multirow[b]{2}{*}{D－C V Output} & \multicolumn{2}{|c|}{Rect．Fil．} & \multicolumn{2}{|c|}{Fil．No． 2} & \multirow[b]{2}{*}{Wt． Lbs．} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Catalog Number} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} \\
    \hline & & A－C Volts & D－C Ma． & & Voits & Amps & Volts & Amps & & & & \\
    \hline TF1．403［1／a01 & M \(\mathrm{N-40026}\) & 2（0）－100－（0－100－20） & 70 & 385 & 6． \(3 / 5\) & 2 & 6.3 & 3 & 4 & HA & PMS－70 & \＄24．50 \\
    \hline TF1A03JB002 & 18，－90027 & \(325-0-325\) & 80 & 260 & 6． \(3 / 5\) & 2 & 16.3 & 4 & 5 & J13 & PMS－70A & 25.50 \\
    \hline TF1．103K13006 & Mis－90028 & 325－（1）－325 & 150 & 245 & 6.3 & 5 & 5 & 3 & 71／4 & K13 & PMS－150 & 29.50 \\
    \hline TF1A03LBH（H）3 & － \(1 \times\)－90129 & f（x）－0－400 & 175 & 318 & 5 & 3 & 16.3 & 8 & 10 & LH & PMS－175 & 34.50 \\
    \hline TFlatimbind & （15－90030 & 45（－）－450） & 250 & 345 & 5 & 3 & 13.3 & 8 & 13 & M 13 & PMS－250 & 44.50 \\
    \hline TF1A02KB（\％） & 115－90031 & 3530－（0）－350 & 250 & 255 & & & & & \(71 / 2\) & K13 & PMS－350 & 29.50 \\
    \hline  & M心－40032 & 55：0）－（1）－550 & 251 & 419 & & & & & 11 & L3 & PMS－550 & 35.50 \\
    \hline TF1AO2，\({ }^{\text {¢ }}\)（\％） 3 & Mis－96036 & 8010－1）－800 & 250 & 640 & & & & & 161／2 & N13 & PMS－800 & 49.50 \\
    \hline
    \end{tabular}

    FILAMENT TRANSFORMERS－Primary，105／115／125 V．－Frequency，54－66 Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\begin{tabular}{l}
    MIL－T－27 \\
    Classification No．
    \end{tabular}} & \multirow[b]{2}{*}{\begin{tabular}{l}
    MIL－T－27 \\
    Part No．
    \end{tabular}} & \multicolumn{2}{|c|}{Secondary} & \multirow[b]{2}{*}{Insulation Volts RMS} & \multirow[b]{2}{*}{Wt．Lbs．} & \multirow[b]{2}{*}{Case Size} & \multirow[b]{2}{*}{Catalog Number} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} \\
    \hline & & Volts & Amps & & & & & \\
    \hline TFiA01 EBMOE & & 2.5 & 3.0 & & & & & \\
    \hline TFiA01GBe63 & M1s－40017 & 2.5 & 10 & 2500 & 21 & CB & FMS-210 & 23.50 \\
    \hline TF1A01FB004 & Mi－90018 & & 3.0 & 2500 & 13／6 & FB & FMS－53 & 16.25 \\
    \hline TF1．201 H13005 & Mi－40019 & 5.0 & 10 & 2500 & & & FMS－510 & 25.50 \\
    \hline TFiA01F15006 & M \(\mathrm{N}-40020\) & 6.3 & 2.0 & 2500 & 13／4 & FB & FMS－62 & 15.50 \\
    \hline TFIAOLGBOO7 & M1－40021 & 6.3 & 5.0 & 2500 & 23／4 & HB & FMS－65 & 21.50 \\
    \hline TF1A01J3008 & 115－90022 & 6.3 CT & 10 & 2500 & 5 & J3 & FMS－610 & 29.50 \\
    \hline TF1A01K13009 & Ms－90023 & 6.3 & 20 & 2500 & 8 & KB & FMS－620 & \({ }^{36.50}\) \\
    \hline TF1A01．JB012 & 115－90024 & \(\stackrel{2}{5}\) & 10 & 10000 & 43／6 & JB & FMS－210H & 27.50 \\
    \hline TF゙101 KB013 & M \(15-90025\) & 5.0 & 10 & 10000 & 7 & KB & FMS－510H & 35.00 \\
    \hline
    \end{tabular}

    \section*{400 CYCLE TRANSFORMERS AND REACTORS}
    

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Case} & \multicolumn{5}{|c|}{Dimensions in inches} \\
    \hline & A & C & D & H & K \\
    \hline 3 & 13 16 & 13 伯 & 2 & \(1^{5}\) & ds \\
    \hline 7 & \({ }^{13} \times\) & \(1^{3}\) & 2 & \(1{ }^{15} 16\) & \\
    \hline 10 & 17／8 & \(18 /\) & 28 is & \(1{ }^{15}\) & \(1_{1 / 16}\) \\
    \hline 11 & 1is & & & \({ }^{15}\) & \(1^{1 / 16}\) \\
    \hline 12 & \(21 / 1\) & \({ }^{21 / 8}\) & \({ }^{211}\) & \({ }_{14}^{1410}\) & \(1{ }^{\text {1 }}\) \\
    \hline 13 & 21／4 & \(2^{1}{ }_{8}^{8}\) & 2516 & \({ }^{14} 1{ }^{16}\) & 1＂： \\
    \hline 15 & \(21 / 2\) & 238 & \({ }^{3516}\) & 113 的 & \(1^{1116}\) \\
    \hline 16 &  & 21110 & 31，2 & \(\cdots\) & \(1^{1 \%}\) \\
    \hline 17 & \(2 \%\) & \({ }^{211} 16\) & 3384 & & \({ }^{17}{ }^{17}\) \\
    \hline 20 & 3116 & \({ }_{3}^{3} 3\) &  & \({ }_{2}^{258}\) & \({ }_{2}^{23}{ }_{20}\) \\
    \hline
    \end{tabular}

    POWER TRANSFORMERS（All Primaries 105／115／125 V．，380－1000 Cycles）
    High Voltage Secondary
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{High Voltage Secondary} & \multicolumn{2}{|c|}{Rect．Fil．} & \multicolumn{2}{|c|}{Other Fil．} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{Wt． Lbs．} & \multirow[t]{2}{*}{Catalog Number} & \multirow[t]{2}{*}{\[
    \underset{\text { Price }}{\text { List }}
    \]} \\
    \hline A．C．Volts & D．C．Ma． & Volts & Amps． & Volts & Amps． & & & & \\
    \hline 270－6－270 & 55 & 5.0 & 2 & 6.3 CT & 2 & 13 & 11／2 & 4PHC－55 & \＄21．75 \\
    \hline 335－0－335 & 70 & 5.0 & 2 & 6.3 CT & 3 & 13 & \(13 / 4\) & 4 PHC －70 & 23.75 \\
    \hline 375－0－375 & 120 & 5.0 & 3 & 6．3 CT & 4 & 17 & 21／2 & \(4 \mathrm{PHC}-120\) & 28.75 \\
    \hline ＋40－0－440 & 165 & 5.0 & 3 & & 7.5 & & & & \\
    \hline & & & & 6.3 & & & & & \\
    \hline & & & & 6.3 & 3 & & & & \\
    \hline \multirow[t]{3}{*}{450－0－450} & \multirow[t]{3}{*}{200} & \multirow[t]{3}{*}{5.0} & \multirow[t]{2}{*}{2} & 6.3 & 0.6 & 20 & 6 & 4PHC－165 & 38.75 \\
    \hline & & & & 6． 3 & 4 & & & & \\
    \hline & & & & 6.3 & \({ }_{0}^{4} .6\) & 20 & & 4PHC－200A & 41.75 \\
    \hline \multirow[t]{2}{*}{\[
    \begin{gathered}
    550-370-75-0 \\
    75-370-550
    \end{gathered}
    \]} & \multirow[t]{2}{*}{300} & \multirow[t]{2}{*}{5.0} & \multirow[t]{2}{*}{6} & 6.3 CT & \({ }_{5}\) & & & \(4 \mathrm{HC-200}\) & \\
    \hline & & & & 6.3 CT & & 21 & 61／2 & 4－PHR－300 & 44.75 \\
    \hline
    \end{tabular}

    FILTER REACTORS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Inductance （henries） & Maximum D．C．Ma． & D．C．Resist－
    ance（Ohms） & Insulation Volts RMS & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \] & Wt． Lbs． & \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 2.0 & 55 & 160 & 2，500 & 3 & 1／4 & 4RH－255 & \＄11．00 \\
    \hline 2.0 & 70 & 165 & 2，500 & 7 & \(1 / 2\) & 4RH－270 & 11.50 \\
    \hline 2.0 & 120 & 100 & 2,500 & 11 & 1 & 4RH－2120 & 12.00 \\
    \hline 2.0 & 165 & 90 & 2，500 & 11 & \(11 / 2\) & 4RH－2165 & 13.00 \\
    \hline 2.0 & 200 & 73 & 2,500 & 13 & \(13 /\) & 4RH－2200 & 13.50 \\
    \hline 2.11 & 300 & 47 & 2.500 & 16 & 31／4 & 4RH－2300 & 14.50 \\
    \hline
    \end{tabular}

    FIL AMENT TRANSFORMERS（AlI Prim．105／115／125 V．，380－1000 cycles）
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Sec． Volts & Soc． Amps． & Insulation Volis RMS & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \] & Wt． Lbs． & Catalog Number & List Price \\
    \hline 6.3 CT & 3 & 2，500 & 10 & 3／4 & 4FH－63 & \＄13．50 \\
    \hline 6.3 CT & 5.5 & 2.5010 & 11 & 1 & 4FH－65 & 18.50 \\
    \hline 6.3 CT & 10 & 2，500 & 13 & 18／4 & 4FH－610 & 23.50 \\
    \hline 6309 & 20 & 2.5011 & 1.5 & \(21 / 2\) & 4FH－620 & 29.50 \\
    \hline
    \end{tabular}

    \section*{NEW EQUIPMENT}

    AUDIO
    TRANSFORMERS
    CHICAGO STANDARD TRANSFORMER CORPORATION

    \section*{HF AND WF SERIES HIGH FIDELITY AUDIO TRANSFORMERS}

    \section*{HF Series}

    These units have a wide frequency response of 20 to \(20,000 \mathrm{cps}\) with \(\pm 1 \mathrm{db}\). Correct design reduces harmonic and intermodulation distortion to a negligible amount. Balanced construction minimizes hum pickup. Chicago-Stancor impregnation insures long life. Cases are finished in gray enamel and have four threaded holes at each end for flush mounting. Studtype terminals are plainly marked for easy identification.
    

    \section*{LOW IMPEDANCE TO GRID}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Part \\
    No.
    \end{tabular} & Application & \begin{tabular}{l}
    Primary \\
    \(1 \mathrm{mp} / \mathrm{Ohms}\)
    \end{tabular} & Secondary \(1 \mathrm{mp} / \mathrm{Ohms}\) & Max. Lovel & Hum-Pickup Reduction & Mtg.
    \[
    \delta^{2}
    \] & List Price \\
    \hline HF-20 & Low Imp. Mic., Pickup, or line to Grid & \(50,125 / 150,200,250,333,500,600\) & 60,000 overall, in two sections & 15 db & \(-7.10\) & HF-1 & \$32.50 \\
    \hline HF-20X & Low Imp., Mic., Pickup, or line to Cirid & 50, 125/150. \(200,250,333,500,600\) & 50,000 & 14 db & -92 dib & HF-1 & 41.60 \\
    \hline HF-22 & Low lmp. Mic., Pickup, or line to P.P. Grids & 50, 125/150, 200, 250, 333, 500 600 & 120,000 overall, in two sections & 15 db & \(-7.4 \mathrm{db}\) & HF-1 & 36.40 \\
    \hline HF-22X & Low Imp. Mic., Yickup, or line to P.P. Cirids & \(50,125 / 150,200,250,3333,500600\) & 80,000 overall, in two sections & 14 db & \(-32 \mathrm{db}+\) & HF-I & 45.50 \\
    \hline \multicolumn{8}{|l|}{INTERSTAGE} \\
    \hline HF-29 & Sgl, I'l. to P.l'. GiridsSplit secondary & 15,0100 & 9.5,000 (Turn matio 2.5:1 overall) & 17 dt & \(-50 \mathrm{dt}\) & HF゙-I & \$31.20 \\
    \hline HF-31 & Single l'late to I'.I', (Xricts, Split pri. and sec. & 15,100 & 135,000 (Turn ratio 3:1 overali) & 14 db & \(-7.1 \mathrm{db}\) & HF-1 & 31.20 \\
    \hline HF-32 & P.I. Platesto P.P. Grid Split pri. and sce. & 30) 060 Plate to E'date & ab,000 ( Turn ratio 1.6:1 overall) & 219 db & \(-50 \mathrm{db}\) & 115-3 & 40.30 \\
    \hline \multicolumn{8}{|l|}{MIXING} \\
    \hline HF-40 & Low Imp. Mixer, Mic., lickup, or line to Line & \(50,125,150,200,250,3333,500,100\) & \[
    \begin{aligned}
    & 50 \text { 135, } 150,200,250,33: 3 \text {, } \\
    & 5004500
    \end{aligned}
    \] & 17 db & \(-7.1 \mathrm{db}\) & 11F-1 & \$32.50 \\
    \hline
    \end{tabular}

    \section*{OUTPUT}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline HF-65 \(\dagger\) & \[
    \begin{aligned}
    & \text { P.P. 2A3's, 6L6's etc. } \\
    & \text { to line or Voice Coil }
    \end{aligned}
    \] & 3,000 or 5,000 Plate to Plate & \[
    \begin{aligned}
    & 1.2,2,5,5,7.5,10,15,20,30,50, \\
    & 125,200,250,333 \text { or } 500
    \end{aligned}
    \] & \[
    20 \text { watts }
    \] & & HF-2 & \$36.40 \\
    \hline 'HF-67† & P. P. 2A3's, 61.6's, etc. to Voice Coil & 3,000 or 5,000 Plate to Plate & \(30,20,15,10,7.5,5,2.5,1.2\) & 20 watts & & HF-2 & 26.00 \\
    \hline HF-68 \(\dagger\) & P.P. l'ar, 2A:3's, GAJG's, 300A's, 6A3's to Line or Voimo Conil & 1,500 or 2,500 Plate to Plate & \[
    \begin{gathered}
    500,333,250,200,12,50,30 \\
    20,15,10,7,5,5,2,5,1,2
    \end{gathered}
    \] & 40 watts & & HF-3 & 65.00 \\
    \hline
    \end{tabular}
    
    
    

    \section*{WF Series}

    These units are of the same outstanding quality as the HF Series above, and, with the exception of two units, have a frequency response within +2 db from \(50-20,000 \mathrm{cps}\) and \(\mathrm{F}-21\) and \(\mathrm{F}-35\) have a resp
    

    TResponse \(\pm 1\) db from 25 to \(20,000 \mathrm{cps}\).
    - As compared to standard uncased units. \(\ddagger\) Quadruple alloy magnetic shied.
    extremely low hum pickup. All WF units are cased in the WF-6 type cast case with phenolic terminal board and four tapped holes for flush mounting. Overall dimensions are \(2^{\prime \prime}\) high with \(11 / 2^{\prime \prime} \times 1 / 2^{\prime \prime}\) base area. Mounting centers are \(1^{3} z^{\prime \prime} \times 1^{5} x^{\prime \prime}\). Shipping weight is 0.6 lbs .

    \section*{MIXING}
    \begin{tabular}{|c|c|c|c|}
    \hline MF-30 & 1 & 0, 125,150, 200, \(250,3333,500600\) & \\
    \hline & & & \\
    \hline
    \end{tabular}

    \section*{TRANSFORMERS and REACTORS}
    

    \section*{LARGE CAPACITY TRANSFORMERS AND REACTORS For Broadcast, Communications and Industrial Use DRIVER TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline In: & Recommended Applicatlun: Tubes: & \[
    \frac{\text { Ratio }}{\text { Pri. } / 1,2 \text { Sec. }}
    \] & Mitg. Type & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \] & Wt. Lbs. & Cat. No. & \[
    \begin{aligned}
    & \text { List! } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 250-Watt Transmitter & From two 2A3's, 6B4's, or similar P-P P'lates to Class B 8:38's, 805's, 203-A's, etc. & 3.5:1 & B* & 20 & 61/2 & BI)-1 & \$32.60 \\
    \hline \begin{tabular}{l}
    1-K W \\
    Transmitter
    \end{tabular} & From four 2A3's, 6B4's, or similar P-P Plates to two 833-A's or similar P-P Grids & 3:1 & \(\dagger\) & 24 & 121/4 & HD-2 & 40.00 \\
    \hline \[
    \begin{gathered}
    \text { 5-KW } \\
    \text { Transmitter }
    \end{gathered}
    \] & From four 845's, two 152-Ti's or similar P-P Ilates to \(891-\mathrm{R}\) 's or similar P-P' Grids & 3.5:1 & BX & 26 & 24 & H1)-3 & 55.75 \\
    \hline
    \end{tabular}

    \section*{MODULATION TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{Recommended Application
    In:
    With:} & Impedances
    (Pri. Plate to Plate) & \[
    \begin{aligned}
    & \text { Modulator } \\
    & \text { Tubes }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \hline \text { Mrg. } \\
    & \text { Type }
    \end{aligned}
    \] & Size & \[
    \begin{aligned}
    & \text { Wi. } \\
    & \text { Lbs. }
    \end{aligned}
    \] & Cat.
    No. & List Price \\
    \hline 250-Watt Transmitter & Driver Transformer BD-1 & \begin{tabular}{l}
    Pri: 7500 ohms CT \\
    See: 5000 ohms
    \end{tabular} & \[
    \begin{aligned}
    & 203-A, 838 \\
    & 80 \overline{5}, \text { etc. }
    \end{aligned}
    \] & BX & 26 & 25 & BM-1 & \$58.50 \\
    \hline \begin{tabular}{l}
    1-KW \\
    Transmitter
    \end{tabular} & Driver Transformer ABD-2 & \begin{tabular}{l}
    Pri: 9000 ohms CT \\
    See: 7500 ohms
    \end{tabular} & 833-A, ette. & FS & 81 & 175 & HM1-2 & 335.00 \\
    \hline \begin{tabular}{l}
    5-KW \\
    Transmitter
    \end{tabular} & \[
    \begin{aligned}
    & \text { Driver Transformer } \\
    & \text { \#BD-2 }
    \end{aligned}
    \] & \begin{tabular}{l}
    Pri: 13b00 ohms CT \\
    Sec: 10250 ohms
    \end{tabular} & 891-R, etc. & WC & & 1100 & BM13 & \[
    \begin{gathered}
    77 . .(\mathrm{kr}) \\
    (\mathrm{n} \in \mathrm{t}) \\
    \hline
    \end{gathered}
    \] \\
    \hline
    \end{tabular}

    \section*{MODULATION REACTORS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|r|}{Recommended Application:} & Inductance & \[
    \begin{aligned}
    & \hline \text { D.C. } \\
    & \text { Ma. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \hline \text { Mig. } \\
    & \text { Type }
    \end{aligned}
    \] & Size & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \] & \begin{tabular}{l}
    Cat. \\
    No.
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 250-Watt Transmitter & Mod. Transformer \({ }^{4} \mathrm{BM}\) & 65 hy. & & & & 41 & & \\
    \hline 1-KW Transmitter & Mod. Transformer BM-2 & 100 hy . & 500 & FS & 81 & 165 & & \\
    \hline 5-KW Transmitter & Mod. Transformer \({ }^{\text {a M M }}\) - & 120 hy . & 900 & WC & & 1100 & HR-3 & (net) \\
    \hline
    \end{tabular}

    PLATE TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Prir } \\
    \text { Volts }
    \end{gathered}
    \] & \begin{tabular}{l}
    ary: \\
    Max. VA.
    \end{tabular} & \begin{tabular}{l}
    Secondary: \\
    A.C. Load Volts
    \end{tabular} & D.C. Volts after Filter & \[
    \begin{aligned}
    & \hline \text { D.C. } \\
    & \text { Ma. }
    \end{aligned}
    \] & Mig. Size & Mig. Туре & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \] & Cat. No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 115-230 & 185 & \[
    \begin{aligned}
    & 675-0-675 \\
    & 575-0-575
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 500 \\
    & 400
    \end{aligned}
    \] & 250 & 22 & S & 12 & P-45 & \$23.50 \\
    \hline 115-230 & 250 & \[
    \begin{aligned}
    & 9(00-0-9(0) \\
    & 735 \overline{5}-0-735
    \end{aligned}
    \] & \[
    \begin{array}{r}
    750 \\
    600
    \end{array}
    \] & 250 & 22 & S & 131/2 & P-67 & 28.00 \\
    \hline 115-230 & 310 & \[
    \begin{gathered}
    1150-0-1150 \\
    870-0-870
    \end{gathered}
    \] & \[
    \begin{array}{r}
    1000 \\
    750
    \end{array}
    \] & 250 & 60 & FS & :37 & P-107 & 6.9 .50 \\
    \hline 115-230 & 360 & \[
    \begin{gathered}
    1425-0-1425^{*} \\
    600-0-600
    \end{gathered}
    \] & \[
    \begin{array}{r}
    1250 \\
    400
    \end{array}
    \] & \[
    \begin{aligned}
    & 150 \\
    & 200
    \end{aligned}
    \] & 21 & S & 20 & \(P+1240\) & 39.50 \\
    \hline 115-230 & 550 & \[
    \begin{aligned}
    & 1710-0-1710 \\
    & 1430-0-1430
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1500 \\
    & 1250
    \end{aligned}
    \] & :300 & 63 & FS & 43 & \(\mathrm{P}-1512\) & 79.50 \\
    \hline 115-230 & 915 & \[
    \begin{array}{r}
    2820-0-2820 \\
    2260-0-2260
    \end{array}
    \] & \[
    \begin{aligned}
    & 2500 \\
    & 2000
    \end{aligned}
    \] & 300 & 71 & FS & 71 & P-2520) & 119.50 \\
    \hline 115-230 & 1600 & \[
    \begin{aligned}
    & 2900-0-2900 \\
    & 2320-0-2320
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2600 \\
    & 2100
    \end{aligned}
    \] & 500 & 64 & FS & 95 & P-2126 & 149.50 \\
    \hline 115-230 & 1850 & \[
    \begin{aligned}
    & 3450-0-3 \cdot 450 \\
    & 2850-0-28: 50
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3000 \\
    & 2500
    \end{aligned}
    \] & 500 & 81 & FS & 137 & P-3025 & 199.50 \\
    \hline 115-230 & 3050 & \[
    \begin{aligned}
    & 4660-0-4600 \\
    & 4050-0-4050 \\
    & 3400-0-3400 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4000 \\
    & 3500 \\
    & 3000
    \end{aligned}
    \] & 600 & 90 & F'S & 150 & \(\mathrm{P}=4353\) & 269.50 \\
    \hline
    \end{tabular}

    \section*{FILTER REACTORS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Inductance in Henrys & Max. D.C. Ma. & \[
    \begin{aligned}
    & \text { D.C. Resist- } \\
    & \text { ance. Ohms }
    \end{aligned}
    \] & Insulation
    Test Volts & Mtg. Type & Mig. Size & Wt. Lbs. & Cat. No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 10 & 500 & 40 & 9.000 & FS & 62 & 35 & R-105 & \$57.50 \\
    \hline 10 & 300 & 40 & 7,500 & SX & 26 & 22 & R-103 & 28.25 \\
    \hline 6 & 700 & 35 & 10,000 & FS & 61 & 35 & 1/67 & 56.50 \\
    \hline 6 & 500 & 35 & 9,000 & FS & 60 & 35 & R-65 & 45.80 \\
    \hline 6 & 300 & 35 & 7,500 & SX & 21 & \(16^{1} \times\) & R-63 & 43.80
    23.90 \\
    \hline
    \end{tabular}

    Splatter Chokes for High Level "Clipper" Filters (inn withstand high prakh voltages. Hin tapped windings to cover an induct-
    
     increases "get through" ahility" of phene signals, and prevents negative peak clipping.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type} & \multirow[t]{2}{*}{D.C. Ma.} & \multirow[t]{2}{*}{Insulation Volts} & \multirow[t]{2}{*}{Inductance in Henries} & \multicolumn{2}{|r|}{Mounting} & \multirow[b]{2}{*}{List} \\
    \hline & & & & Type & Size & \\
    \hline SR-300 & 300 & 7.500 & . 02 to 1.5 Hy & BX & 22 & \$29.50 \\
    \hline S(R-510 & 500 & 10.000 & .02 to 1.5 Hy & BN & 24 & \(31.50)\) \\
    \hline
    \end{tabular}

    \section*{Low Pass Filter No. LPF-1}
     eyctes in low level speceh amplifiers. Operates out of a \(15,000 \mathrm{ohm}\) source, \(e . \eta\). the plate u: immedance output. Operates at signial levels up to -8 db . Complete with signal ating instructions. S type inte. Cuse siz. 13 . Sea N -13) motg. Casc siz: 13. (Set Ig. N-13).
    List Price. .
    .824 .50

    POWER TRANSFORMERS－（Pri： 117 volts，50／60 cycles）
    6．3－VOLT FILAMENTS－VERTICAL SHIELD MOUNTING（V）
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Catalog
    No. & \multicolumn{2}{|l|}{High Voltage
    Socondary
    A．C．Volts D．C．Ma．} & \multicolumn{2}{|l|}{Rectifier Filainitit Volts Amps} & \multicolumn{2}{|l|}{Other
    Filaments
    Volts Amps．} & \multicolumn{3}{|l|}{\[
    H^{\text {Dinnomsions }}{ }_{W}
    \]} & \[
    \begin{gathered}
    \text { Wht. } \\
    \text { Lbs. }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline P1085 & 2．51－0）－2．50 & 10 & 6.3 & 1.2 & \(0 \cdot 3\) & 0.16 & \(2{ }^{21}\) & \(2{ }^{2}\) & 216 & 1 & \％ 7.50 \\
    \hline Py 208 & 2000000 & \(\because 0\) &  & 1.2 & 10.11 & （0．1） & 298 & if & 21 & 12 & 8.00 \\
    \hline PV－40 & 225－0－225 & 40 & 5 & 2 & 6．3 C－T & 1 & \(3{ }^{18}\) & \(2{ }^{1}\) & \(2{ }^{1 /}\) & 24 & 7．1．5 \\
    \hline PV－50 & 325－0－32．5 & 50 & 5 & 3 & 6．3 C－T & 2 & \(3{ }^{3}\) & \(2^{7}\) & 3 & \(3{ }^{4}\) & 8.0 .5 \\
    \hline 19 －501 & 117 & 311 & & & 6.3 & 1．7．7 & \(\underline{3}\) & 3） & \(\because 14\) & \(1^{1 / 2}\) & 6.80 \\
    \hline PV－60 & 250－0－250 & 60 & 5 & 2 & 6，3 C－T & 2 & 318 & 215 & & & 8 8，in \\
    \hline PV－T4 & 150－0－950 & \(\overline{10}\) & ． 5 & 3 & 9，0 0－T & 3 &  & \(0{ }^{1}\) & 615 & \({ }^{\prime} 16\) & 3.8 \\
    \hline PV－711A & 300－0－300 & 70 & 5 & 3 & \(6.3 \mathrm{C}-\mathrm{T}\) & 3 & \(3{ }^{3}\) & \(2^{7}\) & 318 & & 4.15 \\
    \hline PV－90 & 350－0－350 & 90 & 5 & & 6.3 C－T & 3.5 & 416 & & \(31 \frac{1}{2}\) & 511 & 10.30 \\
    \hline PV－100
    PV－110 & \(350-0-350\) & 100 & － & \({ }_{3}^{3}\) & \(6.3 \mathrm{C}-\mathrm{T}\) & 5 & \(4{ }^{\text {缺 }}\) & \(3^{34}\) & \(3^{38}\) & \(7{ }^{1}\) & 10．6．7 \\
    \hline PV－110 & 350－0－350 & 110 & 5 & 2 & 6．3 C－T & 3 & & & & & \\
    \hline PV．120 & 300－0－300 & & & & \(6.3 \mathrm{C}-\mathrm{T}\) & 3 & 3：\％ & 3 3 & \(37 / 3\) & \(5^{1}=\) & 13.25 \\
    \hline PV－1204 & \(350-0-350\) & 120 & 5 & 3 & 6.3
    6.3
    C－T & 5
    4.5 & 418 & 314 & \(3^{3}\) & 5. & 10．8．7 \\
    \hline P＇V－14\％ & 372－0－372 & 143 & 5 & 3 & \(6.3 \mathrm{C-T}\) & 4.5 & 4 & \({ }_{3}{ }_{4}^{18}\) & & \({ }_{7}^{6}\) & 12.8 .3 \\
    \hline PV－2006 & 400－0－400 & 200 & 5 & 4 & 6.3 （ - T & 5.5 & 4 \％ & \(3_{3}^{3}{ }_{4}^{4}\) & \(41 / 4\) & \％ & 15.161 \\
    \hline
    \end{tabular}

    6．3－VOLT FILAMENTS－HORIZONTAL SHIELD MOUNTING（H）
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Pll－20： & 2．50－（1）－2．51） & 20 & 6.3 & 1.2 & 1,3 & （0．4 & \(2^{3 /}\) & \(2{ }^{23}\) & \(2{ }^{16}\) & & \＄8．35 \\
    \hline PH－40 & 250－0－250 & 40 & 5 & 2 & 6i． 3 C－T & 1.6 & 3 & 3 & 212 & \(2^{1}\) & 7.40 \\
    \hline P11－50 & 250－0－250 & 50 & 5 & 2 & （i．3） \(\mathbf{C - T}\) & 2 & \(3{ }^{1}\) & 3 & \(2{ }^{2}\) & \(3{ }^{2}\) & 7.90 \\
    \hline P11－50\ & 280－0－280 & 50 & 5 & 3 & 6．3 & 1.5 & & & & & \\
    \hline P11－70 & 300－0－300 & 70 & 8 & 3 & 6.38 C & \(3^{6}\) & \(3^{314}\) & 33： & 216 & \(3_{4}^{31} 4\) & 7.70
    8.40 \\
    \hline PH－7013 & \(3.00-0-3.50\) & 70 & ． & 3 & 6.3 C－T & 2.5 & \(3^{1} \cdot 1\) & 3 & \(2{ }^{12}\) & & \\
    \hline PH－9\％ & 3．00－0－350 & 90 & － & 3 & 6.3 －T & 3.5 & \(3^{3,4}\) & \(3{ }^{3} 4\) & 318 & 51 & 9.45 \\
    \hline P1－120 & 300－0－300 & 120 & \(\square\) & 3 & 6.3 （ -7 & 3. & \(3{ }^{3}\) & \(3{ }^{3}+\) & \(31 \%\) & \(5{ }^{3}\) & 10.45 \\
    \hline PH－1203 & 350－4）－350 & 120 & 5 & 3 & 6.3 （ - T & 4.5 & \(3{ }^{3}\) & 414 & 312 & & 10.60 \\
    \hline P11－145 & 372－0－372 & 145 & 5 & 3 & 6.3 C & 5 & \(3^{5}\) ， & 41. & \(3{ }^{3}\) & 7 F & 12.70 \\
    \hline PH－200 & 330）－0－350 & 200 & 5 & 3 & 6.3 （ - T & （1） & 1 & \(1{ }^{1}\) & \(3 \cdot 1\) & \(8{ }^{-}\) & 14.30 \\
    \hline
    \end{tabular}

    2．5－VOLT FILAMENTS－HORIZONTAL SHIELD MOUNTING（H）
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Pl1－70\ & 32．）－（）－325 & 70 & ！ & 3 & 2.5 （ -1 & 9 & \(3^{3 /}\) & \(3^{3}+\) & \(3{ }^{\prime}\) & \(4{ }^{1 / 2}\) & \＄12．80 \\
    \hline P11－120A & 32．－5－325 & 120 & 5 & 3 & 2.5 （－T & 12.5 & & & & & 14.95 \\
    \hline
    \end{tabular}

    FILAMENT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Catalog No． & \multicolumn{2}{|l|}{Secondary
    Volts Amps．} & Volts & \[
    \begin{aligned}
    & \text { ary } \\
    & \text { Cycles }
    \end{aligned}
    \] & Insulation
    Test Volts & \[
    \begin{gathered}
    \text { Mounting } \\
    \text { Type }
    \end{gathered}
    \] & H & \[
    \begin{gathered}
    \text { Dimensio } \\
    \end{gathered}
    \] & D & \[
    \begin{aligned}
    & \text { WI } \\
    & \text { Lbs. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline FO－26 & \(2 . \mathrm{C}\)－ 1 & \({ }^{6}\) & 107117 & （i） & こ¢ハハ & 1 & 23， & & & & \＄4．20 \\
    \hline \(100-21011\) & 2 F & 10 & 107117 & （i） 1 & 7.010 & 1 & & 35． & & 2＇， & 6． 6.1 .5 \\
    \hline 100－33 & 50 Cl & & 107117 & 181 & 2010 & 1 & 23． & 218 & & & 4.80 \\
    \hline 10－36 & \(3.0 \mathrm{C-T}\) & \({ }^{i}\) & 107
    107
    117 & （i） & 2014 & ， & 2－ & 3 & & \(\because\) & 3.10 \\
    \hline 10－513 &  & 138 & \(10711{ }^{117}\) & （if） & － & 1 & 31. & 2110 & 21： & 1 & 7.50 \\
    \hline 以－530 & 50 & 30 & 117 & －1）（i） & 1010） & ！ & \({ }^{-112}\) & 3131 & \(3_{1}^{3} \times\) & \(\bar{i}\) & \(1+5\) \\
    \hline 100－61． & 12．3 C－\({ }^{\text {c }}\) & 1．－ & 107117 & （ii） & 2¢и） & 1, & 1－2 & \(2^{-4}\) & 131 & 31 & 16．2．） \\
    \hline 109－6：3 & 0.3 （ -1 & 3 & 107117 & （if） & 210） & 1 & \(23 *\) & \(2 \%\) & & 11， & 4.65 \\
    \hline FO－66 & 6.3 C－1 & \({ }^{6}\) & \(10311 \%\) & 8：0 & 20\％ & 1 & \(24^{*}\) & 行 & 215 & \({ }_{2}\) & 6.25 \\
    \hline FO－fill & 63 C－1 & 10 & 1107117 & （i） & 2001 & ！ & 34， & & & 3， & 7.50 \\
    \hline FO－7 & 7．© \(\because\) & 3 & 1107117 & （i） & 2011 & 1 & ：3 & \(3{ }^{3}\) & 21. & 24 & 6.20 \\
    \hline FO－10． & 10 （ \(\because 1\) & \(\overline{3}\) & 107117 & （ii） & 2101） & F & 31 & 210 & 24 & 3 & 7.40 \\
    \hline F3－1010 & 10 （\％ & 10 & 117 & ．0） 50 & 20010 & 1 & ： & 314 & \(3{ }^{16}\) & & 10.10 \\
    \hline \(\mathrm{FO}-12 \mathrm{Z}\) & 12．0 & － & 107117 & （i） & 2010 & 1. & 2 & 311 & \(2^{10}\) & 13． & 5.15 \\
    \hline
    \end{tabular}

    FILTER REACTORS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Catalog } \\
    \text { No. }
    \end{gathered}
    \] & Inductance in Henries & Maxinum D．C．Cur－ rent Ma． & \[
    \begin{aligned}
    & \text { D.C } \\
    & \text { Resistance } \\
    & \text { in Ohms }
    \end{aligned}
    \] & Insulation Test Volts & \[
    \begin{gathered}
    \text { Mig. } \\
    \text { Type }
    \end{gathered}
    \] & H & Ditrensions
    \(W\) & D & Wt．
    Lbs． & List Price \\
    \hline R－1230 & 12 & 30 & 100 & 2000 & L & 1\％ & 23 ， & 13. & 2 & \＄2．75 \\
    \hline R－1240 & 12 & 411 & 400 & 2000 & 1 & 1， & \(2 \%\) & 13 & ＂\({ }^{2}\) & 3.00 \\
    \hline R－6．50 & 6 & 50 & 300 & 1.500 & 1. & 13 & \(2{ }^{-1}\) & 13. & 3 & 1.95 \\
    \hline R－136．5 & 133 & 6.3 & ． 300 & 2000 & 1. & \(2{ }^{2} 4\) & \(3{ }^{3}\) & \(2{ }^{4}\) & 11： & 3.05 \\
    \hline R－885 & 8 & 8.7 & 2.0 & 2000 & & \(2{ }^{14}\) & \(3{ }^{3} 4\) & \(2{ }^{4}+\) & 11.2 & 3.40 \\
    \hline \(\mathrm{R}-23110\)
    \(\mathrm{R}-8120\) & 23 & 110
    120 & 250
    350 & 2000 & Y & \(3{ }^{1}\) & \(2{ }^{1 / 4}\) & \(2^{23} 4\) & & 6.95 \\
    \hline \(\mathrm{R}-8120\)
    \(\mathrm{R}-7150\) & 8.8 & 120
    150 & 350 & 1500 & 1 & \(2_{312}^{12}\) & & & 212 & 4.25 \\
    \hline R－7200 & 8 & 200 & 160
    125 & 2000
    3000 & \(\stackrel{1}{V}\) & \(3_{3}^{31} \times\) & 21. & \(3{ }^{31}\) & \(2{ }^{1 / 2}\) & 6.50 \\
    \hline K－83001 & N & 300 & 125 & 3800 & \({ }^{\prime}\) & \({ }_{4}^{3}\) & 3 & 4318 & \({ }_{8}{ }^{3 / 4}\) & 7.95
    13.7 .2 \\
    \hline
    \end{tabular}

    \section*{DRIVER TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Cat． \\
    No．
    \end{tabular} & \multicolumn{2}{|l|}{Typical Applications：
    Fromt
    Driver Tubes Output Tubes} & Class & \[
    \begin{aligned}
    & \text { Ratio } \\
    & \text { Primary: } \\
    & \text { 1,Sec. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { Pri. D.C. } \\
    & \text { Ma. }
    \end{aligned}
    \] & Mtg． Type & \multicolumn{3}{|l|}{\[
    H{ }_{W}^{\text {Dimensions }}
    \]} & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { bbs. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 1）－15 & Single 30 & \[
    \begin{aligned}
    & \text { P-P } 19 \text { or } \\
    & 30 \text { 's }
    \end{aligned}
    \] & 13 & 2．5－1 & 1.5 & 1. & 15 & & 11. & 3 & \＄4．95 \\
    \hline 1）－30 & & & ， & & & & & & & & \\
    \hline 1－3．3 & \begin{tabular}{l}
    Triode 6F6 \\
    Triode l＇ate
    \end{tabular} & \begin{tabular}{l}
    \(1^{2}-1^{2} 6 L 6\)＇s \\
    P－P Crids
    \end{tabular} & 1 B & \[
    3: 1
    \] & 30 & L & & & 218 & 1 & 5.95 \\
    \hline & & & & or 2：1 & 35 & L & & & 1\％ & 1 & 4.50 \\
    \hline & \[
    \text { Trionde } 6 \mathrm{~F} 6
    \] & P－P＇6L6＇s & AB & 3：1 & 40 & V & 31 & 21 & \(21 \%\) & \(2^{1,2}\) & 7.00 \\
    \hline
    \end{tabular}
    

    ISOLATION
    TRANSFORMERS
    

    CHIC＇，If \({ }^{(1)}\) Isolation Transformers are designed for a dual purpose：（1）To supply 115 volts isolated from a line of above helow normal，or normal，voltage －primary switch sets for \(125 / 115 / 105\) servicing to eliminate shock hazard by isolating chassis ground from line gruunul＇rarticulaly important on＇＂hot＂ grubin（f）articulaty important on hole 125 and 105 volts on the secondary for locating doubtful tubes，etc．
    \begin{tabular}{|l|r|r|}
    \hline Cat．No． & Capacity & List Price \\
    \cline { 1 - 3 } & IS－50 & 50 VA \\
    IS－100 & 100 VA & \(\$ 12.55\) \\
    IS－150 & 150 VA & 19.65 \\
    IS－250 & 250 VA & 23.50 \\
    \hline
    \end{tabular}

    \title{
    AUDIO TRANSFORMERS \\ CHICAGO STANDARD TRANSFORMER CORPORATION
    }
    

    H-TYPE
    MOUNTING

    S-TYPE MOUNTING
    

    Chicago's No. CMS-1 Modulation Transformer and matching Driver Transformer No. CDS-1, at right, are ideally suited for use in ham and commercial speech transmitters. No. CMS-1 will deliver 250-350 watts of Class 13 audio power from P-I 203A's, 211 's, 805 's, 75 TL 's, etc. to a Class C load with response variations not exceeding \(\pm 1 \mathrm{db}\). over the stated frequency range. Primary impedances, \(9000 / 6700\) ohms ct; secondary, \(8000 / 6000 / 4000\) ohms. Case size 26 (see page \(\mathrm{N}-18\) ). Wt., 22 lbs.
    No. ('MS-1 . . . . . . . . List I'rice, \(\$ 49.50\)
    

    MODULATION TRANSFORMER CMS-3

    Delivers 500-750 watts of Class B audio power from 810 s, 822 s , etc. to a Class c load. Frequency response is within \(\pm 1 \mathrm{db}\). over the stated voice range. Primary imperlance, \(18,00012,000\) ohms CT; secondary, 6,250 ohms. FS-Tyne mounting, size 65 (see page \(\mathrm{N}-18\) ). Wt. 43 lbs .
    No. CMS-*
    List Price, \(\$ 89.50\)

    COMMUNICATIONS RANGE AUDIO TRANSFORMERS

    \section*{Frequency Response within \(\pm 1 \mathrm{db}, 200\) to \(\mathbf{3 , 5 0 0}\) Cycles}

    These transformers are specifically designed for use in receiving and transmitting equipment
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Application & \begin{tabular}{l}
    Impedances: \\
    Primary-Secondary
    \end{tabular} & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \] & Wt. Lbs. & Cat. No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline Low Level Line to Single or 1'ush-r'ull Grids & Pri: 600/150 ohms CT *Sec: \(100,000 \mathrm{ohms}\) ( \({ }^{-1}\) & 9 & \(3 / 4\) & (IIH-I Cls-1 CIC-1 & \[
    \begin{array}{r}
    \$ 21.86 \\
    14.80 \\
    9.80
    \end{array}
    \] \\
    \hline Low Level S. B. or U. B. Mike to Sgl . or P-P Grids & Pri: 125/50 ohms (a) 80 ma. Sec. 125,000 ohms CT & 9 & \(3 / 4\) &  & \[
    \begin{array}{r}
    14.35 \\
    8.50 \\
    5.35
    \end{array}
    \] \\
    \hline
    \end{tabular}
    *Split and balanced windings: may be used singly or push:pull.
    OUTPUTS H-Type (Cat. No. COH), S-Type (Cat. No. COS) and C.Type (Cat. No. COC) Mountings*
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Application & Inipodances: Pri.-Sec. & Typical Audiu Pri. Tubes Class & \begin{tabular}{l}
    Max. Max. \\
    Case Pri. \\
    Watts D.C.
    \end{tabular} & \begin{tabular}{l}
    Case \\
    Size
    \end{tabular} & Wt. Lbs. & \begin{tabular}{l}
    Gat. \\
    No.
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline Sgl. P. to Jine or Speaker & I'ri.: 5000 ohms Sec. ohms: 600/150/16/8/4 & 6L6, 616, 25.16 A & \[
    \begin{array}{rr} 
    & 55 \\
    5 \quad \text { ma. }
    \end{array}
    \] & 14 & 21/4 & \[
    \begin{aligned}
    & \text { COH-1 } \\
    & \text { COS-1 } \\
    & \text { COC-1 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 16.90 \\
    10.55 \\
    7.00
    \end{array}
    \] \\
    \hline Sgi. Fi. to tine or Speaker & f'ri: 8(10) ohms Sec. ohms: \(600 / 150 / 16 / 8 / 4\) & \begin{tabular}{l}
    6F'6, \\
    6V6. \\
    6 K 6 . 1
    \end{tabular} & \[
    \begin{array}{rr} 
    & 55 \\
    5 & \text { ma. }
    \end{array}
    \] & 14 & 21/4 & \[
    \begin{aligned}
    & \mathrm{COH}-2 \\
    & \mathrm{COS}-2 \\
    & \mathrm{COC} 2
    \end{aligned}
    \] & \[
    \begin{array}{r}
    19.30 \\
    10.85 \\
    7.00
    \end{array}
    \] \\
    \hline
    \end{tabular}

    DRIVER'H-Type (Cat. No. CDH), S-Type (Cat. No. CDS) ond C-Type (Cat. No. CDC) Mountings*
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Application & Primary Impedance & \[
    \begin{gathered}
    \operatorname{Max.}_{\text {Pri. CT }}
    \end{gathered}
    \] & Ratio, Pri. to \(1 / 2\) Sec. & Case Size & Wt. Lbs. & Cat. No. & List Price \\
    \hline \[
    \begin{aligned}
    & \text { P-P Plates (2A } 3 \text { 's, etc.) } \\
    & \text { to P-P (irids }
    \end{aligned}
    \] & \[
    \begin{gathered}
    5,000 \text { ohms } \\
    \text { (I'ri. CT) }
    \end{gathered}
    \] & 100 ma . & 3:1 & 17 & \(3^{1} 2\) & \begin{tabular}{l}
    C1)H-1 \\
    (1)S-1 \\
    (1)C. 1
    \end{tabular} & \[
    \begin{array}{r}
    \$ 17.100 \\
    11.60 \\
    7.50
    \end{array}
    \] \\
    \hline
    \end{tabular}
    *\ounting Dimensions on Page N-13.

    \section*{REPLACEMENT TYPE OUTPUT TRANSFORMERS}

    SINGLE PLATE TO VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Caralog No. & \begin{tabular}{l}
    Applioation \\
    Typical Output Tubes
    \end{tabular} & Ohms
    lmpedanco
    Pri. \(\quad\) Sec. & Max. Priliary D.C.Ma. & Max. Aüdie Walts & Mtg. Type & \multicolumn{3}{|l|}{\[
    \mathrm{H}^{\text {Dinenslons }} \mathbf{W}
    \]} & \begin{tabular}{l}
    Wt. \\
    Lbs.
    \end{tabular} & List Price \\
    \hline RO-2 & \(251.63545,2 \mathrm{A3}, \mathrm{6B4}\) & 20003 to 6 & 50 & 4 & I/ & 18/8 & \(23^{3}\) & 11/4 & 1/3 & \$1.90 \\
    \hline R().3 & 251.6 (10-0hm tap on primary) & 20003 to 6 & 50 & 4 & 1. & 33/8 & 23/8 & 13\% & 1/2 & 2.60 \\
    \hline 120.6 & 12A5, 25. \(6,45,71 \mathrm{~A}\) & 4000 4-8-15 & 40 & 10 & 1. & 2 & \(31 / 4\) & \(13 / 3\) & & 3.70 \\
    \hline RO-8 & 2A5, \(25.46,43\) & 45003 to 6 & 35 & 5 & 1. & 1\%/8 & 23. & 11/4 & 1/2 & \(2 .(\mathrm{H})\) \\
    \hline RO-9 & 6V6, 25.A7G, 30, 31, 50 & 5000 4-8-15 & 50 & 8 & 1, & 2 & \(31 / 4\) & \(1{ }^{3} 4\) & & \(\cdots\) \\
    \hline 120-11 & 154 & 6000 3 to 6 & 5 & 2 & 1. & 11/8 & \(21 / 8\) & 11/8 & \(3 / 4\) & 1.901 \\
    \hline 120.13 & \(7135,18,31,33,42,46,47\) & 70003 to \({ }^{6}\) & 3.5 & 5 & 1. & \(13 / 3\) & \(2_{23}{ }^{3}\) & 11/4 & 1/2 & 1.95 \\
    \hline 120.16 & 1C5G, 1G5G, 1J6G, 6A4, 6A6 & 100003 tot & 30 & 5 & 1. & \(13 / 3\) & 23. & 11/4 & \(1 / 2\) & 1.95 \\
    \hline RO-18 & 1A5G.1E7G, 1N6G, 6V7G & 250003 to 6 & 10 & i) & 1. & \(15 / 8\) & 2'\% & \(1^{3}\) & \(5 \%\) & 2.35 \\
    \hline
    \end{tabular}

    PUSH-PULL PLATES TO VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline IRO-110 & P-P'2A5, 6АС5(;, 6A6, 6N7, 45 & 10000 4-8-15 & 80 & 12 & U & \(2^{3}\) & 2 & 134 & & \$8.30 \\
    \hline HO-111 & P-P6B5, 6K6, 6N6G, 7135, 31 & 14000 4-8-15 & 80 & 15 & U & 23 & \(2^{\top}\) & 18 & 1 & 3. 8.7 \\
    \hline H()-113 & P-I'1A5G, 1F7G, 1N6G, ¢V7G & 5 (10)00 3 to 6 & 20 & 8 & I. & \(15 / 8\) & \(2^{\prime}\) & 11 \% & & 1.00 \\
    \hline
    \end{tabular}

    UNIVERSAL TYPE-SINGLE PLATE TO VOICE COIL
    

    UNIVERSAL TYPE-SINGLE OR PUSH-PULL PLATES TO VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline 120-301 & 2500 to 14000 & 2, 4, 6, X, 15, etc. & 30 & 1 & L & \(1^{3}\) & \(2^{3}\) & \(15 / 8\) & & \$2.85 \\
    \hline R()-302 & 2500 to 15000 & 2, 4, 6, 8, 15 & 50 & 1 & L & \(13 / 8\) & \(23 / 8\) & \(15 / 8\) & \(5 / 8\) & 3.90 \\
    \hline 10)-303 & 2500 to 14000 & 2, 4, 6, 8, 15 , etc. & 40 & 8 & L & 15/8 & 2\% & 1 \% & \(5 / 8\) & 3.10 \\
    \hline R(0)-304 & 2500 to 13000 & 2, 4, 6, 8, 15 & 70 & 8 & U & 2 & 215 & \(1^{1 / 3}\) & \({ }^{13} 16\) & 4.95 \\
    \hline R()-305 & 2500 to 1.4000 & 2, 4, 6, 8, 15, etc. & 60 & 12 & L & 2 & 31.4 & \(2^{3}\) & 1 & 5.75 \\
    \hline R1).307 & 2500 to 14000 & 2, 4, 6, 8, 15 , etc. & 50 & 10 & U & 23: & \(2{ }^{\circ}\) & \(21 / 4\) & 1 & 4.95 \\
    \hline
    \end{tabular}

    UNIVERSAL TYPE--PUSH-PULL PLATES (ONLY) TO VOICE COIL
    

    \section*{SPEAKER MATCHING TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline SM-1 & Sgl. Tube -500-1000-1500-2000 & 6 & 80 & 12 & U & \(2^{3} 8\) & \(2{ }^{2} \times\) & & 1 & \$-4.0.\% \\
    \hline SM-2 & Skl. Tube -2500-4000-6000-8000 & 6 & 80 & 12 & U & \(2^{3}\), & 2 , & \(17 \%\) & 1 & 5.85 \\
    \hline SM-3 & Sgl. Tubu -500-1000-1500-2000 & 6 & 60 & 方 & U & \(1^{7}\) & \(2{ }^{3}\) & 136 & \(i\) & 2.10 \\
    \hline
    \end{tabular}

    \section*{INTERSTAGE TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat. No. & Application & Class & \[
    \begin{aligned}
    & \text { Ohms Impedance } \\
    & \text { Pri. Sec. }
    \end{aligned}
    \] & \[
    \left\lvert\, \begin{array}{c|}
    \text { Max. } \\
    \text { Primary } \\
    \text { D.C.Ma }
    \end{array}\right.
    \] & \begin{tabular}{l}
    Ratio \\
    Sec.: Pri.
    \end{tabular} & Mig. Type & & \[
    \begin{aligned}
    & \text { nensi } \\
    & \text { W }
    \end{aligned}
    \] & & Wt. Lbs. & List Price \\
    \hline IN-10 & S. Pl. to P-P (ids. & A & \(10000 \quad 160,000\) & 10 & 4-1 & 1. & 2 & 31 年 & 13/4 & 1 & \$5.95 \\
    \hline IN-11 & S. Pl. to P-I' (ids. & A & 10000 122,500 & 10 & 3.5:1 & 1. & 15/8 & \(2{ }^{\prime}\) & 12 & 588 & 4.95 \\
    \hline 1N-13 & S. Pl. to P-I' (ids. & A & 10000 90,000 & 10 & 3:1 & 1. & & 311 & \(1{ }^{\text {\% }}\) & & 5.10 \\
    \hline 1N-14 & S. Pl. to P-P Cids. & A & 10000 90,000 & 10 & : \(3: 1\) & 1. & 1:8 & & \(1{ }^{1} 2\) & 5\% & 4.511 \\
    \hline \(1 \mathrm{~N}-15\) & P-p Pls.-P- P' (ids. & A & 10000 * 90,000 & 10 & 3:1 & 1. & & \(31 /\) & \(1^{\prime \prime}\) & 1 & 5.50 \\
    \hline IN-16 & Sgl . or P-P ln put \& Output & A & & & \[
    \begin{gathered}
    1: 1,3: 1, \\
    \text { or } 6: 1
    \end{gathered}
    \] & 1. & 2 & \(3{ }^{1}\) & 214 & 11. & 6.50 \\
    \hline
    \end{tabular}
    *Universal type: conter-tapped primary, split secondary. TRANSFORMERS INDUSTRAL - MLIITARY - SPECIALTY RADIO PRODUCTS CO., INC. HUNTINGTON, INDIANA

    \title{
    PULSE TRANSFORMERS... A FIELD PIONEERED and DEVELOPED BY UTAH
    }
    

    Plate
    Filament
    Plate and Filament Filter Reactors
    Pulse
    Audio

    CONSTRUCTION
    Core-and-Coil Compound filled Hypersil Loop Hermetically Sealed Fosterite

    APPLICATION
    Radar
    Guided Missile
    Communications
    Radio
    Television
    Sound Installation

    Complete Fosterite Process-Varnish and Wax Impregnating

    \section*{33 MODELS OF THE MOST POPULAR PULSE TRANSFORMERS IN STOCK - IMMEDIATE DELIVERY}

    For Radio and Television Transformers-Line Matching-impedance Matching Write for Ułah Catalog 7100
    

    RIBBON CHOKE Varnished Actual Size
    

    POWER PLATE
    Fosterite
    

    PULSE-Glass Bead Terminals Hermetically Sealed Actual Size
    

    INTERSTAGE
    NTERSTAGE
    Fosterite

    MINIATURES

    \section*{JAF SERIES—HERMETICALLY SEALED}

    These tiny transformers, are hernetically sealed to MIL-T-27 requirements and are encased in standard military AF cans deep-drawn from 'Trialloy"' nickel alloy magnetic shielding material. Wide frequency range is consistently achieved by layer wound coils of extrensely fine wire.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|r|}{Impedance} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Max. \\
    LvI. \\
    VU
    \end{tabular}} & \multirow[b]{2}{*}{Shldg. db.} & \multirow[b]{2}{*}{Freq. Resp.} & \multirow[b]{2}{*}{Case} \\
    \hline & & P imary & Secondary & & & & \\
    \hline JAF-1 & \$16.00 & 600/250/50 & 50000 & 0 & 45 & 60.15000 & AF \\
    \hline JAF-2 & 16.50 & 600/250/50 & 250000 & 0 & 45 & 150.7000 & AF \\
    \hline JAF. 3 & 16.50 & 600/250/50 & \(60000 \mathrm{C} . \mathrm{T}\). & 0 & 45 & 60.15000 & AF \\
    \hline JAF-5 & 16.50 & 30/12/4 & 50000 & 0 & 45 & 60.12000 & AF \\
    \hline JAF:11 & 15.50 & 15000 & 50000 & 10 & 45 & \(60-15000\) & AF \\
    \hline JAF-12 & 16.00 & 15000 & 60000 C.T. & 10 & 45 & 60-15000 & AF \\
    \hline JAF-13 & 16.50 & 15000 & 95000 C.T. & 10 & 45 & 350.7000 & AF \\
    \hline JAF-14 & 16.50 & 200 & \(1 / 2\) megohm & 0 & 45 & 350.5000 & AF \\
    \hline JAF-15 & 16.50 & 15000 & 1 metjohm & 10 & 15 & 350-5000 & AF \\
    \hline JAF. 21 & 16.00 & 15000 & 600/250/50 & 10 & 45 & 60.15000 & AF \\
    \hline JAF-22 & 16.00 & 15000 & 600/250/50 & 10 & 45 & 350.7000 & \(A F\) \\
    \hline JAF-23 & 16.50 & 20000 C.T. & 600/250/50 & 10 & 45 & 60.15000 & AF \\
    \hline JAF.31 & 16.00 & 600/250/50 & 600/250/50 & 10 & 45 & 60.15000 & AF \\
    \hline JAF-101 & 14.50 & 50 h .1 Ma . & & & 45 & & \(A F\) \\
    \hline \multicolumn{8}{|l|}{Low frequency loss will result from DC in windings other than where specified.} \\
    \hline
    \end{tabular}

    POWER OUTPUT to line and VC.-Hermetically Sealed
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|r|}{Impedance} & \multirow[t]{2}{*}{Max. LevelWatts} & \multirow[t]{2}{*}{Frea. Resp.} & \multirow[b]{2}{*}{Case} \\
    \hline & & Primary & Secondary & & & \\
    \hline HS.71 & 516.00 & \[
    \begin{aligned}
    & 10000 \\
    & (10 \mathrm{Ma.})
    \end{aligned}
    \] & 600/150 & 2 & 150.6000 & AH \\
    \hline HS.73 & 18.30 & \[
    \begin{aligned}
    & 5000 \\
    & (40 \mathrm{Ma.})
    \end{aligned}
    \] & 4.8-16-250.500 & 5 & 150-6000 & AJ \\
    \hline HS.75 & 20.40 & \begin{tabular}{l}
    10000 C.T. \\
    ( 80 Ma . bal
    \end{tabular} & \[
    4.8-16-250-500
    \] & 10 & 150-6000 & EB \\
    \hline HS-77 & 25.70 & \begin{tabular}{l}
    9000 C.T. \\
    (120 Ma. ba
    \end{tabular} & \[
    4.8-16 \cdot 250-500
    \] & 25 & 150.6000 & GA \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{MINIATURE AUDIO_Uncased "Trijets"} \\
    \hline Type No. & List Price & Primary Impedance & Secondary Impedance & Max. Level-VU & Freq. Resp. \\
    \hline T. 1 & S 5.90 & 600/250/50 & 50000 & 0 & 60-15000 \\
    \hline T-2 & 6.00 & 600/250/50 & 250000 & 0 & 100-5000 \\
    \hline T.3 & 6.00 & 600/250/50 & 60000 C.T. & 0 & 60.15000 \\
    \hline T. 5 & 5.90 & 30/12/4 & 50000 & 0 & 60.15000 \\
    \hline T-11 & 5.85 & 15000 & 50000 & 10 & 60.15000 \\
    \hline T.12 & 5.90 & 15000 & 60000 C.T. & 10 & 60.15000 \\
    \hline T.13 & 6.00 & 15000 & 95000 C.T. & 10 & 350.7000 \\
    \hline T-20 & 5.85 & 15000 & 600/250/50 & 10 & 60.15000 \\
    \hline T.21 & 5.85 & 30000 & 50 & 10 & 60.15000 \\
    \hline T.22 & 5.85 & 15000 & 600/250/50 & 10 & 350.7000 \\
    \hline T. 23 & 6.00 & 20000 C.T. & 600/250/50 & 10 & 60.15000 \\
    \hline T.31 & 6.00 & 600/250/50 & 600/250/50 & 10 & 60.15000 \\
    \hline T. 101 & 5.35 & 50 hemries @ 1 & & & \\
    \hline Low fre & \(y\) loss wi & result from DC in & indings cther & than where & specified. \\
    \hline
    \end{tabular}

    \section*{JO-SERIES—HERMETICALLY SEALED}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|c|}{1 mpedance} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Max. } \\
    & \text { LvI. } \\
    & \text { VU }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Shldy. dh.} & \multirow[b]{2}{*}{Freg. Resp.} & \multirow[b]{2}{*}{Case} \\
    \hline & & Primary & Secondary & & & & \\
    \hline JO-1 & \$15.50 & 600/250/50 & 50000 & 0 & 45 & 50.15000 & JOA \\
    \hline J0.2 & 16.00 & 600/250/50 & 250000 & 0 & 45 & 150.7000 & JOA \\
    \hline J0.3 & 16.00 & 600/250/50 & 60000 C.T. & 0 & 15 & 50-15000 & JOA \\
    \hline J0.5 & 16.00 & 30/12/4 & 50000 & 0 & 45 & 50-12000 & JOA \\
    \hline J0.11 & 15.00 & 15000 & 60000 & 10 & 45 & 50.15000 & J0B \\
    \hline J0.12 & 15.50 & 15000 & 60000 C.T. & 10 & 45 & 50.15000 & J0B \\
    \hline J0.13 & 16.00 & 15000 & 95000 C.T. & 10 & 45 & 300-7000 & J0B \\
    \hline J0.21 & 15.50 & 15000 & 600/250/50 & 10 & 45 & 50.15000 & J0B \\
    \hline J0-22 & 15.50 & 15000 & 600/250/50 & 10 & 45 & 300.7000 & J0B \\
    \hline J0.23 & 16.00 & 20000 C.T. & 600/250/50 & 10 & 45 & 50.15000 & J0B \\
    \hline J0.31 & 15.50 & 600/250/50 & 600/250/50 & 10 & 45 & 50-15000 & J0B \\
    \hline J0.101 & 14.00 & 50 h .2 LMa . & & & 45 & & J0B \\
    \hline
    \end{tabular}

    \footnotetext{
    Low frequency loss will result from DC in windings other than where specified.
    }
    jo series transformers ate heemerically sealed in deep-dawil "Trialioy" cases to meet MIL-T- 27 requirements while affordinity 45 db. of magnetic shieldiny against stray field pickup. They can be mounted with threaded studs molded into the terminal block or by the special clamp supplied with the transformer. These tiny transformers permit really wide range amplification in a small space.

    SUB-MINIATURE AUDIO—Hermetically Sealed
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|c|}{Impedance-Ohms} & \multirow[b]{2}{*}{Case} \\
    \hline & & Priniary & Secondary & \\
    \hline * \({ }^{\text {J2-1 }}\) & \$16.50 & 500 & 50000 & J2 \\
    \hline * JJ.5 & 17.00 & 30/12/4 & 50000 & J2 \\
    \hline *JZ.7 & 16.50 & 30/12/4 & 1000 & JZ \\
    \hline *JZ-13 & 16.50 & 15000 (1 Ma.) & 135000 C. T. & JZ \\
    \hline *JZ.15 & 16.50 & 20000 ( 5 Ma.\()\) & 1200/600 & J2 \\
    \hline *JZ-25 & 16.00 & 10000 (1 Ma.) & 200 & JZ \\
    \hline *JZ-26 & 16.00 & 1000 ( 5 Ma .) & 50 & JZ \\
    \hline
    \end{tabular}

    SUB-MINIATURE AUDIO-Open Frame
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List
    Price} & \multicolumn{3}{|l|}{Impedance-Ohms} & \multicolumn{3}{|l|}{Dimensions-inches} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { 07. }
    \end{aligned}
    \]} \\
    \hline & & Primary & Secondary & H & W & D & MW & \\
    \hline *TZ.1 & \$7.00 & 500 & 50000 & 1/2 & \({ }^{7}\) & 3/8 & & . 16 \\
    \hline *TZ.5 & 7.50 & 30/12/4 & 50000 & \(1 / 2\) & 7 & 3/8 & & . 16 \\
    \hline *TZ.7 & 7.00 & 30/12/4 & 1000 & \(1 / 2\) & \(\cdots\) & \({ }^{3} 8\) & & . 16 \\
    \hline *TZ-13 & 7.00 & \[
    \begin{aligned}
    & 15000 \\
    & (1 \mathrm{Ma.})
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 135000 \\
    & \text { с.т. }
    \end{aligned}
    \] & 1/2 & \({ }^{7} 1\) & \({ }^{3} 8\) & & . 16 \\
    \hline *TZ-15 & 7.00 & \[
    \begin{aligned}
    & 20000 \\
    & (.5 \mathrm{Ma} .)
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1200 / \\
    & 600
    \end{aligned}
    \] & 1/2 & 16 & \(3 / 8\) & & . 16 \\
    \hline *TZ-25 & 6.50 & \[
    \begin{aligned}
    & 10000 \\
    & (1 \mathrm{Ma.})
    \end{aligned}
    \] & 200 & 1/2 & 7 \({ }^{7}\) & \(3 / 8\) & & . 16 \\
    \hline *TZ-26 & 6.50 & \[
    \begin{aligned}
    & 1000 \\
    & (5 \mathrm{Ma.})
    \end{aligned}
    \] & 50 & \(1 / 2\) & \% & 3/8 & & . 16 \\
    \hline *T.41X & 6.50 & \[
    \begin{aligned}
    & 1000 \\
    & (10 \mathrm{Ma} .)
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 200 \\
    & \text { С.Т. }
    \end{aligned}
    \] & \(3 / 4\) & 1 i: & .3 & 1 & . 5 \\
    \hline *TY-44X & 7.00 & \[
    \begin{aligned}
    & 1000 \\
    & (10 \mathrm{Ma.}) \\
    & \hline
    \end{aligned}
    \] & 16/8/4 & 13 & 17 & 15/8 & 13/8 & 1.2 \\
    \hline *TY.47X & 7.50 & \[
    \begin{aligned}
    & 2000 \\
    & \text { C.T. }
    \end{aligned}
    \] & 16/8/4 & 118 & 15/8 & 13 & 13/8 & 1.2 \\
    \hline
    \end{tabular}

    New item.
    

    W+. 1 oz. 21/207. 4 or. 90 oz
    Studs 4.40 in opposite corners of case.

    > SHIELDING

    P-1-One nickel-alloy high permeability shield-45 db. reduction in pickup.
    P.3-Two nickel alloyP.5-Three nickel alloy shields interleaved with shields interleaved with one heavy copper shad. two heavy copper shading ring- 70 dit. reduc. ing rinys- 95 dt . Ieduc. tion in pickup.
    \begin{tabular}{|c|c|c|c|}
    \hline & J0A & JOB & JZ \\
    \hline A & \% dia. & \(t_{6}^{2}\) dia. & is dia. \\
    \hline B & Round & Round & Round \\
    \hline C & 13 & 13 & \(1 \%\) \\
    \hline D & Tif & Th & - \\
    \hline F & 7/8 & 7/8 & - \\
    \hline
    \end{tabular}
    

    JAF Series
    
    

    HERMETICALLY SEALED TRANSFORMERS

    \section*{LOW LEVEL AUDIO Transformers}

    Triad low-level audio transformers have been adopted as standard by many manufacturers of the finest in audio equipment. No other transformers offer such wide frequency range and such effective magnetic shieldiny in such small size. Shielding up to 95 db . is attained by multiple "Trialloy" cases interleaved with heayy copper shading rings. These transformers are solidily constructed. rinidly mounted with welded stainless stee! studs. and hermetically sealed to MIL-T- 27 specifications. Beautiful appearance, unmatched performance. long life, minimum size, are outstanding features of these quality transformers.

    AUDIO INPUT Transformers
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Primary Impedance & Turn Ratio & Freq. Resp. & & Shielding & Case \\
    \hline HS-1 & \$38.50 & \[
    \begin{aligned}
    & 600^{*} / 250^{*} \\
    & 150 / 62.5
    \end{aligned}
    \] & 1:11.3 & 20-20000 & 10 & P-5 & GP-4 \\
    \hline HS-11 & 26.40 & & & & & P-1 & GP-2 \\
    \hline HS-3 & 43.50 & \[
    \begin{aligned}
    & 600 * / 250 \% / \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 14 \\
    & \text { overall }
    \end{aligned}
    \] & 20-20000 & 10 & P. 5 & GP-5 \\
    \hline HS-4 & 39.70 & & & & & P-3 & GP. 4 \\
    \hline HS-14 & 28.60 & & & & & P. 1 & GP. 3 \\
    \hline *HS-15 & 36.50 & \[
    \begin{aligned}
    & 600 \% / 250 \% / \\
    & 150 / 62.5 \\
    & (10 \mathrm{Ma} .)
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 10 \\
    & \text { overall }
    \end{aligned}
    \] & 20-20000 & 20 & P. 3 & GP. 5 \\
    \hline HS-5 & 38.50 & 30.50 & 1:65.7 & 50-10000 & 0 & P. 5 & GP-4 \\
    \hline HS-8 & 38.50 & \[
    \begin{aligned}
    & 600 * / 250 * / \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    1: 14
    \]
    overall & 20-20000 & 20 & P. 1 & GP-4 \\
    \hline \multicolumn{8}{|l|}{* New item. \(\quad\) Balanced center tap available.} \\
    \hline \multicolumn{8}{|l|}{Low frequency loss will result from use of unbalanced DC in windings other than where specified.} \\
    \hline
    \end{tabular}

    \section*{AUDIO INTERSTAGE Transformers}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Primary Impedance & \[
    \begin{gathered}
    \text { Turn } \\
    \text { Ratio }
    \end{gathered}
    \] & Freq. Resp. & \multicolumn{2}{|l|}{Max. LrI. ShieldPri. V. ing} & Case \\
    \hline HS-23 & \$26.40 & 15000 & 1:2.7 & 20-20000 & 15 & P. 3 & GP-4 \\
    \hline HS-25 & 28.60 & 15000 & \[
    \begin{aligned}
    & 1: 2.72 \\
    & \text { overall }
    \end{aligned}
    \] & 20-20000 & 25 & P-1 & GP. 4 \\
    \hline HS.35 & 23.80 & 15000 & \[
    \begin{aligned}
    & 1: 2.72 \\
    & \text { overall }
    \end{aligned}
    \] & 20.20000 & 20 & P. 1 & GP-2 \\
    \hline HS-27 & 29.70 & \[
    \begin{aligned}
    & 20000 / \\
    & 5000
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 1.72 \\
    & \text { overall }
    \end{aligned}
    \] & 20-20000 & 50 & P. 1 & GP-4 \\
    \hline HS-29 & 38.50 & \[
    \begin{aligned}
    & 20000 / \\
    & 5000
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 2 \\
    & \text { overall }
    \end{aligned}
    \] & 20-20000 & 20 & P. 5 & GP-4 \\
    \hline HSM-31 & 25.00 & \[
    \begin{aligned}
    & 20000 / \\
    & 5000
    \end{aligned}
    \] & \[
    \frac{1: 1}{2}: 1
    \] & 20-20000 & 240 & & FA \\
    \hline *HS-32 & 38.50 & \[
    \begin{aligned}
    & 15000 \\
    & (6 \text { Ма. })
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 2 \\
    & \text { overall }
    \end{aligned}
    \] & 20-20000 & 20 & P. 1 & GP. 5 \\
    \hline
    \end{tabular}
    *New item.
    Low frequency loss will result from use of unbalanced DC in windings other than where specified.

    \section*{AUDIO LOW LEVEL OUTPUT} MIXING, MATCHING, BRIDGING
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multicolumn{2}{|c|}{Impedance} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Max. \\
    Freq. \\
    Resp.
    \end{tabular}} & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{LvI. ShieldVU ing}} & \multirow[b]{2}{*}{Case} \\
    \hline & & Primary & Secondary & & & & \\
    \hline HS-50 & \$29.70 & 15000 & \[
    \begin{aligned}
    & 600 * / 250 * / \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    20-20000
    \] & 26 & P-3 & GP-4 \\
    \hline HS.60 & 24.25 & 15000 & \[
    \begin{aligned}
    & 600 * / 250^{*} / \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    20 \cdot 20000
    \] & 10 & P-1 & GP-2 \\
    \hline HS.61 & 27.50 & \[
    \begin{aligned}
    & 15000 \\
    & (5 \text { Ma. })
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 600 * / 250^{* /} \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    50-15000
    \] & 20 & P-1 & GP-5 \\
    \hline HS-52 & 32.50 & \[
    \begin{aligned}
    & 20000 / \\
    & 5000
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 600 \% / 250 \% \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    20 \cdot 20000
    \] & 26 & P. 1 & GP-4 \\
    \hline HS-54 & 38.50 & \[
    \begin{aligned}
    & 20000 / \\
    & 5000
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 600 * / 250 \% \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    20 \cdot 20000
    \] & 10 & P.5 & GP-4 \\
    \hline HS.56 & 32.50 & \[
    \begin{aligned}
    & 600 * / 250 * / \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 600^{* / 250} / 250^{* /} \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    10-30000
    \] & 20 & P.3 & GP-4 \\
    \hline HS.66 & 27.50 & & & 10-30000 & 20 & P-1 & GP-3. \\
    \hline *HS-58 & 36.50 & \[
    \begin{aligned}
    & 600 \% / 250^{* /} / \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 600^{* / 250 \%} \\
    & 150 / 62.5
    \end{aligned}
    \] & \[
    20 \cdot 20000
    \] & 15 & P-3H & GP.5 \\
    \hline \multicolumn{8}{|c|}{*New item. *Balanced center tap available.} \\
    \hline \multicolumn{8}{|l|}{Low frequency loss will result from unbalanced DC in windings other than where specified.} \\
    \hline
    \end{tabular}

    \section*{TRIAD TRANSFORMER CORPORATION}

    \section*{POWER COMPONENTS}

    \section*{HERMETICALLY SEALED}

    Triad 'HS' series power components are designed to meet the most stringent operatinty conditions in military and commercial service. They are hermetically sealed in heavy deep-drawn MIL standard cases. rigidly mounted with brazed stainless steel studs, liberally designed with highest quality materials, and beautifully finished in baked grey enamel. Both 50-60 tycle and 380-1500 cycle designs meet all the requirements of the MIL-T-27 specification for Grade 1, Class A service. Among the qualification requirements are: \(40^{\circ} \mathrm{C}\) maximum temperature rise, 10000 mejohm insulation resistance, 10 day humidity and vibration cycle. alternate plus \(85^{\circ} \mathrm{C}\) and minus \(55^{\circ} \mathrm{C}\) temperature cycling. These are the finest transformers available!

    \section*{Combined PLATE and FILAMENT Transformers}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|l|}{Plate Supply} & \multirow{2}{*}{Filaments} & \multirow{2}{*}{Case} \\
    \hline & & AC Volts & DC Ma. & & \\
    \hline + HSM-201 & S21.00 & 500 C.T. & 20 & 6.3 C.T.-2A. & GA \\
    \hline HSM-203 & 24.50 & 600 C.T. & 50 & \[
    \begin{gathered}
    \text { 6.3 C.T.-2.5A. } \\
    5 \text { - } 2 \mathrm{~A} .
    \end{gathered}
    \] & JB \\
    \hline HSM-205 & 27.50 & 700 C. T. & 70 & \[
    \begin{gathered}
    6.3 \\
    5 \\
    5
    \end{gathered}
    \] & JA \\
    \hline HSM-207 & 30.80 & 700 C.T. & 120 & \[
    \begin{gathered}
    6.3 \text { C.T. } \\
    5 \text {. } \\
    \text {. }
    \end{gathered}
    \] & KA \\
    \hline HSM-211 & 37.50 & \[
    \begin{aligned}
    & 700 \text { C.T. } 70 \text { V. } \\
    & \text { bias taj. }
    \end{aligned}
    \] & 150 & \[
    \begin{aligned}
    & \text { 6.3 C.T. } 6 A . \\
    & 2.5 \text { C.T. } 5 A . \\
    & 5 \text {. } 3 A .
    \end{aligned}
    \] & LA \\
    \hline HSM-212 & 39.00 & 1000/800 С.т. & 150
    (ch. input)
    117
    (cond. input) & \[
    \begin{aligned}
    & 6.3 / 5.4 \mathrm{~A} . \\
    & 6.3 \mathrm{C} . \mathrm{T} .4 \mathrm{~A} . \\
    & 6.3 \mathrm{~V} .4 \mathrm{~A} .
    \end{aligned}
    \] & LA \\
    \hline HSM-215 & 43.00 & \(800 / 700 \mathrm{C} . \mathrm{T}\). & 200 & 6.3 C.T. 6 A. & MA \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline HSM-215 & 43.00 & \[
    \begin{aligned}
    & 800 / 700 \mathrm{C.T} . \\
    & 70 \text { V. bias tap. }
    \end{aligned}
    \] & 200 & \[
    \begin{gathered}
    6.3 \mathrm{C.T} .-6 \mathrm{~A} . \\
    2.5 \text { С.T. }-10 \mathrm{~A} . \\
    5 \mathrm{AA} .
    \end{gathered}
    \] & MA \\
    \hline HSM-216 & 45.00 & 1000/800 С.T. & 200
    (ch. input)
    157
    (cond. input) & \[
    \begin{aligned}
    & \text { 6.3/5-4A. } \\
    & \text { 6.3 C.T. } 5 \mathrm{~A} . \\
    & \text { 6.3.5A. }
    \end{aligned}
    \] & MA \\
    \hline HS-217 & 48.00 & 800/700 C.T. & 300 & 6.3 C.T.-8A. & GP. \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline HS-217 & 48.00 & 800/700 C.T. 70 V. bias tap. & 300 & \[
    \begin{aligned}
    & 6.3 \text { С.T.-8A. } \\
    & 2.5 \text { С.T.-10A. } \\
    & 5 \text { - } 6 \text {. }
    \end{aligned}
    \] & GP. 15 \\
    \hline HSM-218 & 49.50 & 1000/800 C.T. & \[
    \begin{gathered}
    300 \\
    \text { (ch. input) } \\
    235 \\
    \text { (cond. input) }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { 6.3/5-6A. } \\
    & \text { 6.3 С.T. } 6 \mathrm{~A} . \\
    & \text { 6.3-6A. }
    \end{aligned}
    \] & GP. 15 \\
    \hline HSM-219 & 69.00 & (115/230 pri.) & 40/230 & & GP-15 \\
    \hline
    \end{tabular}

    Low flux density-for pre-amplifir. (ch. input)
    All types electrostatically shiplifier service.
    GP-15 dimensions \(43 / 4^{\prime \prime} \times 57 / 8^{\prime \prime} \times 65 / 8^{\prime \prime}\) high. Wt. approx, 22 lbs.
    Combined PLATE and FILAMENT Transformers
    Primary 115V-380/1500 cycle
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|l|}{Plate Supply} & \multirow[t]{2}{*}{Filaments} & \multirow[t]{2}{*}{Case} \\
    \hline & & AC Volts & OC Ma. & & \\
    \hline HS.401 & \$19.80 & 500 C.T. & 40 & \[
    \begin{aligned}
    & \text { 6.3 C.T.-1A. } \\
    & \text { 6.3.1A. }
    \end{aligned}
    \] & EB \\
    \hline HS.405 & 25.70 & 600 C.T. & 70 & \[
    \begin{aligned}
    & \text { 6.3C.T.-2A. } \\
    & 6.3-2 A . \\
    & =6.3 / 5-2 A .
    \end{aligned}
    \] & GA \\
    \hline HS.407 & 30.80 & \(600 \mathrm{C.T}\). & 120 & \[
    \begin{aligned}
    & \text { 6.3 C.T.-3.5A. } \\
    & \text { 6.3-3.5A. } \\
    & 6.3 / 5-3 A .
    \end{aligned}
    \] & JB \\
    \hline HS-413 & 42.00 & 450 C. T. & 200 & \[
    \begin{aligned}
    & \text { 6.3 C.T.-6A. } \\
    & \text { 6.3-6A. } \\
    & 6.3 / 5-4 A .
    \end{aligned}
    \] & JA \\
    \hline HS-415 & 42.00 & 800/600 C.T. & 200 & \[
    \begin{aligned}
    & \text { 6.3 С. T.-6A. } \\
    & \text { 6.3-6A. } \\
    & =6.3 / 5-6 A .
    \end{aligned}
    \] & KB \\
    \hline HS-417 & 45.00 & 800/600 C.T. & 300 & \[
    \begin{aligned}
    & \text { 6.3 С.T.-6A. } \\
    & \text { 6.3-6A. } \\
    & \text { 6.3/5-6A. }
    \end{aligned}
    \] & LA \\
    \hline
    \end{tabular}
    *Tapped for 5 volt rectifier use. All types electrostatically shielded. GP. 1 GP. 2 GP. 3 GP. 4 GP- 5
    

    \section*{71 TRIAD TRANSFORMER CORPORATION}

    FILAMENT Transformers, 50/60 eycle
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \]} & \multicolumn{5}{|c|}{Secondary} \\
    \hline & List Price & Primary Volts & Volts & Amperes & Case \\
    \hline HSM-223 & \$13.50 & 115 & 6.3 & 0.6 & AJ \\
    \hline HSM-225 & 15.00 & 105-115-125 & 6.3 C.T. & 2 & EA \\
    \hline -HSM-226 & 17.00 & 105-115-125 & 6.3 C.T. & 3.6 & FA \\
    \hline HSM-227 & 21.80 & 105.115-125 & \[
    \begin{aligned}
    & \hline 16.3 \text { C.T. } \\
    & 6.3
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \\
    & 3
    \end{aligned}
    \] & GA \\
    \hline HSM-229 & 18.00 & 105-115-125 & 6.3 C.T, & 8 & JB \\
    \hline HSM-236 & 24.75 & 105-115-125 & \[
    \underset{12.6}{\dagger 12.6} \text { C.T. }
    \] & \[
    \begin{aligned}
    & 2 \\
    & 2 \\
    & \hline
    \end{aligned}
    \] & JB \\
    \hline HSM-228 & 27.60 & 105-115-125 & \[
    \begin{gathered}
    +6.3 \mathrm{C.T} \\
    6.3
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 6 \\
    & 6 \\
    & \hline
    \end{aligned}
    \] & JA \\
    \hline HSM-231 & 22.50 & 105-115-125 & \[
    \begin{aligned}
    & 6.3 \text { С.T. } \\
    & 5 \text { С.T. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 \\
    & 3
    \end{aligned}
    \] & J8 \\
    \hline HSM-232 & 27.50 & 105-115-125 & 2.5 C.T. & 10 & HA \\
    \hline HSM-235 & 36.25 & 105-115-125 & 2.5 C.T. & 10 & MA \\
    \hline & & & 10 c.t. & 10 & \\
    \hline
    \end{tabular}
    *New item. †Series or parallel connections.
    FILAMENT Transformers, 380/1500 cycle
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{Secondary} \\
    \hline Type No. & List Price & \begin{tabular}{l}
    Primary \\
    Volts
    \end{tabular} & Volts & Amperes & Case \\
    \hline HS-425 & \$13.75 & 105-115-125 & 6.3 C.T. & 2 & AJ \\
    \hline HS-427 & 19.40 & 105-115-125 & 6.3 C.T. & 5 & EA \\
    \hline HS-433 & 21.20 & 105-115-125 & \[
    \begin{aligned}
    & 6.3 \text { C.I. } \\
    & 6.3
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 \\
    & 5
    \end{aligned}
    \] & FA \\
    \hline HS-435 & 22.50 & 105-115-125 & \[
    \begin{gathered}
    \text { *6.3 C.T. } \\
    6 . \frac{\pi}{2} \\
    +6.3 / 5 \\
    \hline
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 3.5 \\
    & 3.5 \\
    & 3
    \end{aligned}
    \] & FA \\
    \hline HS-441 & 28.00 & 105-115-125 & \[
    \begin{aligned}
    & \text { *5 С.T. } \\
    & 5 \\
    & 2.5 \text { С.T. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 10 \\
    & 10 \\
    & 10
    \end{aligned}
    \] & HA \\
    \hline HS-442 & 22.50 & \begin{tabular}{l}
    \[
    57.5 \cdot 96 \cdot 115 \cdot 120
    \] \\
    Single phase.
    \end{tabular} & \[
    \frac{12.6}{12.6} \text { C.T. }
    \] & \[
    \begin{aligned}
    & 2 \\
    & 2
    \end{aligned}
    \] & EA \\
    \hline
    \end{tabular}

    Two H5-442's can be used, 115 volt 3 phase to 26 volt 2 phase, Scottconnected.
    *Series or parallel connection. \(\quad \dagger 5\) volt tap for filament type rectifiers.

    \section*{FILTER REACTORS}
    \begin{tabular}{lccccc}
    \hline \begin{tabular}{c} 
    Type \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} & \begin{tabular}{c} 
    Current \\
    DC Ma.
    \end{tabular} & \begin{tabular}{c} 
    Inductanct \\
    Henries
    \end{tabular} & \begin{tabular}{c} 
    Resistance \\
    Ohms
    \end{tabular} & Case \\
    \hline HSM-301 & \(\mathbf{\$ 1 3 . 5 0}\) & 20 & 30 & 1000 & EA \\
    \hline HS-331 & \(\mathbf{1 1 . 0 0}\) & 40 & 4 & 375 & AH \\
    \hline HS-303 & \(\mathbf{1 4 . 2 5}\) & 50 & 12 & 385 & EB \\
    \hline HS-333 & \(\mathbf{1 1 . 5 0}\) & 70 & 3 & 225 & AS \\
    \hline HSM-305 & 15.00 & 70 & 15 & 300 & GB \\
    \hline HS-335 & 12.00 & 120 & 3 & 150 & EB \\
    \hline HSM-307 & 17.50 & 120 & 15 & 185 & JB \\
    \hline HSM-309 & 18.00 & 150 & 9 & 115 & JB \\
    \hline HS-339 & 13.60 & 200 & 3 & 105 & FB \\
    \hline HSM-315 & 21.50 & 200 & 10 & 100 & JA \\
    \hline HS-341 & \(\mathbf{1 4 . 6 0}\) & 300 & 2 & 48 & GB \\
    \hline HSM-319 & \(\mathbf{2 8 . 0 0}\) & 300 & 10 & 85 & LA \\
    \hline
    \end{tabular}

    \section*{HIGH FIDELITY OUTPUT TRANSFORMERS}

    \section*{TUBE TO LINE-TUBE TO VOICE COIL LINE TO YOICE COIL}

    \section*{HIGH LEVEL OUTPUT Hermetically Sealed}

    TRIAD "HS" Series Output Transformers represent the application of the most modern techniques in the design of fine audio equipment. Use of annealed arainoriented core materiais, combined with multiple interleaved coil structures, have resulted in an open circuit inductance to teakage inductance ratio of 10.000 representing a frequency response range of better than 13 octaves. These trans: formers will deliver fulf rated power output within 1 db . from \(7-50000\) eycles. Full DC plate current can be carried through the primary windings. but every effort should be made to balance the two plates in push-pull circuits to obtain optimum results at the extreme low frequencies.
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|c|}{Impedance} & \multirow[b]{2}{*}{Freq. Response} & \multirow[t]{2}{*}{Max. Level Watts} & \multirow[b]{2}{*}{Case} \\
    \hline & & Primary & Secondary & & & \\
    \hline HSM-79 & \$25.00 & \[
    \begin{aligned}
    & 20000 \mathrm{C.T} \\
    & (20 \mathrm{Ma.}) \\
    & \text { or } 5000 \\
    & (40 \mathrm{Ma} .)
    \end{aligned}
    \] & 16/8/4 & 50-2500 & 5 & FA \\
    \hline HSM-80 & 25.00 & \[
    \begin{aligned}
    & 20000 \mathrm{C.T} \\
    & (20 \mathrm{Ma.}) \\
    & \text { or } 5000 \\
    & (40 \mathrm{Ma} .) \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 500 / \\
    & 250 \text { C.T. } \\
    & \text { or } 125 / 62.5
    \end{aligned}
    \] & 50.25000 & 5 & FA \\
    \hline HSM-81 & 30.50 & \[
    \begin{aligned}
    & 8000 \\
    & \text { Split primary }
    \end{aligned}
    \] & 16/8/4 & 7.50000 & 15 & \(\sqrt{ } 1\) \\
    \hline HSM-82 & 30.50 & 8000 C.T. & 500/250/125 & \(7 \cdot 50000\) & 15 & JB \\
    \hline * +HSM-181 & 30.50 & \[
    \begin{aligned}
    & 8000 / \\
    & 2000 \mathrm{C} . \mathrm{T} . \\
    & \text { Split primary }
    \end{aligned}
    \] & 16/8/4 & 7.50000 & 15 & JB \\
    \hline *†HSM-182 & 30.50 & \[
    \begin{aligned}
    & 8000 / \\
    & 2000 \mathrm{C} . \mathrm{T} . \\
    & \text { Split primary }
    \end{aligned}
    \] & 500/250/125 & 7.50000 & 15 & JB \\
    \hline HSM-84 & 30.50 & 5000 C.T. & 16/8/4 & 7.50000 & 20 & JB \\
    \hline HSM-85 & 30.50 & 5000 C.T. & 500/250/125 & 7.50000 & 20 & JB \\
    \hline +HSM-189 & 39.50 & \[
    \begin{aligned}
    & 10000 / \\
    & 2500 \text { C.T. } \\
    & \text { Split primary }
    \end{aligned}
    \] & 16/8/4 & 7.50000 & 25 & KB \\
    \hline 4HSM-190 & 39.50 & \[
    \begin{aligned}
    & 10000 / \\
    & 2500 \mathrm{C} . \mathrm{T} . \\
    & \text { Split primary }
    \end{aligned}
    \] & 500/250/125 & \(7 \cdot 50000\) & 25 & KB \\
    \hline *+HSM-186 & 39.50 & \[
    \begin{aligned}
    & \text { 6600 C.T. } \\
    & \text { Split primary } \\
    & \hline
    \end{aligned}
    \] & 16/8/4 & \(7 \cdot 50000\) & 25 & KB \\
    \hline *+HSM-187 & 39.50 & \begin{tabular}{l}
    6600 C.T. \\
    Split primary
    \end{tabular} & 500/250/125 & 7.50000 & 25 & KB \\
    \hline HSM-87 & 35.80 & 9000 C.T. & 16/8/4 & 7.50000 & 25 & KB \\
    \hline HSM-88 & 35.80 & 9000 C.T. & 500/250/125 & 7-50000 & 25 & KB \\
    \hline HSM-91 & 49.50 & 2500 C.T. & 16/8/4 & 7.50000 & 50 & LA \\
    \hline HSM-94 & 61.00 & 4500 C.T. & 16/8/4 & 7.50000 & 55 & LA \\
    \hline HSM-95 & 61.00 & 4500 C.T. & 500/250/125 & 7-50000 & 55 & LA \\
    \hline H5-97 & 115.00 & 6600 C.T. & 500/250/125 & 10-30000 & 125 & Spec. \\
    \hline HS-101 & 35.80 & & \[
    \begin{aligned}
    & 500 / 250 / \\
    & 167 / 125 / \\
    & 100 / 83 / 71
    \end{aligned}
    \] & 10-30000 & 30 & Spec. \\
    \hline H5-103 & 30.50 & & 500/16/8/4 1 & 10-30000 & 30 & Spe \\
    \hline
    \end{tabular}
    *New item.
    *New item.
    + Williamson type circuit. Proper taps on primary for screen operation.

    \section*{HIGH LEVEL OUTPUT}

    The Triad high fidelity transformers in the group below afford a standard of performance exceeded only by the "HS" series outputs. These transformers have a frequency response linear within 1 db . from \(20-20000\). Feedback loops employing as high as 30 db . of negative feedback may be used.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|c|}{Impedance} & \multirow[t]{2}{*}{Output Watts} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Wt. \\
    Lbs
    \end{tabular}} \\
    \hline & & Primary & Secondary & & \\
    \hline S-31A & \$12.00 & 8000 C.T. & 4-8-16 & 15 & 31/2 \\
    \hline S-32A & 12.50 & 8000 C.T. & 500/250/125 & 15 & \(31 / 2\) \\
    \hline * +S.142A & 18.00 & 8000 C.T. & 4.8.16 & 15 & 31/2 \\
    \hline 5-33A & 12.00 & 3000 C.T. & 4.8.16 & 15 & \(31 / 2\) \\
    \hline S.35A & 13.00 & 5000 C.T. & 4.8-16 & 20 & 4 \\
    \hline S.36A & 13.50 & 5000 C.T. & 500/250/125 & 20 & 4 \\
    \hline +S-148A & 25.75 & 10000 C.T. & 4.8-16 & 25 & 53/4 \\
    \hline *+5-146A & 25.75 & 6600 C.T. & 4-8-16 & 25 & 53/4 \\
    \hline S.38A & 16.70 & 9000 C.T. & 4-8-16 & 25 & 53/4 \\
    \hline S-39A & 17.50 & 9000 C.T. & 500/250/125 & 25 & 53/4 \\
    \hline S-40A & 16.70 & 2500 C.T. & 4-8.16 & 30 & \(53 / 4\) \\
    \hline S.42A & 22.75 & 4500 C.T. & 4.8-16 & 50 & 9 \\
    \hline S.45Z & 5.65 & \[
    \begin{aligned}
    & 4000 / 2000 / \\
    & 1000 / 500
    \end{aligned}
    \] & 4-8 & 10 & 13/4 \\
    \hline S.46A & 11.50 & \[
    \begin{aligned}
    & 2000 / 1000 / \\
    & 500 / 250
    \end{aligned}
    \] & 4-8-16 & 20 & 4 \\
    \hline *New & \multicolumn{5}{|l|}{\(\dagger\) Williamson type circuit. Proper taps on primary for screen operation.} \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline & EA & [B & FA & FB & GA & GB & & LA & 18 & MA & M8 & NA & \\
    \hline a & 14in & \(1{ }^{19} 6\) & \({ }^{2}\) ii & \({ }^{\prime \prime}\) & \(2{ }^{3}\). & \(2^{2}\) & \(a\) & 3016 & \(3^{31} \times\) & 4 & 4 & \(4{ }^{4}\) & 4316. \\
    \hline * & \({ }^{19}\) w่ & 1110 & \(2^{314}\) & \(2^{515}\) & 23 & 234 & E & \(4{ }^{4}\) & 4/1/ & 4116 & 4116 & 5! is & 54 \\
    \hline c & 27 & \(2^{14}\) & 3\%9\% & 215 & 3\%160 & \(2^{11} 16\) & c & \(5{ }^{18}\) & 41/2 & 6 & \(413{ }^{11}\) & \(6^{11} 16\) & bti \\
    \hline - & \(13:\) & 13 & \(11_{18}\) & \(1^{116}\) & 21/8 & 21/3 & - & \(3{ }^{3} 16\) & 311 & 3"15 & 3'以 & 4.6 & - \({ }^{\text {m }}\) \\
    \hline E & 11/4 & 13/4 & 13\% & \(1^{1} \times\) & 1\% & 134 & E & \(2^{\text {H1 }}\) & \(2 \mathrm{H16}\) & 3 & 3 & \(3{ }^{3} 6\) & 3 is \\
    \hline c & 1. & 3. & 3.8 & \({ }^{3}\) & \({ }^{3}\) & \({ }^{3}\) & c &  & \(1 / 2\) & \(3 / 8\) & 3 & \% & 3/6 \\
    \hline 1 & 6.32 & 6.32 & 6.32 & 6.32 & 6.32 & 6.32 & 1 & 10-32 & 10.32 & 1:20 & 18.20 & 4.20 & 14.20 \\
    \hline wis. & 1 & 1502. & 13 & \(11 / 3\) & 2 & 13. & we. ths. & 91/4 & \(81 / 2\) & 131/2 & \(121 / 2\) & 18 & 16 \\
    \hline & Ha & H8 & JA & 18 & KA & KB & & & & & & & \\
    \hline a & 2311 & 23: & \({ }^{316}\) & \({ }^{316}\) & \(3^{3} \mathrm{~b}\) & 33: & & & & & & & \\
    \hline E & 3160 & \(3^{10}\) & 30,6 & 3'16 & 3': & \(3^{315}\) & & & & & & & \\
    \hline c & 41/4 & 3\% 16 & 41/1 & 31/6 & 51/8 & \(4{ }^{43}\) & & & & & & & \\
    \hline 0 & 2404 & 2194 & 23\%8 & 2s! & 3 & 3 & & & & & & & \\
    \hline E & 1"4 & 134 & 23/6 & 24. & \(2^{216}\) & 2' \({ }^{\text {\% }}\) & & & & & & 0. & \\
    \hline c & 3. & \(3^{3}\) & 3 & \({ }^{1}\) & Y/2 & 315 & & & & & & & \\
    \hline 1 & 8.32 & 8.32 & 8.32 & 8.32 & 10-32 & 10.32 & & & & & & & \\
    \hline we. ths. & 215 & 21/4 & 413 & 4 & 73 & 7 & & PL- & & & & PL. & \\
    \hline
    \end{tabular}

    \section*{For High Fidelity Reproduction HF-3—Preamplifier and Equalizer}

    Includes complete punched sectional aluminum chassis and complete assembly instructions. plus R-..6.A. A-75.J and two C-1X transformers Net Weight. 5 pounds.

    List Price \(\$ 32.80\)

    \section*{HF-12-10 Watt Power Amplifier Kit}

    The IIF-12 kit includes a completely punched sectional aluminum chassis and complete assembly instructions. plus R-14.A, C-13X. A-7.J. and S-31A transformers. Net Weight. \(141 / 2\) pounds. List Price \(\$ 50.40\) HF-12A Kit-Same as HF-12 kit. except HSM-81 hermetically sealed output transformer is used instead of the s -311
    Net Weight. 1 s pounds
    List Price \(\$ 69.90\) HF-12B Kit-Same as Hir-12 kit. except S- 2 A output transformer is used. This kit will be used where line impedances are required of \(500 / 250 / 12 \%\) ohms
    Net Weight. \(141 / 2\) pounds.
    List Price \(\$ 50.90\) HF-12C Kit-Same as HF-12 kit, except HSD-8: hermetically sealed output transformer is used
    Net Weight, \(1 \overline{5}\) pounds
    List Price \(\$ 68.90\)

    \section*{HF-18 'Williamson Type" All Triode Amplifier} HF-18 lit includes a completely punched sectional aluminum chassis with complete assembly instructions. plus R-5SA. C-14X. \(\mathrm{C}-1 \mathrm{X}\) and \(\mathrm{S}-148\) transformers. Net Weight, \(200^{3 / 4}\) pounds

    List Price \(\$ 63.65\) HF-18A Kit-Same as HF-1S kit, except HSN-189 hermetically sealed output transformer is used instead of S-148A transformer
    Net Weight, 22 nounds.
    List Price \(\$ 77.40\) HF-18C Kit-Same as HF-18 kit. excent HSN-190 hermetically sealed output transformer is used instead of the S-148A. The HSM-190 output transformer secondary matches \(5010 / 250 / 125\) ohms
    Net Weight, 22 pounds.
    List Price \(\$ 77.40\)

    \section*{HF-40-40 Watf Auditorium Amplifier}

    HF-40 kit includes punched sectional aluminum chassis and complete instructions, plus R-46A, C-17. and S-42 1 transformers. Net Weight, \(35^{1 / 2}\) pounds

    List Price \(\$ 78.35\) HF-40A Kit-Same as HF-40 kit except HSM-94 hermetically sealed output transformer is used instead of S-42A transformer. Net Weight, \(359 / 4\) pounds

    List Price \(\$ 116.60\) HF-40C Kit—Same as HF-40 kit, excent JIS.IT-9:, hermetically sealed output transformer is used instead of S-12A transformer.
    Net Weight. 35 , \(3 / 4\) pounds.
    List Price \(\$ 116.60\)

    \title{
    TRIAD TRANSFORMER CORPORATION
    }

    \section*{P ULSE}

    These miniature blocking oscillator transformers are now in quantity production for manufacturers in a number of applications and with outstanding results. Their multiple winding construction makes them available for a variety of circuits and their fast rise time ( .03 microseconds) makes them excentionally useful. Positive hermetic sealing prevents deterioration of performance with time (absolutely neces. sary for long shelf life).
    \begin{tabular}{|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & List Price & Application \\
    \hline PL-4 & \$15.00 & 2 equal windings. Pulse widths .35 to 1.2 microseconds. Duty cycle .01 nax. Dismensions \(4^{\prime \prime}\) dia. by \(.625^{\prime \prime}\) long. \\
    \hline PL-5 & 17.50 & 3 equal windings. Pulse widths 35 to 1.2 microseconds. Duty cycle .01 max. Dimensions \(.5^{\prime \prime}\) dia. liy \(.68^{\prime \prime}\) long. \\
    \hline PL-6 & 15.00 & 3 equal windings. Pulse widths 35 to 1.2 microseconds Duty cycle .01 max. Dimensions (Transformer only) W' \(^{\prime}\) dia. by \(34^{\prime \prime}\) long. Mounts with \(8.32 \times 1 / 2^{\prime \prime}\) stud. \\
    \hline
    \end{tabular}

    \section*{POWER}

    \section*{Combined PLATE and FILAMENT Transformers} Primary 115 volts \(50 / 60\) cycles
    Triad power components are liberally designed to best meet average design suecifications and to ensure maximum utility for each desiun. All units are beautifully finished in baked grey enamel and have all connection data permanently marked oin the case.
    All types are "Climatite" treated both coil and core. for protection ajainst moisture and for elimination of lamination chatter. Although they are small in size, the high quality materials used keen losses to a minimum and hold tempera. ture rise below \(55^{\circ} \mathrm{C}\). Only copser foil static shields, frounded to the case and core are used Leats are of a type approved by UL for high temperature operation:
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Type
    No. & List Price & \[
    \begin{aligned}
    & \text { Plate } \\
    & \text { AC Volts }
    \end{aligned}
    \] & Suppiy DC Ma. & \multicolumn{2}{|l|}{\begin{tabular}{l}
    Rect. Fil. \\
    V. Amp.
    \end{tabular}} & \[
    v \text {. }
    \] & Fil. Amp. & Wt. Lbs. \\
    \hline R-4A & \$ 6.25 & 500 C.T. & 40 & & & 6.3 C.T. & 2 & \(13 \%\) \\
    \hline R-4B & 6.15 & 500 C.T. & 40 & & & 6.3 C.T. & 2 & \(1{ }^{3} 4\) \\
    \hline R-5A & 7.35 & 600 C.T. & 65 & & & 6.3 C.T. & 2.7 & \(2^{3} 4\) \\
    \hline R-5B & 7.25 & 600 C.T. & 65 & & & 6.3 C.T. & 2.7 & \(2^{3} 4\) \\
    \hline R.6A & 7.50 & 480 C.T. & 50 & 5 & 2 & 6.3 С. Т. & 2 & \(2^{3 / 4}\) \\
    \hline R-6B & 7.40 & 480 C.T. & 50 & 5 & 2 & 6.3 C.T. & 2 & 234 \\
    \hline R-7A & 7.70 & 600 C.T. & 50 & 5 & 2 & 6.3 C.T. & 2 & \(2^{3} 4\) \\
    \hline R-76 & 7.80 & 600 C.T. & 50 & 5 & 2 & 6.3 C.T. & 2 & 23. \\
    \hline R.8A & 8.80 & 500 C.T. & 75 & 5 & 2 & 6.3 C.T. & 2.5 & 3 \\
    \hline R-8E & 8.60 & 500 C.T. & 75 & 5 & 2 & 6.3 C.T. & 2.5 & 3 \\
    \hline R.9A & 9.20 & 600 С.T. & 75 & 5 & 2 & 6.3 C.T. & 3 & \(31 / 2\) \\
    \hline R-98 & 7.00 & 600 C.T. & 75 & 5 & 2 & 6.3 C.T. & 3 & 3 ? \\
    \hline R-10A & 10.50 & 525 С.T. & 90 & 5 & 2 & 6.3 C.T. & 5 & \(41 / 2\) \\
    \hline R-10B & 10.25 & 525 C.T. & 90 & 5 & 2 & 6.3 C.T. & 5 & \(4{ }^{1}\) \\
    \hline R-11A & 10.25 & \(700 \mathrm{C.T}\). & 90 & 5 & 3 & 6.3 C.T. & 3.5 & \(41 / 4\) \\
    \hline R.11B & 10.00 & \(700 \mathrm{C.T}\). & 90 & 5 & 3 & 6.3 C.T. & 3.5 & 414 \\
    \hline R-12A & 10.50 & 550 C.T. & 110 & 5 & 2 & 6.3 C.T. & 5 & \(4!2\) \\
    \hline R-12B & 10.35 & 550 C.T. & 110 & 5 & 2 & 6.3 C.T. & 5 & \(41 / 2\) \\
    \hline R-14A & 11.50 & 700 C.T. & 125 & 5 & 3 & 6.3 C.T. & 4.5 & 6 \\
    \hline R-14B & 11.30 & \(700 \mathrm{C.T}\). & 125 & 5 & 3 & 6.3 C.T. & 4.5 & 6 \\
    \hline R-16A & 13.75 & 700 C.T. & 160 & 5 & 3 & 6.3 C.T. & 5 & 7 \\
    \hline R-16B & 13.50 & 700 C.T. & 160 & 5 & 3 & 6.3 C.T. & 5 & 7 \\
    \hline R-17A & 16.25 & \[
    \begin{gathered}
    750 \text { С.T. } \\
    80 \text { Tap }
    \end{gathered}
    \] & 160 & 5 & 3 & \[
    \begin{aligned}
    & 6.3 \text { С.Т. } \\
    & 2.5 \text { С. Т. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 \\
    & 5
    \end{aligned}
    \] & 71/4 \\
    \hline R-18A & 16.50 & 750 C.T. & 175 & 5 & 3 & 6.3 С.T. & 8 & 81/2 \\
    \hline R-18B & 16.30 & 750 C.T. & 175 & 5 & 3 & 6.3 C.T. & 8 & \(81 / 2\) \\
    \hline R-19A & 19.00 & 750 C.T. & 200 & 5 & 3 & 6.3 C.T. & 6 & \(91 / 2\) \\
    \hline R-19a & & 80 Tap & & & & 2.5 C.T. & 10 & \\
    \hline R-20A & 16.25 & 700 C.T. & 200 & 5 & 3 & 6.3 C.T. & 8 & \(81 / 2\) \\
    \hline R-20B & 16.10 & 700 C.T. & 200 & 5 & 3 & \(6.3 \mathrm{C} . \mathrm{T}\). & 8 & \(81 / 2\) \\
    \hline R-21A & 17.80 & 800 C.T. & 200 & 5 & 3 & 6.3 C.T. & 6 & \(91 / 4\) \\
    \hline R-21B & 17.45 & 800 C.T. & 200 & 5 & 3 & 6.3 C.T. & 6 & 91/4 \\
    \hline R-24A & 22.50 & 800 C.T. & 300 & 5 & 6 & 6.3 C.T. & 6 & 14 \\
    \hline R-24B & 22.30 & 800 C.T. & 300 & 5 & 6 & 6.3 С.T. & 6 & 14 \\
    \hline R-25A & 36.00 & 800 C.T. & 500 & 5 & 6 & \[
    \begin{aligned}
    & 6.3 \text { C.T. } \\
    & 6.3
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \\
    & 7
    \end{aligned}
    \] & 19 \\
    \hline R-58A & 18.50 & 875 C.T. & 185 & 5 & 3 & 6.3 & 4 & \(91 / 2\) \\
    \hline & & & & & & 6.3 & 3 & \\
    \hline
    \end{tabular}

    NOTE: Complete specifications on Triad Amplifier Kits are listed in Catalog TR-55, available at your local TRIAD distributor.
    

    \section*{TI TRIAD \\ TRANSFORMER CORPORATION}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{8}{|c|}{PLATE POWER Transformers Primary 115 volts 5060 cycles} \\
    \hline Type
    No. & List Price & \[
    \begin{aligned}
    & \text { Second } \\
    & \text { A.C. }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \text { y Volts } \\
    \text { D.C. }
    \end{array}
    \] & Sec. CCS & D.C. Ma. ICAS & Rect. Fil. & Wt. Lbs. \\
    \hline P-1A & \$ 9.20 & 440/220 C.T. & 180/90 & 160 & 190 & 5V.3A & 4 \\
    \hline P.3A & 12.50 & 600/300 С.T. & 250/125 & 300 & 360 & 5V.4A & 53/4 \\
    \hline P.5A & 16.75 & 1100 C.T. & 400 & 250 & 310 & 5V.4A & 9 \\
    \hline P.7A & 18.00 & 1235 C.T. & 500 & 250 & 310 & 5V.4A & 11 \\
    \hline P-9A & 33.00 & 1235 С.T. & 500 & 500 & 600 & 5V-6A & 19 \\
    \hline P.11A & 21.50 & 1455 C.T. & 600 & 250 & 310 & & 12 \\
    \hline 4P-13A & 25.00 & 1780 C.T. & 750 & 250 & 310 & & 14 \\
    \hline \(\pm\) +P-14A & 25.50 & \(1780 \mathrm{C} . \mathrm{T}\). & 750/600 & 250 & 310 & & 14 \\
    \hline +P=15A & 29.00 & 2340 C.T. & 1000 & 250 & 310 & & 17 \\
    \hline +P.17A & 38.50 & 2880 C.T. & 1250 & 250 & 310 & & 20 \\
    \hline +P.16A & 64.00 & 2430 C.T. & 1000 & 500 & 600 & & 31 \\
    \hline +P-18A & 72.00 & 2880 C.T. & 1250 & 500 & 600 & & 35 \\
    \hline +P-20A & 71.00 & 3300 C.T. & 1500 & 350 & 425 & & 35 \\
    \hline
    \end{tabular}

    Plate leads out side of case for 866 rectifiers.
    \(\ddagger\) Tapped Pri. to produce the lower D.C. voltage.

    \section*{Instrument POWER SUPPLY Transformers}

    Intelligent design and construction of measuring instruments involves consideration of many factors normally neglected in electronic circuits. Regulation of power supply voltages, limitation of external magnetic fieids by minimum flux density. multiple static shields to limit capacitive coupling, multiple filaments where tubes must operate at different potentials, all become necessary to obtain peak performance. The transformers on this page are a series of special designs which have been developed for instrument design.

    For PREAMPLIFIERS, VTVM, ete.
    Primary 115 volts-50/60 eycles
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multicolumn{2}{|l|}{Plate Supply} & \multirow[t]{2}{*}{Filament Windinys Volts and Amperes} & \multirow[t]{2}{*}{Wt. Lbs.} \\
    \hline & & AC Volts & DC Ma. & & \\
    \hline R-68A & 59.50 & 800 C.T. & 30 & \[
    \begin{aligned}
    & 5 \mathrm{~V} .2 \mathrm{AA} .6 .3-1.2 \mathrm{~A} . \\
    & 6.3-1.2 \mathrm{~A} \text {. }
    \end{aligned}
    \] & 3 \\
    \hline R-2C & 4.75 & 135 & 15 & 6.3V.-.9A. & 1 \\
    \hline R-3A & 6.15 & 500 C.T. & 20 & 6.3 C.T. 2 2A. & 13/4 \\
    \hline R-29A & 6.00 & 230 C.T. & 40 & 6.3V.-1.5A. & 13/4 \\
    \hline R-30X & 5.20 & 135 & 50 & 6.3 V .1 .5 A . & 11/2 \\
    \hline R-54X & 4.75 & 115 & 15 & 6.3V. 6 A. & 1 \\
    \hline R-56A & 6.85 & 130 & 20 & 0/15/22.5/30-.6A. & 2 \\
    \hline
    \end{tabular}

    CATHODE RAY Tubes
    Primary 115 volts- \(50 / 60\) cycles
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|l|}{Plate Supply} & \multirow[t]{2}{*}{Filament Windings Volts and Amperes} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Wt. \\
    Lbs.
    \end{tabular}} \\
    \hline & & AC Volts & DC Ma. & & \\
    \hline R-41C & \$23.15 & \[
    \begin{aligned}
    & 440-0.440- \\
    & 1250 .
    \end{aligned}
    \] & 125/5 & \[
    \begin{array}{ll}
    * 6.3 V .-6 A . & +2.5 V .- \\
    +2.5 V .-1.75 A . & 1.75 \mathrm{~A} . \\
    & 5 \mathrm{~V} .-3 \mathrm{~A} .
    \end{array}
    \] & 71/2 \\
    \hline R-45C & 16.50 & \[
    \begin{aligned}
    & 400 \cdot 0 \cdot 400 \\
    & 800
    \end{aligned}
    \] & 30/5 & \[
    \begin{array}{ll}
    6.3 V .-6 A . & 6.3 V .1 A . \\
    6.3 \mathrm{C} . \mathrm{T} .-3 A . & 5 \mathrm{~V} .-2 A . \\
    +5 \mathrm{~V} .-2 \mathrm{~A} . &
    \end{array}
    \] & 41/2 \\
    \hline R-43C & 13.80 & 1600 & 3 & \[
    \begin{aligned}
    & 6.3 / 5 / \\
    & 2.5 \mathrm{~V} .-1 \mathrm{~A} . \\
    & +6.3 / 5 / \\
    & 2.5 \mathrm{~V} .-3 \mathrm{~A} .
    \end{aligned}
    \] & 31/2 \\
    \hline
    \end{tabular}

    Statically shielded and insulated for full plate voltage
    tinsulated for full plate voltage.

    \section*{FOR REGULATED POWER SUPPLIES}

    Primary 115 volts- \(50 / 60\) cycles
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|l|}{Plate Supply} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Filament Windings Volts and Amperes}} & \multirow[t]{2}{*}{Wt. Lbs.} \\
    \hline & & AC Volts & DC Ma. & & & \\
    \hline R-70A & \$11.25 & 880 C.T. & 75 & \[
    \begin{aligned}
    & \text { 6.3V.-.6A. } \\
    & 6.3 V .=3 A .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 6.3 V .-.9 A \\
    & 6.3 V .-3 A
    \end{aligned}
    \] & 41/2 \\
    \hline R-26A & 21.50 & 800.720 C & 200 & \[
    \begin{aligned}
    & \text { 6.3 C.T. } 8 \mathrm{AA} . \\
    & 6.3 \mathrm{~V} .1 \mathrm{~A} .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 6.3 \mathrm{~V} \cdot 3 \mathrm{~A} . \\
    & 5 \mathrm{~V} .3 \mathrm{~A} .
    \end{aligned}
    \] & 12 \\
    \hline R-28A & 32.50 & 1250 C.T. & 300 & \[
    \begin{aligned}
    & \text { 6.3 C.T. }-8 A . \\
    & 6.3 V .-3 A .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 6.3 V . \cdot 3 A . \\
    & 5 \mathrm{~V} .-6 A .
    \end{aligned}
    \] & 20 \\
    \hline R-46A & 33.00 & \[
    \begin{aligned}
    & 1250 \text { C.T. } \\
    & 130 \text { (Bias } \\
    & \text { winding) }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    350 \\
    50
    \end{array}
    \] & \[
    5 \mathrm{~V} .4 \mathrm{~A} .
    \] & \[
    \begin{aligned}
    & 6.3 V \cdot-4 A . \\
    & 6.3 V \cdot-1 A . \\
    & 6.3 V .1 A .
    \end{aligned}
    \] & 20 \\
    \hline \multicolumn{7}{|l|}{R-46A will supply 550 V.D.C. using 2 5R4G rectifier tubes, choke input. Will also supply 130 V . for bias using Selenium rectifier. Sufficent filament windings to regulate voltages.} \\
    \hline R-27A & 45.00 & \(1500 \mathrm{C} . \mathrm{T}\). & 400 & 5V.6A. & \[
    \begin{aligned}
    & 6.3 \mathrm{~V} .3 \mathrm{~A} . \\
    & 6.3 \mathrm{~V} .8 \mathrm{~A} .
    \end{aligned}
    \] & 30 \\
    \hline
    \end{tabular}
    

    \section*{CHOKES}

    \section*{SWINGING Filter REACTORS}
    \begin{tabular}{ccccccc}
    \hline \begin{tabular}{c} 
    Type \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} & \begin{tabular}{c} 
    Inductance \\
    Henries
    \end{tabular} & \begin{tabular}{c} 
    Current \\
    Ma.
    \end{tabular} & \begin{tabular}{c} 
    Resistance \\
    Ohms
    \end{tabular} & \begin{tabular}{c} 
    Test Volts \\
    RMS
    \end{tabular} & \begin{tabular}{c} 
    Wt. \\
    Lbs.
    \end{tabular} \\
    \hline C-31A & \(\mathbf{\$ 8 . 2 0}\) & \(25 / 5\) & \(20 / 200\) & 150 & 2500 & \(\mathbf{4 1 / 2}\) \\
    \hline C-33A & \(\mathbf{1 2 . 5 0}\) & \(25 / 5\) & \(30 / 300\) & 105 & 3000 & \(71 / 4\) \\
    \hline C-35A & \(\mathbf{1 6 . 0 0}\) & \(20 / 4\) & \(40 / 400\) & 60 & 3000 & \(91 / 2\) \\
    \hline C-39A & \(\mathbf{2 7 . 5 0}\) & \(25 / 5\) & \(50 / 500\) & 65 & 3000 & \(\mathbf{1 7}\)
    \end{tabular}

    SMOOTHING Filter REACTORS
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Type } \\
    \text { No. }
    \end{gathered}
    \] & List Price & Inductance Henries & Current Ma. & Resistance Ohms & \[
    \begin{gathered}
    \text { Test Volts } \\
    \text { RMS }
    \end{gathered}
    \] & Wt. \\
    \hline C-30X & \$ 2.50 & 50 & 15 & 3500 & 1500 & \(1 / 2\) \\
    \hline C-2X & 1.70 & 2 & 15 & 70 & 1500 & 1/4 \\
    \hline C. 1 X & 1.85 & 15 & 20 & 1000 & 1500 & 1/4 \\
    \hline C. 3 X & 1.90 & 10 & 50 & 500 & 1500 & 3/4 \\
    \hline C.4X & 1.90 & 4 & 50 & 360 & 1500 & 1/2 \\
    \hline C-6X & 2.00 & 5 & 65 & 330 & 1500 & 3/4 \\
    \hline C.5X & 2.75 & 12 & 75 & 400 & 1500 & 1 \\
    \hline C-8X & 2.70 & 7 & 75 & 240 & 1500 & 1 \\
    \hline C.7X & 3.00 & 10 & 90 & 270 & 1500 & 11/4 \\
    \hline C.9X & 2.80 & 4 & 90 & 100 & 1500 & 1 \\
    \hline C.11X & 3.60 & 6 & 110 & 160 & 1500 & \(11 / 2\) \\
    \hline C.10x & 3.60 & 9 & 125 & 250 & 1500 & \(11 / 2\) \\
    \hline c.12X & 4.00 & 6 & 160 & 165 & 1500 & 13/4 \\
    \hline C.12A & 4.85 & 6 & 160 & 165 & 1500 & 13/4 \\
    \hline C.13X & 3.90 & 3 & 160 & 75 & 1500 & 13/4 \\
    \hline C.14X & 4.65 & 6 & 200 & 150 & 1500 & 21/4 \\
    \hline C.14A & 5.85 & 6 & 200 & 150 & 1500 & \(21 / 2\) \\
    \hline C.16A & 8.20 & 10 & 200 & 150 & 2500 & \(41 / 4\) \\
    \hline C-21X & 3.75 & 1.5 & 225 & 65 & 1500 & 1 \\
    \hline C.15X & 4.70 & 4 & 250 & 100 & 1500 & 21/4 \\
    \hline C-15A & 5.90 & 4 & 250 & 100 & 1500 & 21/2 \\
    \hline C-23X & 3.75 & 1.2 & 260 & 45 & 1500 & 11/4 \\
    \hline C=17X & 3.75 & 1.5 & 300 & 40 & 1500 & \(11 / 2\) \\
    \hline C-18A & 10.75 & 8 & 300 & 90 & 2500 & 6 \\
    \hline C-19A & 13.00 & 10 & 300 & 105 & 3000 & 71/4 \\
    \hline C-25A & 6.75 & 2.6 & 310 & 60 & 1500 & \(31 / 2\) \\
    \hline C-20A & 16.00 & 8 & 400 & 60 & 3000 & 101/2 \\
    \hline C-22A & 27.50 & 10 & 500 & 65 & 3000 & 17 \\
    \hline C-40X & 3.00 & . 32 & 600 & 10 & 1500 & 11/4 \\
    \hline C.48U & 12.50 & .08/.02 & 2.5/5A & .57/.143 & 1500 & 61 \\
    \hline
    \end{tabular}

    \section*{PHOTO-FLASH TRANSFORMERS}

    Improved operation and reduced cost in flash photography can be attained through the use of electronic flash equipment. Triad V-302 and PL- 10 have been especially developed for use in these circuits.
    \begin{tabular}{llll}
    \hline \begin{tabular}{l} 
    Type \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} & \multicolumn{1}{c}{ Application } & Wt. Lbs. \\
    \hline V-30Z & \(\$ 6.50\) & \begin{tabular}{l} 
    From \(115 v-60\) cycle line or 4 volt-180 cy. vibrator \(11 / 2\) \\
    to 385 RMS @ 14 ma.
    \end{tabular} \\
    \hline PL-10 & 1.45 & Trigger coil. & \(11 / 208\). \\
    \hline
    \end{tabular}

    \title{
    TRIAD TRANSFORMER CORPORATION \\ FILAMENT Transformers, Single Secondary Primary 115 volts- 5060 cycles
    }
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|c|}{Secondary} & \multirow[b]{2}{*}{Test Volts} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \]} \\
    \hline & & Volts & Amperes & & \\
    \hline F.1X & \$ 2.90 & 2.5 C.T. & 3 & 1500 & \(3 / 4\) \\
    \hline F.3X & 4.25 & 2.5 C.T. & 10 & 3000 & \(13 / 4\) \\
    \hline F.5U & 6.00 & 2.5 C.T. & 10 & 7500 & 2 \\
    \hline F-7X & 4.00 & 5 C.t. & 3 & 1500 & 11/4 \\
    \hline F.8X & 4.75 & 5 C.t. & 6 & 1500 & \(13 / 4\) \\
    \hline F-9A & 8.45 & 5.2 C.T. & 13 & 1500 & 4 \\
    \hline F.9U & 8.00 & 5.2 C .7 . & 13 & 1500 & 33/4 \\
    \hline F.11U & 11.10 & \(5.2 \mathrm{C.T}\). & 24 & 1500 & \(61 / 2\) \\
    \hline F.13X & 2.75 & 6.3 & . 6 & 1500 & \(1 / 2\) \\
    \hline F.14X & 2.80 & 6.3 C.7. & 1.2 & 1500 & \(3 / 4\) \\
    \hline +F-52X & 3.55 & 6.3 & 1.2 & 5000 & 1 \\
    \hline +F-51X & 3.95 & 6.3/5 & 2 & 5000 & 11/4 \\
    \hline 4F-53X & 6.00 & 6.3 & 4 & 5000 & 21/4 \\
    \hline F.16X & 4.15 & 6.3 C.T. & 3 & 1500 & 11/4 \\
    \hline F-18X & 5.90 & 6.3 C.T. & 6 & 1500 & 21/4 \\
    \hline F-18A & 7.25 & 6.3 C.T. & 6 & 1500 & 21/2 \\
    \hline F.21A & 7.75 & 6.3 C.T. & 10 & 1500 & \(31 / 2\) \\
    \hline F-22A & 13.50 & 6.3 C.T. & 20 & 2000 & 7 \\
    \hline F.23U & 8.00 & \(10 \mathrm{C.T}\). & 7 & 1500 & 4 \\
    \hline F-25X & 3.90 & 12.6 C.T. & 1.5 & 1500 & 11/4 \\
    \hline F-40X & 4.00 & 24 & 1 & 1500 & 11/4 \\
    \hline +F-50X & 3.85 & Filament & ransformer & 5000 & 11/4 \\
    \hline \multicolumn{6}{|c|}{\begin{tabular}{l}
    Pri. 6.3V/5V Sec. 6.3/5V 2A \\
    \(\dagger\) Low capacity-High voltage for rlamper tube operation.
    \end{tabular}} \\
    \hline
    \end{tabular}

    FILAMENT Transformers, Multiple Secondary
    Primary 115 volts- \(50 / 60\) cycles
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & \multicolumn{2}{|c|}{\begin{tabular}{l}
    Secondary \\
    Volts and Amperes
    \end{tabular}} & Test Volts RMS & Wt. Lbs. \\
    \hline F-27U & \$10.85 & \[
    \begin{aligned}
    & 10 \text { C.T. }-10 A \text {. } \\
    & 2.5 \text { C. T. } .10 A .
    \end{aligned}
    \] & & \[
    \begin{aligned}
    & 1500 \\
    & 7500
    \end{aligned}
    \] & 6 \\
    \hline F.30A & 9.00 & \[
    \begin{aligned}
    & 5 \text { C.T.-3A. } \\
    & 6.3 \text { C.T.-8A. }
    \end{aligned}
    \] & & 1500 & 33/4 \\
    \hline F.32A & 8.20 & 6.3 C.T.-3A. & 6.3 C.T.-3A. & 1500 & \(21 / 2\) \\
    \hline F.34A & 8.75 & \[
    \begin{aligned}
    & \text { 6.3 C.T. } 1.75 \mathrm{~A} \text {. } \\
    & 6.3 \mathrm{~V} .-1.75 \mathrm{~A} .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 6.3 \mathrm{~V} .-1.75 \mathrm{~A} \\
    & 6.3 \mathrm{~V} .-1.75 \mathrm{~A} .
    \end{aligned}
    \] & 1500 & 3 \\
    \hline F.36A & 11.60 & \[
    \begin{aligned}
    & \text { 6.3 C.T. } 3.5 \mathrm{~A} . \\
    & \text { 6.3V.-3.5A. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 6.3 \mathrm{~V} \cdot-3.5 \mathrm{~A} \\
    & 6.3 \mathrm{~V} \cdot \cdot 3.5 \mathrm{~A}
    \end{aligned}
    \] & 1500 & 5 \\
    \hline F.38A & 13.20 & \[
    \begin{aligned}
    & \text { 6.3 C.T. } 5 \mathrm{AA} \\
    & 6.3 \mathrm{~V} .-1 \mathrm{~A} . \\
    & 5 \mathrm{~V} .-4 \mathrm{~A} .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 6.3 V . \cdot 5 A . \\
    & 5 \mathrm{C} . \mathrm{T} .-2 A .
    \end{aligned}
    \] & 1500 & \(51 / 2\) \\
    \hline F.42A & 8.90 & \[
    \begin{aligned}
    & 12.6 \mathrm{C.T} \cdot{ }^{2.5 \mathrm{~A}} \\
    & 12.6-2.5 \mathrm{~A} .
    \end{aligned}
    \] & & 1500 & 31/4 \\
    \hline
    \end{tabular}

    \section*{PO WER}

    ISOLATION Transformers
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & \[
    \begin{aligned}
    & \text { V.A. } \\
    & \text { Output }
    \end{aligned}
    \] & Input Volts & Output Volts & Wt. Lbs. \\
    \hline N-51X & \$ 5.95 & 35 & 115 & 115 & 13/4 \\
    \hline N-53M & 12.75 & 85 & 115 & 115 & \(41 / 2\) \\
    \hline N-54M & 14.30 & 150 & 115 & 115 & 63/4 \\
    \hline N-55M & 25.30 & 250 & 115 & 115 & 12 \\
    \hline N-57M & 40.75 & 500 & 115 & 115 & 24 \\
    \hline N-59M & 67.20 & 1000 & 115 & 115 & 35 \\
    \hline +N-60 & 130.00 & 2000 & 230/115 & 230/115 & 58 \\
    \hline *N-52M & 32.50 & 350 & 95 to 130 & 115 & 11 \\
    \hline With & tch and & for pr & ary voltage & able cord. & \\
    \hline \multicolumn{6}{|c|}{*New item. †Special case.} \\
    \hline
    \end{tabular}

    \section*{STEPDOWN Autoformers}

    50/60 eyeles
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & \[
    \begin{gathered}
    \text { V.A. } \\
    \text { Output }
    \end{gathered}
    \] & Input Volts & Output Volts & Wt. Lbs. \\
    \hline \(\mathrm{N}=1 \mathrm{X}\) & 55.05 & 50 & 230 & 115 & 11/2 \\
    \hline N-3M & 9.80 & 85 & 230 & 115 & 23/4 \\
    \hline N-4M & 12.75 & 150 & 230 & 115 & \(41 / 2\) \\
    \hline N-5M & 14.30 & 250 & 230 & 119 & 02,4 \\
    \hline N-7M & 22.00 & 600 & 230 & 115 & 12 \\
    \hline N.9M & 40.25 & 1250 & 230 & 115 & 25 \\
    \hline N-11M & 67.20 & 2000 & 230 & 115 & 35 \\
    \hline N-34X & 8.15 & 150 & 95.105-115-125-135 & 115 & 2 \\
    \hline +N-35M & 18.50 & 350 & 95 to 130 & 115 & \(51 \%\) \\
    \hline \[
    \overline{+N-50 M}
    \]
    With & \[
    \begin{aligned}
    & 26.50 \\
    & \text { itch and }
    \end{aligned}
    \] & \[
    500
    \] & 95 to 130 & 115 & 8 \\
    \hline \multicolumn{6}{|c|}{\(\dagger \mathrm{M}\) case with switch for primary voltage control and detachable cord.} \\
    \hline
    \end{tabular}

    DRY DISK RECTIFIER Transformers
    5080 eycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Pri. Volts} & \multicolumn{2}{|r|}{Secandary} & \multicolumn{2}{|l|}{Rect. Cir.} & \multirow[b]{2}{*}{Wt. Lhs} \\
    \hline & & & A.C. Volts & Amperes RMS & \[
    V .{ }^{A} \mathrm{DC}
    \] & \[
    \text { V. } \mathrm{DC}
    \] & \\
    \hline F.47U & \$ 7.75 & 115 & 17.18 & 3 & 6.7 & 13-14 & \(21 / 2\) \\
    \hline F.48U & 13.00 & 115 & 17-18 & 6 & 6.7 & 13-14 & 51/4 \\
    \hline F.49U & 20.00 & 115 & \[
    \begin{aligned}
    & 36 \\
    & 36
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \\
    & 3
    \end{aligned}
    \] & 13 & 26 & 91/2 \\
    \hline F.60U & 8.25 & 115 & \[
    \begin{aligned}
    & 6.5-13 \\
    & 19.5-26
    \end{aligned}
    \] & \[
    \stackrel{3}{(\operatorname{lnt} .)}
    \] & 9 & 18 & 3 \\
    \hline F-61U & 14.50 & 115 & \[
    \begin{aligned}
    & 24-27 \cdot 30 \cdot \\
    & 33-36
    \end{aligned}
    \] & 3 & 13 & 26 & 51/4 \\
    \hline *F.63U & 6.50 & 115 & \[
    \begin{aligned}
    & 8.9 \\
    & 8.9
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \\
    & 2
    \end{aligned}
    \] & & 6-7 & 2 \\
    \hline *F.64U & 7.50 & 115 & 7-8-9 & 7 & & 6-7 & 3 \\
    \hline *F.62U & 27.00 & \[
    \begin{aligned}
    & 105 \cdot 115 . \\
    & 125
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 9 \\
    & 9 \\
    & 9 \\
    & 9
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 10 \\
    & 10 \\
    & 10 \\
    & 10
    \end{aligned}
    \] & & \[
    \begin{aligned}
    & 6.7 \\
    & \text { ea. } \\
    & \text { wdy. }
    \end{aligned}
    \] & 15 \\
    \hline *F.65U & 16.00 & 110.120 & \[
    \begin{aligned}
    & 140-150- \\
    & 160
    \end{aligned}
    \] & . 75 & 60 & 115 & 53/4 \\
    \hline *F.86U & 38.50 & 110-120 & \[
    \begin{aligned}
    & 140-150 . \\
    & 160
    \end{aligned}
    \] & 2.5 & 60 & 115 & 181/2 \\
    \hline
    \end{tabular}

    \section*{REPLACEMENT POWER}

    Triad replacement power transformers are designed as closely as possible to meet the electrical and physical specifications of the transformer for which they are a replacement. Where possible. these transformers take advantage of better materials to operate at a lower temperature and thus to increase effective life. All Triad replacement powers are "Climatite" treated, both coil and core, for moisture protection and elimination of lamination chatter. All are beautifully finished in grey baked enamel and are permanently marked with connection data. Copper foil static shields are used for maximum isolation. Leads are of a type approved by UL for this service.

    \section*{Replacement POWER Transformers \\ Combined PLATE and FILAMENT}

    Electrostatically shielded-Primary 115 volts \(50 / 60\) eyeles
    

    R-318C 27.00 des 16
    R.31A and R-31BC are designed or a great many of the 28 to 30 tube chassis where a 5 V damper tube is used.
    \(\begin{array}{lllllll}\text { R-32A } & 25.50 & 760 & \text { V.C.T. } & 320 & 5 V .-6 A . & 12.6 \\ \text { V.C.T. } & 5 A . & 16\end{array}\) R-32A is designed for 28 to 30 tube chassis where a 6.3 V damper tube is used. \begin{tabular}{llllllll}
    \hline\(R-33 A\) & 23.50 & 775 V.C.T. & 230 & \(5 V .-3 A\). & \(6.3 V .9 A\). & 12
    \end{tabular}
    \(\begin{array}{llll}\text { R-33BC } 24.75 & 6.3 V . / 5 V .-2 A N & 12\end{array}\)
    R-33A and R-33BC are designed to deliver 400 V into an 80 m.f.d. condenser using 5U4G rectifier. 6.3 V or 5 V damper tube (low capacity). \begin{tabular}{lllllll}
    \hline R.34A & \(\mathbf{2 1 . 5 0}\) & 750 V.C.T. & 230 & \(5 V .3 A\). & \(6.3 V .8 .5 A\). & 12 \\
    & & & & & & \\
    \(6.3 V .-1.2 A\). &
    \end{tabular} R-34A is designed to deliver 390 V into an \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser using 5 U 4 G rectifier. 6.3 V damper tube.
    \begin{tabular}{llllllll}
    \hline\(R-35 A\) & 23.50 & \(725 / 340\) & V.C.T. & 250 & \(5 V . \cdot 3 A\) & \(6.3 V .-8 A\). & 14
    \end{tabular}

    R-35BC
    R.35A \(\mathbf{2 5 . 0 0}\) and R-35BC are designed to deliver 380 V DC into an \(80 \mathrm{mf.d}\) condenser out of a 504 G rectifier and simultaneously delivering 200 V DC from the taps with a 5U4G rectifier. the accumulative current to be a maximum of 250 ma . \begin{tabular}{lllllll}
    \hline\(R-36 A\) & 24.00 & 775 \\
    V.C.T. & 275 & \(5 V .-6 A\). & \(6.3 V .-8.5 A\). & 14
    \end{tabular}
    R-36BC 25.25 6.3V.-1.2A., 14 R-36A and R-36BC are designed to deliver 410 V into \(80 \mathrm{~m} . f . \mathrm{d}\). condenser, using 2 5U4G tubes as rectifiers. 6.3 V damper tube (low capacity)
    *New item. *Less than \(100 \mathrm{~m} . \mathrm{m} . \mathrm{f} . \mathrm{d}\). capacity to ground and insulated for high voltage damper tube. Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce extermal magnetic field.
    

    \section*{Replacemenł POWER Transformers Combined Plate and Filament}

    Electrostatically shielded - Primary 115 volts \(50 / 60\) eycles \begin{tabular}{llllllll}
    \hline\(R-37 B C\) & 24.35 & 735 & V.C.T. & 275 & \(5 V .-6 A\). & \(6.3 V .-8.5 A\). & 13 \\
    & & & & \(3 V . / 5 V .-2 A\). &
    \end{tabular} R-37BC is designed for 380 V into filter condenser using 5U4G rectifier tubes. Either 6.3 V or 5 V damper tube (low capacity)
    
    R. 38 BC
    R. 38 A and R. \(\mathbf{2 3 . 7 5}\) are designed to deliver 395 V into 80 m.f.d. condenser, using 12 5 U4G rectifier. 6.3 V damper tube (low capacity). 5U4G rectifier. 6.3 V damper tube (low capacity).
    \(\begin{array}{llllllll}\text { R-39A } & 21.25 & 640 \text { V.C.T. } & 225 & 5 V .-3 A . & 6.3 V .-10 A . & 12\end{array}\)
    R-39BC 22.50 6.3V.-1.2A. 12
    R-39A and R-39BC are designed to deliver 335 V into \(60 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser usimg 5U4G rectifier. 6.3 V damper tube (low capacity)
    \begin{tabular}{llllllll}
    \hline\(R-40 A\) & 27.00 & \(780 / 440\) V.C.T. & 300 & \(5 V .3 A\) & \(6.3 V .-8.5 A\). & 14
    \end{tabular} 5V.-3A. 6.3V.-3.5A. 5V.-2A.
    R-40BC \(\quad 28.45\) and \(R \cdot 40 B C\) are desinned to deliver 410 V to 80 m. f.d. filter using 5 U 4 G tulse and simultaneously delivering 235 V DC from the taps with suitable rectifier. and the accumulative current to be a maximum of 300 Ma .
    and the accumulative current to be a maximum of 300 Ma .
    \begin{tabular}{llllllll} 
    R-42A & 21.30 & 675 V.C.T. & 185 & \(5 V .-3 A\). & \(6.3 V .-7 A\). & 8 \\
    \hline
    \end{tabular}
     R.42A and R-42BC are designed to deliver 350V OC to 80 m.f.d. filter usilitg
    5 U4G rectifier. 6.3 V damper tube (low capacity). \(\begin{array}{llllllll}\text { *R-44BS } & 22.00 & 525 \text { V.C.T. } & 240 & 5 V .-3 A . & 6.3 V .8 A . & 12\end{array}\) Tube socket type, wired for 5 U4G and tesigned to deliver 285 V into \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser. Iow capacity damper tuhe winding.
    R-47BS \(22.75 \quad 725\) V.C.T. 225 5V.-3A. 6.3V.-10A. 12
    Tube socket type. wired for 5 U 4 G and designed to deliver 360 V into \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser. low capacity damper tube winding.
    \(\begin{array}{llllllll}\text { R-48BS } & 21.75 & 750 \text { V.C.T. } & 180 & 5 V .3 A . & 6.3 V .9 A .92 & 12\end{array}\)
    Tube socket type, wired for 5 U 4 G and designed to deliver 375 V into \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser. low capacity damper tube winding.
    \begin{tabular}{lll}
    \hline R-49BS & 22.50 & 650 V.C.T.
    \end{tabular}
    240 5V.-3A.
    6.3V. 9 AA .
    6.3V.-1.2A.
    13

    R-49BC \(\quad 21.80\)
    Designed to deliver 325 V into \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser. low capacity damper tube winding.
    \begin{tabular}{llllllll}
    \hline R.50A & 27.50 & \(790 / 650\) V.C.T. & 310 & 5 V .3 BA. & \(6.3 \mathrm{~V} .-5 \mathrm{~A}\). & 15
    \end{tabular}
    R.50BC \(\quad 29.00\)
    R.50A and R.50BC \(5 V .-3 A\).
    \(5 V .-2 A\).
    6.3V.-2.6A.
     15
    rectifier and \(R\). rectifier tube and simultaneously delivering 340 V DC from the taps with suitable rectifier. the accumulative current to he a maximum of 310 Ma .
    \begin{tabular}{llllll}
    \hline *R-51BC & \(\mathbf{5 2 4} .00\) & 505 V.C.T. & 320 & 5 V .6 A. & \(6.3 \mathrm{~V} .-5 \mathrm{~A}\).
    \end{tabular}
    \(6.3 \mathrm{~V} .-5 \mathrm{~A}\).
    6.1 .2 F
    Designed to deliver 270 V into \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser, low capacity damper tube windiang.
    \begin{tabular}{lllllll}
    \hline *R.52BC & 23.00 & 600 V.C.T. & 270 & \(5 V .-3 A\). & \(6.3 V \cdot 5 A\). & 13
    \end{tabular} 6.3 V .5 A.
    6.3V.-1.2A.*

    Designed to deliver 315 V into \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser, low capacity damper tube winding.
    \begin{tabular}{lllllll}
    \hline\(R-60 B C\) & 23.75 & 460 V.C.T. & 300 & \(5 V .-6 A\). & \(6.3 V .-8 A\). & 12
    \end{tabular} 6.3V.-1.2A.

    R-60BC is designed to deliver 250 V into an 80 m.f.d. condenser, using 2 rectifier tubes. low capacity damper tube winding.
    \begin{tabular}{lllllll}
    \hline\(R-61 B C\) & 24.20 & 560 V.C.T. & 275 & \(5 V .6 A\). & \(6.3 V .-6 A\). & 14
    \end{tabular} \(6.3 V .6 A\).
    R-61BC is designed to deliver 305 V into an 80 m.f.d. condenser. using 2 rectifier tubes. low capacity damper tube winding.
    \(\begin{array}{llllllll}\text { R-62BC } & \mathbf{2 4 . 0 0} & 680 \text { V.C.T. } & 290 & 5 \mathrm{~V} .-6 \mathrm{~A} . & 6.3 \mathrm{~V} .10 \mathrm{~A} . & 16\end{array}\)
    \(6.3 \mathrm{~V} \cdot-2.5 \mathrm{~A}\).
    6.3V.-1.2A.

    R-62BC is designed to deliver 365 V into all \(80 \mathrm{~m} . \mathrm{f} . \mathrm{d}\). condenser. using 2 rectifier tubes. low capacity damper tube winding.
    \begin{tabular}{llll}
    \hline \(\mathbf{R - 6 3 B C}\) & 19.50 & 131 V. & 900
    \end{tabular}
    6.3V.9A. 11
    6.3V.-1.2A.*

    131V winding designed for use in a voltage doubler circuit
    FNew item. Less than \(100 \mathrm{~m} . \mathrm{m} . \mathrm{f} . \mathrm{d}\). capacity to ground and insulated for high voltage damper tube. Height of transformers in BC cases is measured from chassis line to top of case. Copper shading ring on all BC cases to reduce external magnetic field.
    Vibratar Power Supply Transformers
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Primary \\
    Volts
    \end{tabular}} & \multicolumn{2}{|c|}{Secondary} & \multirow[b]{2}{*}{Lbs.} \\
    \hline & & & AC Volts & DC Ma, & \\
    \hline V-1K & \$ 8.25 & 6.8 & \(450 \mathrm{C} . \mathrm{T}\). & 40 & 21/4 \\
    \hline V.3K & 8.95 & \(6 \cdot 8\) & 500 C.T. & 50 & 21/2 \\
    \hline V.5A & 9.15 & 6.8 & 600 C.T. & 75 & 21/2 \\
    \hline V.7A & 11.70 & \(6 \cdot 8\) & \(600 \mathrm{C} . \mathrm{T}\). & 100 & 31/2 \\
    \hline
    \end{tabular}

    Automobile Radio Replacement Transformers
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multirow[t]{2}{*}{Primary Volts} & Secondary & \multirow[b]{2}{*}{Replacement} \\
    \hline & & & \(\overline{\text { AC Volts DC Ma. }}\) & \\
    \hline V.11K & 59.55 & 6.8 & 760 C.T. 65 & Buick 21/2 \\
    \hline V-12K & 9.00 & 6.8 & 550 C.T. 55 & \begin{tabular}{l}
    Cadillac, Chevrolet \(\quad 21 / 2\) \\
    Firestone. Ford, Hudson. \\
    Kaiser. Motorola, Nash. \\
    Oldsmobile, Packard, Philco. \\
    Studebaker. Truetone.
    \end{tabular} \\
    \hline V-13K & 7.50 & 6.8 & 580 C.T. 70 & Delco. Ford. Lincoln. \(31 / 2\) Motorola. Philco. Pontiac. \\
    \hline V.16K & 8.25 & 6.8 & 460 C.T. 50 & \[
    \text { Ford, Kaiser, MoPar. } 21 / 4
    \] Philco. Truetone. Willys. \\
    \hline *V.18B & 7.50 & 6.8 & 580 C.T. 60 & 2 \\
    \hline V-18X & 6.15 & \(6 \cdot 8\) & 580 C.T. 60 & Cheyrolet. MoPar, Olds- \(13 / 4\) mobile. Pontiac. Silvertone. \\
    \hline V.18K & 8.25 & \(6 \cdot 8\) & 580 C.T. 60 & 21/2 \\
    \hline V.19A & 5.65 & 6.8 & 320 C.T. 40 & Automatic. Coronado. 13/4 Philco. Repal. Studebaker. \\
    \hline V-20K & 8.55 & 6.8 & 560 C.T. 50 & Motorola. Truetore. \(\quad 21 / 2\) \\
    \hline *V-31K & 9.60 & 12-16 & 450 C.T. 65 & \begin{tabular}{ll} 
    Buick. Cadillac, & \(21 / 2\) \\
    GMC. etc.
    \end{tabular} \\
    \hline *V.33B & 7.50 & 12.16 & 390 C.T. 65 & 2 \\
    \hline *V-35X & 5.70 & 12-16 & 310 C.T. 65 & 11/4 \\
    \hline
    \end{tabular}

    \section*{TELEVISION COMPONENTS}

    \section*{HORIZONTAL OUTPUT (Flyback) Transformers}
    \begin{tabular}{|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Type } \\
    \text { No. }
    \end{gathered}
    \] & List Price & Application & Wt. \\
    \hline D-1 & \$ 9.00 & Delivers \(12.000 \cdot 14.000\) anode volts fronn single 6BG6 or 6BQ6 driver and single HV rectifier. Ample deflection for 700 tubes. & \(3 / 4\) \\
    \hline D-2 & 9.00 & Autoformer type. Delivers 14.000 V . from 6BG6 or 6BQ6 driver and single HV rect. Sufficent for 700 tubes. Direct replacement for Hoffman 5143. 5144. 5146. 5148. & \(3 / 4\) \\
    \hline D. 11 & 9.65 & Delivers 9.000 V . from single 6BG6 tube, and single HV rect. 530 operation. Replaces RCA 211T1. 211T3. matches Y-11, Y-12. & 2 \\
    \hline D.74R & 10.45 & Delivers 14.000 volts from single 6BG6. Replaces GE 77J1. Universal matching of yokes. & \(3{ }^{3 / 4}\) \\
    \hline D-15 & 10.45 & Delivers 14.000 volts from single 6BG6. Has AGC circuit winding. Secondary tapped for Universal use. Matches Y12. Y17. Y21. Y22. & \(3 / 4\) \\
    \hline D. 19 & 10.45 & Delivers 14.000-16.000 V. Single driver. \(70^{\circ}\). 17" to 24" tubes. Replaces RCA 225T1. Matches Y12. Y17. Y19. Y21. Y22. & 3/4 \\
    \hline DA-20 & 7.00 & Defivers \(13.000-14.000 \mathrm{~V}\). Single driver, air core. Replaces RCA 74951 and Packard Bell 89432. Matches Y-20. & 1/2 \\
    \hline D-22 & 10.45 & Delivers 16.000 V. Single driver. \(70^{\circ}, 17^{\prime \prime}\) to \(24^{\prime \prime}\) tubes. 90 KC De-Ringer. Replaces Packard Bell 89438-B. Matches Y-22. & 3/4 \\
    \hline D.24 & 10.45 & Delivers 18.000 V. Single driver. \(70^{\circ}\). \(17^{\prime \prime \prime}\) to \(24^{\prime \prime}\) tubes. Matches Y-24. & 3/4 \\
    \hline D-26 & 10.00 & Voltape doubler type. 20.000 V . for \(700.90^{\circ}\) deflection. Replaces Hoffnan 5033-2. & 3/4 \\
    \hline D-27 & 10.00 & Delivers 15.000 V. for sets using selenium rectifiers and single 6BQ6. Replaces Hoffman 5035. & \(3 / 4\) \\
    \hline D. 28 & 10.00 & Delivers 15.000 V.. using single \(^{\text {DBQ6. Replaces }}\)
    Hoffman 5160. & \(3 / 4\) \\
    \hline D.31 & 11.00 & Universal type. universal mountiry. 16.000 V . using single driver all types. \(70^{\circ}\) deflection. Replaces RCA 231 Tl plus low inductance tap for width coil. Can be used as auto transformer and with all yokes. & \(3 / 4\) \\
    \hline
    \end{tabular}
    

    HORIZONTAL OUTPUT (Flyback) Transfarmers
    \begin{tabular}{|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Application & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \] \\
    \hline D. 32 & 10.75 & Untiversal type. universal mounting. Supplies 13.5 KV to 15 KV from all driver tubes, has AGC or AFC tapped winding. Matches all yokes. & \(3 / 4\) \\
    \hline D.33 & 10.00 & Universal type, universal mtg. Supplies 12 KV to 14KV from all driver tubes. Low inductance width coil tap. has AGC or AFC tapped winding similar to D-32, but lower impedance secondaries. Matches all yokes. & \(3 / 4\) \\
    \hline D. 35 & 11.00 & Universal type, universal mity. Supplies \(14,000 \mathrm{~V}\). from single drivers. Separated width coit winding. Replaces RCA 223T1. 224T1. 230Tl and 232Tl. Matches all yokes. & \(3 / 4\) \\
    \hline DA.36 & 3.50 & Coil only, replaces Zenith part No. S-18567. & 1/4 \\
    \hline DA.37 & 3.50 & Coil only. replaces Zenith part No. S-19032. & 1/4 \\
    \hline *D. 40 & 10.25 & Correct replacement for Admiral part Nos. 79C30-2. 79030-4. 79C38-1 and 79038-1. & \(3 / 4\) \\
    \hline *D.41 & 10.25 & Correct replacement for Admiral part Nos. 79C30-1 and 79C30-3. & \(3 / 4\) \\
    \hline *D-42 & 10.25 & Correct replacement for Admiral part Nos. 79041-1 and 79D41-2. Sheraton part Nos. EL-112A, EL-119 and EL-119B. & \(3 / 4\) \\
    \hline *D-43 & 10.25 & \[
    \begin{aligned}
    & \text { Correct replacement for Emerson part Nos. } 738067 \text {, } \\
    & 738068,738069,73873,738074,738075 \text {, }
    \end{aligned}
    \]
    \[
    738082,738083.738085 \text { and } 738086 .
    \] & \(3 / 4\) \\
    \hline *D-44 & 10.25 & Correct replacement for Emerson 738079 \& 738084. & 3/4 \\
    \hline *D.45 & 10.00 &  & \(3 / 4\) \\
    \hline *D.46 & 10.50 & Correct replacement for Muntz T0-0031, T0-0031-1. 10-0031-2. & 1 \\
    \hline *D.47 & 10.50 & \begin{tabular}{l}
    Correct replacement for Muntz \(00-0036\). T0.0036- \\
    1. \(10-0036-2\).
    \end{tabular} & 1 \\
    \hline *D.48 & 8.75 & \begin{tabular}{l}
    Correct replacement for Crosley 158481 -1, \(157820-\) \\
    5-1, Hallicrafters 550251, 55D253. Sen. 20E995
    \end{tabular} & \(3 / 4\) \\
    \hline *D.49 & 8.50 & Correct replacement for Admiral 79C60-2, 79C60-3. 79C60-4. 79C60-5. & \(3 / 4\) \\
    \hline D. 50 & 11.50 & \(90^{\circ}\) autoformer, designed especially for 900 deflection systems. \(24^{\prime \prime}, 27^{\prime \prime}, 30^{\prime \prime}\) picture tubes. Matches Y-50 yoke. & \(3 / 4\) \\
    \hline *D-52 & 7.15 & Correct replacement for RCA 75519, 75585, 76381. & 1/2 \\
    \hline *D-53 & 7.45 & Correct replacement for RCA 76501. 76672. & 1/2 \\
    \hline *D. 55 & 10.00 & Correct replacement for RCA 21175 voltage doubler. & 3/4 \\
    \hline *D.56 & 9.50 & Correct replacement for Airking. CBS. Silvertone. 10104, 10107. 10108. 10110, 10126. 10135. & \(3 / 4\) \\
    \hline MB-10 & . 35 & Universal mounting bracket designed for universal mounting on D-15, D-19, D-22, D-24 and D-50. & 1/8 \\
    \hline *New & em. & & \\
    \hline
    \end{tabular}

    \section*{TRIAD TRANSFORMER CORPORATION}
    \begin{tabular}{lclllll}
    \hline \begin{tabular}{c} 
    Type \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} & \multicolumn{5}{c}{ Application }
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{8}{|c|}{Width and Linearity COlLS} \\
    \hline Type
    No. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \multicolumn{4}{|c|}{Application} & \multicolumn{2}{|r|}{Mtg. Wt. Type Lbs.} \\
    \hline WC-11 & \$ 2.50 & \multicolumn{6}{|l|}{Width control coil \(3.6-30 \mathrm{mh}\). has primary \(\mathrm{W} \quad 1 / 8\) and secondary winding. secondary tapped for AGC.} \\
    \hline WC-12 & 1.65 & \multicolumn{5}{|l|}{Width and linearity coil, single windiny, tap ped. covers inductance range .8 to 15 mh .} & \\
    \hline WC. 13 & 1.60 & \multicolumn{5}{|l|}{Width coil, single winding. covers inductanc range .1 to 4 mh . Replaces RCA 208R1 201R1 and 201R4.} & \[
    1 / 8
    \] \\
    \hline \multicolumn{8}{|c|}{Deflection YOKES} \\
    \hline Type & List & & & \multicolumn{2}{|l|}{Inductance-mh.} & \multirow[b]{2}{*}{Defl.} & W \\
    \hline No. & Price & Core & Construction & Horz. & Vert. & & bs. \\
    \hline \(\mathrm{Y}=11.1\) & \$ 8.75 & Iron & Semi-Cosine & 8.3 & 50 & \(53^{\circ}\) & 11/2 \\
    \hline \(Y-12.1\) & 10.25 & Ferrite & Cosine & 8.3 & 50 & \(70^{\circ}\) & 1 \\
    \hline Y-17 & 9.50 & Ferrite & Cosine & 13.5 & 41.5 & \(70^{\circ}\) & 1 \\
    \hline Y.17.1 & 10.25 & Ferrite & Cosine & 13.5 & 41.5 & \(70^{\circ}\) & 1 \\
    \hline Y. 19 & 9.50 & Ferrite & Cosine & 23 & 41.5 & \(70^{\circ}\) & 1 \\
    \hline Y-19-1 & 10.25 & Ferrite & Cosine & 23 & 41.5 & \(70^{\circ}\) & 1 \\
    \hline Y-20 & 9.50 & Ferrite & Cosine & 30 & 3.3 & \(70^{\circ}\) & 1 \\
    \hline \(\mathrm{Y}-20-1\) & 10.25 & Ferrite & Cosine & 30 & 3.3 & \(70^{\circ}\) & 1 \\
    \hline +Y-20-2 & 10.75 & Ferrite & Cosine & 30 & 3.3 & \(70^{\circ}\) & 11/4 \\
    \hline Y-21 & 9.50 & Ferrite & Cosine & 10.3 & 41.5 & \(70{ }^{\circ}\) & 1 \\
    \hline Y-21-1 & 10.25 & Ferrite & Cosine & 10.3 & 41.5 & \(70^{\circ}\) & 1 \\
    \hline Y-22 & 9.50 & Ferrite & Cosine & 18.5 & 42 & \(70^{\circ}\) & 1 \\
    \hline Y-22-1 & 10.25 & Ferrite & Cosine & 18.5 & 42 & \(70^{\circ}\) & 1 \\
    \hline Y-24 & 9.50 & Ferrite & Cosine & 30 & 41.5 & 700 & 1 \\
    \hline \#Y-25-1 & 10.00 & Ferrite & Cosine & 13 & 50 & \(70^{\circ}\) & 1 \\
    \hline *Y.40.1 & 11.50 & Ferrite & Cosine & 12 & 43 & \(90^{\circ}\) & 1/4 \\
    \hline *Y.41.1 & 11.50 & Ferrite & Cosine & 18.5 & 43 & \(90^{\circ}\) & 11/4 \\
    \hline Y-50 & 18.00 & Ferrite & Cosine & 11 & 46 & \(90^{\circ}\) & 2 \\
    \hline Y.50.1 & 19.00 & Ferrite & Cosine & 11 & 46 & \(90^{\circ}\) & 2 \\
    \hline
    \end{tabular}
    *New item.
    + Replaces RCA 74952 with networks and leads attached to pluy.

    \section*{117 TRIAD TRANSFORMER CORPORATION}

    \section*{FOCUS Coils}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Application & Case & Mty. & Wt. Lbs. \\
    \hline B.160-S & \$ 8.80 & 160 ohm coil. Focuses tubes up to 700 deflection with \(210^{\text {\%/ }} \mathrm{Ma}\). & St. & 4-Bracket & 11/2 \\
    \hline B-247.S & 8.25 & 247 ohm coil. Focuses tubes up to \(70^{\circ}\) deflection with \(170^{*}\) Ma. Direct replacement for RCA 202 D1. & Sq. & 2-Stud & 11/2 \\
    \hline B.365.S & 8.25 & 365 ohm coil. Focuses tubles up to 700 deflection with \(150 \% \mathrm{Ma}\). & Sq. & 2-Studd & 11/2 \\
    \hline B.470.R & 10.45 & 470 ohm coil. Narrow cross section. For focusing tubes up to \(70^{\circ}\) deflection with \(125 * \mathrm{Ma}\). & Round & 3-Bracket & 21/4 \\
    \hline B.1000.S & 9.00 & 1000 ohm coil. Focuses tuhes up to 700 deflection with \(85^{\text {: }} \mathrm{Ma}\). & Sq. & \[
    \begin{aligned}
    & \text { 2-Bracket } \\
    & \text { 1-Stud }
    \end{aligned}
    \] & 11/2 \\
    \hline
    \end{tabular}

    HORIZONTAL BLOCKING OSCILLATOR
    \begin{tabular}{rrrr}
    \hline \begin{tabular}{r} 
    Type \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} & \multicolumn{1}{c}{ Application } & \begin{tabular}{c} 
    Wt. \\
    Lbs.
    \end{tabular} \\
    \hline \(\mathbf{A . 9 8 X}\) & \(\$ 2.75\) & Generates 15750 pulse. & \(1 / 4\) \\
    \hline \(\mathbf{A . 9 8 K}\) & 3.85 & Generates 15750 pulse. & \(1 / 2\) \\
    \hline
    \end{tabular}

    \section*{AUDIO}

    \section*{REPLACEMENT OUTPUT Transformers}

    Triad audio transfermers for replacement are constructed wherever possible to fit iuto the exact location of the original transformer. For this reason a wide range of sizes and mountings are available. In every case the transformer is designed to deliver the best response which call be built into this size. Quality of wcrkmanship and materials is identical with the more expensive Triad transformers and better gerformance with greater life should result from use of these replacements. All Triad replacement transformers are "Climatite" treated!

    STANDARD OUTPUT Transformers
    Tube to Standard Voice Coil ( 3.4 ohms )
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Primary Tubes Used & 1 mped. ance & & Audio Watts & \[
    \begin{array}{ll}
    0 & \text { Wt. } \\
    s & \text { Lbs. }
    \end{array}
    \] \\
    \hline S-12X & \$ 1.75 & \[
    \begin{aligned}
    & \text { 25L6. 50L6. 35A5. } 50 \mathrm{~B} 5 . \\
    & \text { etc. }
    \end{aligned}
    \] & 2500 & 50 & 2 & 1/4 \\
    \hline S-1X & 1.75 & \[
    \begin{aligned}
    & \text { 25L6. 50L6. 35A5, } 50 \mathrm{B5} \text {. } \\
    & 2 \mathrm{AB} \text {. 6B4. etc. }
    \end{aligned}
    \] & 2500 & 60 & 3 & 1/2 \\
    \hline 5.2X & 1.85 & 2A3. 6A3. 6B4, 6 Y6. 7A5, 25B6. 50 L 6. & 2000 & 55 & 4 & 1/2 \\
    \hline S-3X & 1.80 & 6V6. 7C5. 6AQ5. 25A6. 71. etc. & 5000 & 40 & 3 & 1/2 \\
    \hline * 5.16x & 2.15 & \[
    \begin{aligned}
    & \text { 25L6. 50L6. } 35 A 5 . \\
    & 50 \mathrm{B5} \text {. etc. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3000 \\
    & (5 \% \text { tap })
    \end{aligned}
    \] & 60 & 3 & 1/2 \\
    \hline S.4X & 2.95 &  & 3000 & 70 & 5 & 1 \\
    \hline 5.52 & 3.10 & \[
    \begin{aligned}
    & \text { 6V6. 7C5, 6A05, } 25 A 6 \text {. } \\
    & \text { 71. etc. }
    \end{aligned}
    \] & 5000 & 50 & 5 & 1 \\
    \hline S.5X & 3.10 & \[
    \text { 6V6. 7C5. 6A05. } 25 \mathrm{~A} 6 .
    \]
    71. etc. & 5000 & 50 & 5 & 1 \\
    \hline S.6X & 2.00 & \[
    \begin{aligned}
    & 385,6 A Q 5,6 A S 5,25 A 6 . \\
    & 25 A 7,35 L 6,43,117 \mathrm{~L} .
    \end{aligned}
    \] & 5000 & 35 & 2 & 1/4 \\
    \hline S.7X & 1.85 & \[
    \text { 6K6. 785. 6F6. 105. } 31 .
    \]
    33. 41. 42. etc. & \[
    7500
    \] & 40 & 3 & 1/2 \\
    \hline 5.8X & 2.00 & \[
    \begin{aligned}
    & 1 C 5,1 H 4,105.154 .305 . \\
    & 3 S 4.14 A 5,25 A C 5 .
    \end{aligned}
    \] & \[
    8000
    \] & 30 & 2 & 1/4 \\
    \hline 5.92 & 3.25 & \[
    \begin{aligned}
    & 6 \mathrm{~K} 6.7 \mathrm{B5}, 6 \mathrm{~F} 6.105,31 \text {. } \\
    & 33.41 .42 \text {. etc. }
    \end{aligned}
    \] & \[
    7500
    \] & 50 & 5 & 1 \\
    \hline 5.9X & 3.25 & \[
    \begin{aligned}
    & 6 \mathrm{~K} 6,785,6 F 6.105,31 . \\
    & 33,41,42 . \text { etc. }
    \end{aligned}
    \] & \[
    7500
    \] & 50 & 5 & 1 \\
    \hline S.11X & 2.00 & \[
    \begin{aligned}
    & 1 \mathrm{~J} 6.304 .3 \mathrm{~V} 4.6 \mathrm{KK} \text {, } \\
    & \text { 6AG7. etc. }
    \end{aligned}
    \] & 10000 & 30 & 2 & 1/4 \\
    \hline 5.112 & 2.00 & \[
    \begin{aligned}
    & \text { 1J6. } 304.3 \mathrm{~V} 4.6 \mathrm{AK} 6, \\
    & \text { 6AG7. etc. } \\
    & \hline
    \end{aligned}
    \] & 10000 & 30 & 2 & 1/4 \\
    \hline *S.17X & 1.95 & \[
    \begin{aligned}
    & \text { 1J6. } 304.3 \mathrm{~V} 4.6 \mathrm{AK} 6 . \\
    & \text { 6AG7. etc. }
    \end{aligned}
    \] & 10000 & 30 & 3 & 1/4 \\
    \hline 5.13x & 2.00 & iA5. 1N6. \(1 \mathrm{LA4}\). & 25000 & 10 & 2 & \(1 / 4\) \\
    \hline S.15X & 2.95 & \[
    \begin{aligned}
    & \text { P.p.-6V6, 7C5. } 6 \mathrm{~K} 6 . \\
    & 6 \text { F6. etc. }
    \end{aligned}
    \] & 10000 C.т. & 40 & 7 & 1/2 \\
    \hline 5.192 & 3.85 & \[
    \begin{aligned}
    & \text { P.p. }-6 \mathrm{~V} 6.7 \mathrm{C} 5.6 \mathrm{~K} 6 . \\
    & \text { 6F6. etc. }
    \end{aligned}
    \] & 10000 C.T. & 50 & 10 & 11/4 \\
    \hline 5-21A & 5.60 & \[
    \begin{aligned}
    & \text { P.p.-6V6, 7C5, } 45 \text {. } \\
    & \text { 6L6. etc. }
    \end{aligned}
    \] & 8000 C.7. & 50 & 15 & 13/4 \\
    \hline
    \end{tabular}
    
    Any Tube to Any Voice Coil
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & \begin{tabular}{l}
    Lis \\
    Price
    \end{tabular} & Application & \[
    \begin{aligned}
    & \text { Pri. DC } \\
    & \text { Ma. }
    \end{aligned}
    \] & Audio Watts & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \] \\
    \hline 5-51X & \$ 2.75 & \[
    \begin{aligned}
    & \text { Single or p.p. plates }(4,000 \\
    & \text { to } 14.000 \text { ohms ) to VC. }
    \end{aligned}
    \] & 35 & 5 & 1/2 \\
    \hline S-53X & 3.10 & \[
    \begin{aligned}
    & \text { Single or p.p. plates }(4.000 \\
    & \text { to } 14.000 \text { ohms) to VC. }
    \end{aligned}
    \] & 40 & 8 & 1/2 \\
    \hline S.552 & 4.15 & \[
    \begin{aligned}
    & \text { Push-pull plates }(4.000 \text { to } \\
    & 14.000 \text { ohms }) \text { to } \mathrm{VC.}
    \end{aligned}
    \] & \[
    40 \text { ea. side }
    \] & 10 & 1 \\
    \hline S.55X & 4.15 & Push-pull plates ( 4,000 to 14.000 ohms) to VC . & 40 ea. side & 10 & 1 \\
    \hline 5.572 & 5.15 & \[
    \begin{aligned}
    & \text { Push-pull plates }(4.000 \text { to } \\
    & 14.000 \text { ohms) to } \mathrm{VC.}
    \end{aligned}
    \] & \[
    50 \text { ea. side }
    \] & \[
    15
    \] & 11/2 \\
    \hline
    \end{tabular}

    \section*{AUDIO COMPONENTS}

    This series of medium-priced audio components is designed to fill demands ill public-address. amateur. and replacement equipment. All items are designed to give an absolute maximum of performance possible in the size allowed and are climatite treated

    INPUT Transformers
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Application & Frea. Resp. & \[
    \begin{aligned}
    & \text { Primary } \\
    & \text { Impedance } \\
    & \text { Ohms }
    \end{aligned}
    \] & Turı Ratio & \[
    \begin{aligned}
    & \text { Wt } \\
    & \text { Lbs. }
    \end{aligned}
    \] \\
    \hline A.1X & \$ 2.75 & Line or single but. ton mike to grid. & 300-3000 & 100 & 31.4 & 1/4 \\
    \hline A.3X & 3.00 & Line or D.B. mike to grid. & 300-3000 & 400 C.T. & 15.8 & 1/4 \\
    \hline A.5X & 4.00 & Single button mike to p.p. grids-Hi. gain. & 300-3000 & 100 & 84 & 1/2 \\
    \hline A.7J & 6.50 & Speaker V.C. \({ }^{(3.2}\) ohms) to grid. 45 th. shielding. & 300-3000 & 3.2 & 124 & 1/8 \\
    \hline A.95 & 12.50 & Line or mike to grid 45 dh . shieldinm. & 30-15000 & 600/250/50 & 12 & 1/4 \\
    \hline A.10J & 12.75 & Line to grid. 45 db . shielding. & \[
    30 \cdot 15000
    \] & \[
    600 / 150
    \] plit windings or center tap. & 10.1 & 1/4 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline & \multicolumn{6}{|l|}{\begin{tabular}{l}
    Special TRANSCEIVER Transformers \\
    (Voice Frequencies)
    \end{tabular}} \\
    \hline \multirow[t]{2}{*}{\begin{tabular}{l}
    Type \\
    No.
    \end{tabular}} & \multirow[t]{2}{*}{List Price} & \multirow[b]{2}{*}{Application} & \multicolumn{3}{|l|}{Impedance-ohms} & \multirow[t]{2}{*}{Wt. Lbs.} \\
    \hline & & & Primary & y Secon & ndary & \\
    \hline A.21X & \$ 3.00 & S.B. mike and plate to grid (2 pri.). & \[
    \begin{aligned}
    & 100 \\
    & 10000
    \end{aligned}
    \] & 10000 & & \(1 / 4\) \\
    \hline A.23X & 3.25 & Tube to line and his-impedance phones. & \[
    10000
    \] & \[
    50 \text { and }
    \] & \[
    2000
    \] & 1/2 \\
    \hline \multicolumn{7}{|c|}{INTERSTAGE Transformers Plate to Grid} \\
    \hline Type & List & Freq. & impetlanc & ce-ohms & & Wt. \\
    \hline No. & Price & Application Resp. & Pri. & Sec. & Ratio & Lbs. \\
    \hline A.31X & \$ 2.75 & Piate to single \(300-3000\) or p.p. grids. & \[
    10000
    \] & \[
    90000
    \] & 1:3 & \(1 / 2\) \\
    \hline A.33X & 3.80 & Plate to single 70-7000 or p.p. grids. & \[
    10000
    \] & 90000 & \[
    1: 3
    \] & 1 \\
    \hline A.422 & 4.75 & Multi-ratio \(\quad 70.7000\)
    single or p.p.
    plates to single
    or p.p. grids. & \[
    \begin{aligned}
    & 15000 \\
    & \text { C.T. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 135000 \\
    & \text { or } \\
    & 33750
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 1.5 \\
    & 1: 3 \\
    & 1: 6
    \end{aligned}
    \] & 11/4 \\
    \hline A.35A & 6.00 & Plate to single 50-10000 or p.p. grids. & \[
    10000
    \] & 90000 & 1:3 & 134 \\
    \hline A.39A & 6.00 & P.p. plates to \(50-10000\)
    p.p. prids. & \[
    \begin{gathered}
    20000 \\
    \text { С.T. }
    \end{gathered}
    \] & \[
    45000
    \] & \[
    1: 1.5
    \] & \(13 / 4\) \\
    \hline A.40J & 12.50 & Parallel-fed \(6 \mathrm{JJ} \quad 30.15000\)
    or 6 SN . Plate
    to p.p. prid. 45
    tib. shielding. & \[
    15000
    \] & \[
    86000
    \] & \[
    1: 2.76
    \] & 1/4 \\
    \hline
    \end{tabular}
    

    LOW LEVEL OUTPUT Transformers
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multirow[t]{2}{*}{Frequency Response} & \multicolumn{2}{|l|}{Impedance-ohms} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Wt. \\
    Lbs.
    \end{tabular}} \\
    \hline & & & Primary & Secondary & \\
    \hline A-51X & \$ 2.50 & Tube to 300.3000 line. & 7000 & 50 & 1/4 \\
    \hline A.53X & 3.45 & Single or 70.7000 p.p. tubes to line. & 18000 C.T. & 600/250/50 & \(1 / 2\) \\
    \hline A-55J & 12.50 & Parallel. \(\quad 30-15000\) fed 6.55 or 6 SN7 to line. 45 db . shielding. & 15000 & 600/250/50 & \(1 / 4\) \\
    \hline A.65J & 12.75 & Parallel. \(30 \cdot 15000\)
    fed \(6 \sqrt{5}\) or \(6 S \mathrm{~N} 7\) to
    line. 45 db . shielding. & 15000 & \[
    \begin{aligned}
    & 600 / 150 \\
    & \text { Split winding }
    \end{aligned}
    \] & \(1 / 4\) \\
    \hline S.58x & 2.80 & Line to 300.3000 line. & \[
    \begin{gathered}
    \text { 500/125 } \\
    \text {-Split }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 500 / 125 \\
    & \text { ndings- }
    \end{aligned}
    \] & \(1 / 4\) \\
    \hline A-57J & 11.75 & Line to \(\quad 30 \cdot 15000\)
    line. 45 db . shield-
    ing. & 600/250/50 & 600/250/50 & \(1 / 4\) \\
    \hline A.67J & 12.00 & \[
    \begin{aligned}
    & \text { Line to } \begin{array}{l}
    30 \cdot 15000 \\
    \text { line. } 45 \mathrm{db} \text {. shield. } \\
    \text { ing. }
    \end{array} \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { 500/150 } \\
    \text {-Split }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 600 / 150 \\
    & \text { ndings- }
    \end{aligned}
    \] & 1/4 \\
    \hline
    \end{tabular}

    \section*{DRIVER Transformers}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    No. \\
    Type
    \end{tabular} & Price List & Driver tubes & Output tubes & Freq. Resp. & \[
    \begin{gathered}
    \text { Ratio } \\
    \text { Pri. } \\
    1 / 2 \text { Sec. }
    \end{gathered}
    \] & \begin{tabular}{l}
    Pri. \\
    D.C. Wt. \\
    Ma. Lbs
    \end{tabular} \\
    \hline A-81X & \$ 2.80 & 30, 1H4, etc. & \[
    \begin{aligned}
    & \text { P.p. } 19,30 \text { 's, } \\
    & 1 \mathrm{~J} 6, \text { etc. }
    \end{aligned}
    \] & \[
    300 \cdot 3000
    \] & \[
    2.66: 1
    \] & \[
    115 \quad 1 / 4
    \] \\
    \hline A.83X & 3.35 & \[
    \begin{aligned}
    & 6 F 6.42, \\
    & 45, \text { etc. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { P.p. 6L6, } \\
    & \text { 6F6. 6V6. } \\
    & \text { 807, etc. }
    \end{aligned}
    \] & \(70 \cdot 7000\) & 1.33:1 & \(40 \mathrm{1} / 2\) \\
    \hline A-85X & 3.75 & \[
    \begin{aligned}
    & 6 F 6,42, \\
    & 45, \text { etc. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { P.D. 6L6, } \\
    & \text { 6F } 6,6 \mathrm{~V} \text {, } \\
    & \text { 807, etc. }
    \end{aligned}
    \] & 50.10000 & 1.33:1 & 401 \\
    \hline A-89A & 8.70 & P.p. plates to class B or AB grids - Universal 15 w . & Any class B or \(A B\) tubes. 100.500w. output. & \[
    50 \cdot 10000
    \] & \[
    \begin{aligned}
    & 3.1 \text { or } \\
    & 2.2: 1
    \end{aligned}
    \] & \[
    10023 / 4
    \] \\
    \hline 4.914 & 12.50 & P.D. plates to class B or AB grids - Universal 30 w . & Any class B or \(A B\) tubes. 400.1500w. output. & 50.10000 & \[
    \begin{aligned}
    & 3.1 \text { or } \\
    & 2.2: 1 \\
    & 2.2: 1
    \end{aligned}
    \] & \[
    160.4
    \] per side \\
    \hline
    \end{tabular}

    \section*{OUTPUT Transformers}

    Tube to Voice Coil and kine
    

    \section*{OUTPUT Transformers}

    Line to Voice Coil
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|l|}{Impedance} & \multirow[t]{2}{*}{Output Watts} & \multirow[t]{2}{*}{Freq.
    Resp.} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \]} \\
    \hline & & Primary & Secondary & & & \\
    \hline S-23X & \$ 2.20 & 50 (autoformer). & 3.2 & 3 & 300-3000 & 1/4 \\
    \hline S-26X & 2.20 & 500/50 (autoformer). & 3.2 & 3 & 300-3000 & 1/4 \\
    \hline S.66X & 2.25 & 500 (autoformer) & 16/8/4 & 3 & \(100 \cdot 5000\) & , \\
    \hline
    \end{tabular}

    \section*{TRIAD TRANSFORMER CORPORATION}

    OUTPUT Transformer
    70.7 volt Line to Voice Coil
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|l|}{Impedance} & \multirow[t]{2}{*}{Output Watts} & \multirow[t]{2}{*}{Freq. Resp.} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Wt. \\
    Lbs.
    \end{tabular}} \\
    \hline & & Primary & Secondary & & & \\
    \hline *5-702 & \$ 3.25 & \[
    \begin{aligned}
    & \text { Autoformer } \\
    & 1600 / 8000 / 4000 / \\
    & 2000 / 1000 \text {. } \\
    & \hline
    \end{aligned}
    \] & 8/4 & 5 & \(100 \cdot 5000\) & 1/2 \\
    \hline *5-712 & 3.75 & \[
    \begin{aligned}
    & \text { Autoformer } \\
    & 4000 / 2000 / 1000 / 500 \text {. }
    \end{aligned}
    \] & 16/8/4 & 10 & \(100 \cdot 5000\) & \(3 / 4\) \\
    \hline S-25Z & 3.80 & \[
    \begin{aligned}
    & \text { Autoformer } \\
    & 4000 / 2000 / 1000 / 500 \text {. }
    \end{aligned}
    \] & 8/4 & 10 & 70.7000 & 1 \\
    \hline S.452 & 5.65 & \[
    \begin{aligned}
    & \text { Autoformer } \\
    & 4000 / 2000 / 1000 / 500 \text {. }
    \end{aligned}
    \] & 8/4 & 10 & 20.20000 & 13/4 \\
    \hline * S-74K & 11.40 & \begin{tabular}{l}
    Weatherproof autoformer \\
    4000/2000/1000/500.
    \end{tabular} & 8/4 & 10 & 20-20000 & 21/4 \\
    \hline * 5.722 & 5.40 & \[
    \begin{aligned}
    & \text { Autoformer } \\
    & 2000 / 1000 / 500 / 250 \text {. }
    \end{aligned}
    \] & 16/8/4 & 20 & \(100 \cdot 5000\) & 1 \\
    \hline S-46A & 11.50 & \[
    \begin{aligned}
    & \text { Autoformer } \\
    & 2000 / 1000 / 500 / 250 \text {. }
    \end{aligned}
    \] & 16/8/4 & 20 & 20-20000 & 4 \\
    \hline *S-75K & 18.50 & \[
    \begin{aligned}
    & \text { Weatherproof } \\
    & \text { autoformer } \\
    & 2000 / 1000 / 500 / 250 \text {. }
    \end{aligned}
    \] & 16/8/4 & 20 & 20.20000 & 6 \\
    \hline * 5.782 & 4.15 & \[
    \begin{aligned}
    & \text { Isolation 4000/2000/ } \\
    & 1000 / 500 . \\
    & \hline
    \end{aligned}
    \] & 16/8/4 & 10 & 100.5000 & 3/4 \\
    \hline * 5.792 & 5.65 & \[
    \begin{aligned}
    & \text { Isolation 2000/1000/ } \\
    & 500 / 250 . \\
    & \hline
    \end{aligned}
    \] & 16/8/4 & 20 & \(100 \cdot 5000\) & 1 \\
    \hline
    \end{tabular}

    \section*{EQUALIZING REACTORS}

    The items listed below are adapted to use in cathode-type equalizers for boost in or depressing the low and high frequency spectrum in an amplifier. Accentuation or loss of approximately 20 db . can be attained with a minimum of extraneous noise and distortion.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Type } \\
    \text { No. }
    \end{gathered}
    \] & List Price & Application & Ind. & \[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { Ma. }
    \end{aligned}
    \] & Res. Ohms & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Lbs. }
    \end{aligned}
    \] \\
    \hline **A.74J & \$ 9.10 & Choke for cathode equalizer. & 15 & 0 & 750 & 3/4 \\
    \hline +A-75J & 9.75 & Choke for cathode equalizer. & 15 & 0 & 300 & 1/2 \\
    \hline
    \end{tabular}
    "SPLATTER" Choke
    \begin{tabular}{cccccc}
    \hline \begin{tabular}{c} 
    Type \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} & Inductance Henries & \begin{tabular}{c} 
    Current \\
    Ma.
    \end{tabular} & \begin{tabular}{c} 
    Res. \\
    Ohms
    \end{tabular} & \begin{tabular}{c} 
    Wt. \\
    Lbs.
    \end{tabular} \\
    \hline *C-26X & \(\$ 5.65\) & Tapped .2 to 1.5 & 100 & 95 & \(11 / 4\) \\
    \hline \multirow{2}{*}{ New item. } & & & & \\
    \hline
    \end{tabular}

    MODULATION Transformers
    Tube to RF Load
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & List Price & Primary & Freq. Resp. & \[
    \begin{aligned}
    & \text { Sec } \\
    & \text { Imp. }
    \end{aligned}
    \] & dary Ma. & Audio Wt. Watts Lbs \\
    \hline *M-4Z & \$ 3.40 & \[
    \begin{aligned}
    & 5000 \\
    & \text { (Autoformer). }
    \end{aligned}
    \] & 300.3000 & \[
    \begin{aligned}
    & 6750 \\
    & 4
    \end{aligned}
    \] & \[
    \begin{gathered}
    100 \\
    \text { (total) }
    \end{gathered}
    \] & \(10 \quad 3 / 4\) \\
    \hline *M-5Z & 5.60 & \[
    \begin{aligned}
    & 5000 \\
    & \text { (Autoformer). }
    \end{aligned}
    \] & \(300 \cdot 3000\) & \[
    \begin{aligned}
    & 6750 \\
    & 4
    \end{aligned}
    \] & \[
    \begin{gathered}
    250 \\
    (\text { total })
    \end{gathered}
    \] & \(20 \quad 11 / 2\) \\
    \hline M-1X & 3.80 & 10000 C.T. for 19. 1J6, 6N7, 6A6. etc. & 300.3000 & \[
    \begin{aligned}
    & 5000- \\
    & 8000 \\
    & 10000
    \end{aligned}
    \] & 50 & \(51 / 4\) \\
    \hline M-3X & 5.60 & \[
    \begin{aligned}
    & 10000 \text { C.T. for } \\
    & \text { 6N7, 6A6, } \\
    & \text { 6F6's, etc. }
    \end{aligned}
    \] & 300.3000 & \[
    \begin{aligned}
    & 3000- \\
    & 5000= \\
    & 8000
    \end{aligned}
    \] & 100 & \(20 \quad 11 / 2\) \\
    \hline M-7A & 14.45 & \[
    \begin{aligned}
    & 4250 \text { C.T. for } \\
    & 807 \text { 's. }
    \end{aligned}
    \] & 300-3000 & \[
    \begin{aligned}
    & 3000- \\
    & 5000- \\
    & 8000
    \end{aligned}
    \] & 200 & \(60 \quad 61 / 2\) \\
    \hline +M-8A & 21.20 & Multi-match. & 300-3000 & \[
    \begin{aligned}
    & 4000 \text { to } \\
    & 20000
    \end{aligned}
    \] & 200 & 808 \\
    \hline †M-12A & 22.50 & Multi-match, & 300-3000 & \[
    \begin{aligned}
    & 4000 \text { to } \\
    & 20000
    \end{aligned}
    \] & \[
    300
    \] & 12512 \\
    \hline
    \end{tabular}

    NOTE: TRIAD Toroids are available from stock in a complete range of sizes, both cased and uncased. Check your local TRIAD distributor for Catalog TR-55.

    Skilful Engineering, lääst production techniques and highest quality materials . . . backed by careful workmanship, exacting step-by-step inspection and rigorous final testing . . . are combined in every SNC transformer to provide a quality product that gives MORE in dollar value.

    AUDIO TRANSFORMERS-THE "ONE" SERIES
    AUDIO input
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type Number} & \multirow[b]{2}{*}{Application} & \multicolumn{2}{|c|}{Impedance} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Pri. } \\
    & \text { Mils } \\
    & \text { (D.C.) }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{Max. Turns Ratio} & \multicolumn{5}{|l|}{Frequency Charactexisties - c. p. s.} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Mts. \\
    Style
    \end{tabular}} & \multicolumn{4}{|c|}{Dimensions} & \multirow[t]{2}{*}{Net Wt.} & \multirow[t]{2}{*}{List Prief} \\
    \hline & & Primary & Secendary & & & 50 & 200 & IM & 5M & 10M & & A & 8 & C & 0 & & \\
    \hline 18121 & P.M. Sposker to Grid & 100 & 100.000 & 5 & 1:158 & -4.0 & -1.0 & 0 & 0
    -2.0 & - \({ }_{-0}^{0}\) & 81 & \(\xrightarrow{1.7 / 8} 1\) & \(1.9 / 16\)
    \(1.9 / 16\) & \(1.1 / 2\)
    \(1.1 / 2\) & 2 & . 5 & 3.50 \\
    \hline 19124 & S.B. Mic. to Sfl. or P.P. Grids & 100 & 400,000 С.T. & 50 & 1:63 & & -6.0
    -3.0 & 0 & \(-2.0\) & \(-6.0\) & 86
    86 & \(1.7 / 8\)
    \(1.7 / 8\) & \(1.9 / 16\)
    \(1.9 / 16\) & \(1.1 / 2\)
    \(1.1 / 2\) & 2 & . 5 & 3.10
    3.10 \\
    \hline 19125 & Low 2 io Sti. or P.P. Grids & 50 & 100,000 С.T. & 0 & 1:45 & & - 3.0 & 0 & 0 & 0 & BL & \(1.1 / 8\) & 1-9/16 & \(1 \cdot 1 / 2\) & 2 & . 5 & 3.4 \\
    \hline 1P128 & Sft. or D.B. Mic. or Line to Sgl. of P.P. Grids & 200*/50 & 100,000 C.T. & 50 & 1:45 & -2.0 & \(-0.3\) & 0 & -0.7 & \(-2.0\) & OL & 2.5/8 & 2-3/16 & 2-1/8 & 2.13/16 & 1.3 & 5.18 \\
    \hline 19136 & Line to StI. or P.P. Grids & 500\%/125 & 100,000 С. \({ }^{\text {c/. }}\) & 0 & 1:28 & - 3.0 & -0.4 & 0 & \(-0.4\) & \(-1.5\) & OL & \(2.5 / 8\) & 2.3/16 & 2.1/8 & 2.13/16 & 1.4 & 5.40 \\
    \hline IP145 & Sfl. or P.P. Plates to line & 20,000 С.T. & \(500 \cdot / 125\) & 8 & 12.6:1 & - 3.5 & - 1.0 & 0 & , & 0 & OL & \(2.1 / 4\) & 1.7/8 & 1-13/16 & 2-3/8 & 5 & 4.45 \\
    \hline 1PIS2 & StI. or P.P. Plates to Line & 20,000 С.T. & 200\%/50 & 8 & 20:1 & - 4.0 & - 1.0 & 0 & 0 & 0 & DL & \(2.1 / 4\) & 1.7/8 & 1-13/16 & 2.3/8 & 9 & 4.45 \\
    \hline \(1 \mathrm{P161}\) & Line to line & \({ }^{20} 000\) & \(500 \% / 125\) & 0 & \(2: 1\) & -0.4 & \(-0.1\) & 0 & -0.4 & -1.0 & DL & 2.1/4 & 1.7/6 & 1.13/16 & 2-3/8 & . 9 & 4.84 \\
    \hline
    \end{tabular}
    *Indicales Balanced Center Tag
    'audio interstage
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{8}{*}{1P323 1P331 IP339 \(1 P 342\) 19346 1P351 3P363} & \multirow[t]{6}{*}{\begin{tabular}{l}
    Spl. Piste to Sgl. Geid \\
    SII. Plate to P.P. Grids \\
    SII. Plate to P.P. Grids \\
    Sgl. Plats to P.P. Grids \\
    P.P. Plates to P.P. Grids
    \end{tabular}} & 10,000 & 90,000 & 8 & 1:3. & - 5.0 & -1.5 & 0 & 0 & , & 日 & 1.7/8 & 1.9/16 & 1-1/2 & 2 & 5 & 3.25 \\
    \hline & & 10,000 & 90,000 С.T. & 8 & 1:3 & - 6.0 & - 2.0 & 0 & 0 & - 1.0 & 8 BL & 1.7/8 & 1.9/16 & 1.1/2 & 2 & 5 & 3.54 \\
    \hline & & 10.000 & 90,000 C.T. & 8 & \(1: 3\) & - 3.0 & -0.5 & 0 & \(+0.1\) & +0.5 & BL & \(2.1 / 4\) & 1.7/8 & 1.13/16 & 2.3/8 & . 9 & 3.98 \\
    \hline & & 10.000 & 90,000 C.T. & 1 & 1:3 & \(-2.5\) & -0.5 & 0 & 0 & 0 & OL & 2.5/8 & 2-3/16 & 2.1/8 & 2-13/16 & 1.5 & 5.05 \\
    \hline & & 10,000 20.000 C.T. & 45,000 C.T. & 10 & 1:1.5 & - 2.5 & -0.2 & 0 & 0 & 0 & OL & 2.5/8 & 2-3/16 & 2.1/8 & 2.13/16 & 1.5 & 5.28 \\
    \hline & & \multicolumn{2}{|c|}{\multirow[b]{2}{*}{Universal}} & 8 & 1:3 & - 2.0 & -0.4 & 0 & 0 & 0 & BL & 2.1/4 & 1.7/8 & 1.13/16 & 2-3/8 & . 9 & 4.15 \\
    \hline & \multirow[t]{2}{*}{\begin{tabular}{l}
    Universal \\
    Sgl. Type 30 to 19. IJS or P.P. 30 \\
    Class 8
    \end{tabular}} & & & & & & & & & & & & & & & & \\
    \hline & & 10.000 & 1,000 C.T. & 8 & 2.4:1 & -0.5 & 0 & 0 & -0.2 & - 1.0 & BL & 1.7/t & 1.9/16 & 1.1/2 & 2 & . 5 & 2.85 \\
    \hline
    \end{tabular}
    television replacement (Vertical blocking oscillator)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Typz} & \multirow[b]{2}{*}{Primary Induclante} & \multirow[b]{2}{*}{Leakage Inductanc} & \multirow[b]{2}{*}{Turns} & \multirow[b]{2}{*}{\[
    \begin{gathered}
    \text { Mounting } \\
    \text { Style }
    \end{gathered}
    \]} & \multirow[b]{2}{*}{Mounting} & \multicolumn{4}{|c|}{Oimensions} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \mathrm{Met} \\
    & \mathrm{WI} .
    \end{aligned}
    \]} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Prict }
    \end{aligned}
    \]} \\
    \hline & & & & & & H & W & 0 & Cirs. & & \\
    \hline \[
    \begin{aligned}
    & 1 P 412 \\
    & \text { 1P416 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.15 \mathrm{Hy} . \pm 20 \% \% \\
    & 1.15 \mathrm{Hy} \pm 20 \%
    \end{aligned}
    \] & \[
    \begin{aligned}
    & .000 \mathrm{Hy} \pm 25-15 \% \\
    & .001 \mathrm{Hy} . \pm 25-15 \%
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1: 42 \\
    & 1: 42
    \end{aligned}
    \] & Comp. Filled Case Comp. Filled Case & Flange Studs & \[
    \begin{aligned}
    & 1.7 / 8 \\
    & 1.5 / 8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.5 / 16 \\
    & 1.3 / 16 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.1 / 2 \\
    & 1.3 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.15 / 16 \\
    & 1.13 / 64
    \end{aligned}
    \] & . 4 & 3.60 \\
    \hline
    \end{tabular}

    CHOKES AND REACTORS - THE "TWO" SERIES

    \section*{Audio reactors}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type Number} & \multicolumn{2}{|l|}{D.C. Mils} & \multicolumn{4}{|c|}{Inductante} & \multirow[t]{2}{*}{Insul. Test Voltage} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { Res. }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{Mif. Style} & \multicolumn{5}{|c|}{Dimensions} & \multirow[t]{2}{*}{Net Weitht} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { List } \\
    \text { Price }
    \end{gathered}
    \]} \\
    \hline & Nom. & Mar. & 0-D.C. & \(50 \%\) Nom. D.C. & Nom. D.C. & Max. D.C. & & & & A & 8 & C & D & E & & \\
    \hline \(2 P 123\) & 5-0.5 & 15 & 550 & - & 300-500 & 50 & 2000 & 5500 & AL & 1.7/8 & 2.1/4 & 1.5/3 & 2.13/16 & & 9 & 3.50 \\
    \hline 2 P 124 & 5-0.5 & 15 & 550 & - & 300-500 & 80 & 2000 & 5500 & CL & 1.7/8 & 2.1/4 & 1.3/4 & 2.13/16 & & 9 & 3.90 \\
    \hline \(2 \mathrm{P126}\) & 35-15 & 45 & 65 & - & 25-35 & 20 & 2000 & 800 & AL & 1.7/8 & 2.1/4 & 1.5/8 & 2.13/16 & & . 9 & 2.15 \\
    \hline \(2 \mathrm{P127}\) & 35-15 & 45 & 65 & - & 25-35 & 20 & 2008 & 800 & CL & 1.7/8 & 2.1/4 & 1.3/4 & 2.13/16 & & . 9 & 3.25 \\
    \hline
    \end{tabular}
    fILTER AND SWINGING CHOKES
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline 2 P 132 & 40 & 50 & 22 & 13 & 1 & 6 & 2000 & 450 & AL & 1.5/16 & 1.5/8 & 1.1/8 & 2 & & . 3 & 1.88 \\
    \hline 2 P 135 & 65 & 30 & 18 & 11 & 1 & 1 & 2000 & 300 & AL & 1.9/16 & 1.7/8 & 1.3/8 & 2.3/8 & & . 5 & 2.15 \\
    \hline 2 Pl 38 & 85 & 100 & 30 & 16 & 8 & 7 & 2000 & 350 & AL & 1.7/8 & 2.1/4 & 1.7/8 & 2.13/16 & & 1.2 & 2.80 \\
    \hline 2 P 141 & 110 & 135 & 20 & 10.5 & 8 & 7 & 2000 & 200 & BL & 2.5/8 & 2.3/16 & 1.7/8 & 2.13/16 & & 1.5 & 3.70 \\
    \hline \({ }_{2} \mathrm{Pl}^{2} 42\) & 110 & 135 & 20 & 10.5 & d & 7 & 2000 & 200 & DL & 2.5/8 & \(2 \cdot 3 / 16\) & 2.1/8 & 2.13/16 & & 1.5 & 3.90 \\
    \hline 2 P 14 & 150 & 130 & 26 & 13 & 8 & 5.5 & 2000 & 190 & BL & 3 & 2.1/2 & 2.1/8 & 3.1/6 & & 2.1 & 3.70 \\
    \hline \(2 \mathrm{Pl45}\) & 150 & 180 & 26 & 13 & 8 & 5.5 & 2000 & 190 & GL & 3.1/8 & \(2 \cdot 1 / 2\) & 2.5/8 & 2 & 1.11/16 & 2.2 & 5.05 \\
    \hline \(2 \mathrm{P147}\) & 200 & 250 & 16 & 10 & 8 & 6.5 & 3500 & 110 & GL & 3.1/2 & 2.7/8 & \(3 \cdot 1 / 8\) & 2.1/4 & & 3.2 & 6.58 \\
    \hline \(2 \mathrm{P148}\) & 200-20 & - & - & - & \(3-15\) & - & 3500 & 110 & GL & 3.1/2 & 2.7/8 & \(3.1 / 8\) & 2.1/4 & & 3.2 & 6.30 \\
    \hline 2 P 151 & 300 & 350 & 18 & 11 & 8 & 7 & 5000 & 75 & GL & 4.5/8 & 3.3/4 & 3.7/8 & 3 & 2.13/16 & 1.5 & 11.10 \\
    \hline 2P152 & 300-30 & & - & & 3-15 & - & 5000 & 75 & GL & 4.5/8 & 3-3/1 & 3.7/8 & 3 & 2.13/16 & 1.5 & 11.10 \\
    \hline \(2 \mathrm{2P155}\) & 500 & 600 & 16 & 10 & 8 & 5.5 & 5000 & 55 & HT & 7.1/8 & 5-1/2 & 3.15/16 & 4.3/8 & 4.13/16 & 22.8 & 31.28 \\
    \hline 2 P 156 & S00-50 & & & & 3-15 & - & 5000 & 55 & HT & 7-1/8 & 5.1/2 & \(5.15 / 16\) & 4.3/8 & 4.13/16 & 22.8 & 31.20 \\
    \hline
    \end{tabular}

    DRIVER TRANSFORMERS-THE "YHREE" SERIES
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type Number} & \multirow[b]{2}{*}{Primary Impedance} & \multirow[b]{2}{*}{Watts} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Rulio. Pri. } \\
    & \text { to } 1 / 2 \mathrm{Sec} . \\
    & \text { of } \mathrm{Sec} .2
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \stackrel{\text { Pri. }}{\text { D.C. Mils }}
    \]} & \multicolumn{5}{|c|}{Frequenty Characteristics-c. p. s.} & \multirow[t]{2}{*}{Mts. Style} & \multicolumn{5}{|c|}{Otmensions} & \multirow[t]{2}{*}{Net Wt.} & \multirow[t]{2}{*}{List Prese} \\
    \hline & & & & & 50 & 200 & 1 m & 5M & 10M & & A & B & C & 0 & E & & \\
    \hline 3 P323 & 6.000 C.T. to 10,000 C.T. & 25 & 6, 5.5. 5.1 & 60 & -0.5 & , & 0 & 0 & -03 & GL & 3.1/8 & \(2.1 / 2\) & 2.5/8 & 2 & 1.11/16 & 2.3 & 11.30 \\
    \hline 3 P 328 & 3.000 C. T. 10 5.000 C.T. & 25 & 6, 55, 51 & 60 & -0.4 & 0 & 0 & 0 & -0.1 & GL & 3.1/8 & 2.1/2 & 2.5/8 & 2 & 1.11/16 & 23 & 11.38 \\
    \hline 3 P334 & 8.000 C.T. 1010.000 C.T. & 25 & 4.5.4.35.1 & 60 & -1.0 & -0.3 & 0 & \(+0.1\) & +0.6 & GL & 3.1/8 & 2.1/2 & 2.5/8 & 2 & 8.11/16 & 2.3 & 11.15 \\
    \hline \({ }_{3}{ }^{\text {P } 338}\) & 3.000 C.T. 10 5.000 C.T. & 25 & 4.5. 4, 35.1 & 60 & -1.7 & -05 & 0 & 0 & 0 & GL & 3.1/8 & \(2.1 / 2\) & 2.5/8 & 2 & 1.11/16 & 2.3 & 11.35 \\
    \hline 3 P342 & 6.000 C. T. to 10.000 C.T. & 25 & 3, 2, 1:1 & 66 & -0.7 & -01 & 0 & \(+0.1\) & +0.4 & CL & \(3 \cdot 1 / 3\) & 2.1/2 & 2.5/8 & 2 & 1-11/16 & 23 & 11.75 \\
    \hline 3 P347 & 3.000 C.T. to 5.000 C T. & 25 & 3, \(2,1: 1\) & 60 & -0.8 & 0 & 0 & 0 & \(-3\). & 61 & 3.1/8 & 2.1/2 & 2.5/8 & 2 & 1.11/16 & 23 & 11.60 \\
    \hline 3 P 353 & 6,000 C.T. to 10.000 C.T. & 25 & 5000 mms & 60 & -1.1 & -0 3 & 0 & 0 & - 23 & GL & 3.1/8 & 2.1/2 & 2.5/8 & 2 & 1.11/16 & 23 & 11.40 \\
    \hline 3 P 358 & 3,000 C. T. 10 5,000 C. & 25 & 500 Omms & 60 & -0.9 & -0.1 & 0 & -0.4 & -1.0 & CL & 3.1/8 & 2.1/2 & 2.5/8 & 2 & 1-11/16 & 2.3 & 11.48 \\
    \hline 3P3E3 & 3,000 \(10.000{ }^{\text {cher }}\) & 5 & 2.4:1 & 10 & -0.5 & 0 & - & -0.2 & -1.0 & 81 & 1.7/8 & 1.9/16 & 1.1/2 & 2 & & . 5 & 2.88 \\
    \hline
    \end{tabular}

    \section*{DIMENSIONAL ILLUSTRATIONS}
    

    OUTPUT TRANSFORMERS-THE "SIX" SERIES
    SPECIFIC DUTY REPLACEMENT TYPES-TUBE TO VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type Number} & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{Primary Imp. - Ohms}} & \multirow[t]{2}{*}{Pri. D.C. Mils} & \multirow[b]{2}{*}{Sec. 1-Ohms} & \multirow[b]{2}{*}{Walts} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Mid. } \\
    & \text { Style }
    \end{aligned}
    \]} & \multicolumn{4}{|c|}{Oimensions} & \multirow[t]{2}{*}{Net Wt.} & \multirow[t]{2}{*}{List Price} \\
    \hline & & & & & & & A & B & C & D & & \\
    \hline \(6 \mathrm{P3} 00\) & Singlo & 2,000 Plate & 50 & 3-6 & 6 & AL & 1.5/16 & 1.5/8 & 1.1/2 & 2 & . 3 & 1.80 \\
    \hline 6 P 306 & Sinde & 4,000 Plate & 35 & 3-6 & 6 & AL & 1.5/16 & 1.5/8 & t.1/2 & 2 & . 3 & 1.80 \\
    \hline 6 P 312 & Single or P.P. & 7.500 Plates & 35 & 3-5 & 6 & AL & 1.5/16 & 1.5/8 & 1.1/2 & 2 & . 3 & 2.40 \\
    \hline 6 P 316 & Single of P.P. & 10,000 Plates & 35 & 3-6 & 6 & AL & 1.5/16 & 1.5/8 & 1.1/2 & 2 & . 3 & 2.40 \\
    \hline 6P319 & Push.Pult & 15,000 Plates & 35 & 3-6 & 6 & AL & 1.5/16 & 1.5/8 & 1.1/2 & 2 & . 3 & 2.45 \\
    \hline \({ }_{6 P 321}\) & Push. Pull & 20,000 Plates & 30 & 3-6 & 6 & AL & 1.5/16 & 1.5/8 & 1.1/2 & 2 & . 3 & 2.45 \\
    \hline 6 P 325 & Push. Puk & 25.000 Platas & 20 & 3-6 & 6 & AL & 1.5/15 & 1.5/8 & \(1 \cdot 1 / 2\) & , & . 3 & 2.45 \\
    \hline
    \end{tabular}

    UNIVERSAL REPLACEMENT TYPES—TUBE TO VOICE COIL-TUBE TO LINE-LINE TO VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Type } \\
    & \text { Number }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Primary Imp. - Ohms} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Prio. } \\
    & \text { Dic. } \\
    & \text { Mils }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Ser. 2 -Ohms} & \multirow[b]{2}{*}{Watts} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { Mtg. } \\
    \text { Style }
    \end{gathered}
    \]} & \multicolumn{4}{|c|}{Dimensions} & \multirow[t]{2}{*}{Net
    \(W\)} & \multirow[t]{2}{*}{Lisl
    Price} \\
    \hline & & & & & & A & 8 & C & D & & \\
    \hline \({ }_{6}^{68165}\) & Sti. or P.P. 4m 1014 Mmplates & 50 & 1.1 to 14 & & ATL & \(1.5 / 16\)
    \(1.9 / 16\)
    \(1.7 / 6\) & 1.5/8 & & & & 2.80
    2.80 \\
    \hline 6 6166 & Stl or P.P. 4M 1014 M Plates & 50 & \begin{tabular}{l}
    1.1 \\
    1.2 to \\
    to \\
    \hline 13
    \end{tabular} & 15 & \({ }_{\text {ATL }}\) & \(1.9 / 16\)
    \(1.7 / 8\) & \(1.7 / 8\)
    \(1.9 / 16\) & 1.5/8 & \({ }_{2}^{2.3 / 8}\) & S & 2.80
    3.50 \\
    \hline 6P161 &  & 50
    55 &  & 15
    10 & \({ }^{\text {Brit }}\) & \({ }_{1}^{1.9 / 1 / 16}\) & 1.9716 & \({ }_{1}^{1.5 / 8}\) & \(2.3 / 8\) & . 5 & \({ }_{2.80}\) \\
    \hline 6 PIT 2 & P.P. 3500 to 12 M Plates & 60 & 1.3 to 14 & 20 & 81t & \(2.5 / 8\) & 2.3116 & 2.1/8 & 2.13/16 & 1.5 & 5.10 \\
    \hline 6 P 701 & Single 2500 10 7500 Plate & 45 & 165 to 1500 & 10 & BTL & \(2.1 / 4\) & \(1.7 / 8\) & 1.7/8 & 2.3/8 & . 9 & 4.45 \\
    \hline 6 P 710 & P.P. 7500 to 15 M Plates & 45 & 250 to 1000 & 10 & BTL & \(2.1 / 4\) & 1.7/8 & 1.7/8 & \({ }^{2 \cdot 3 / 8}\) & 9 & 5.05 \\
    \hline 6 P 714 & Sll. OP P.P. 2500 10 12 M Plates & 45 & 150 to 2400 & 10 & 8 BL & & & & & 1.9 & \\
    \hline \(6 P 711\) & 125 to 500 Lint & 0 & 11032 & 35 & 871 & 2.5/8 & 2.3/16 & \({ }_{\substack{2.1 / 8 \\ 1.7 / 8}}\) & \({ }_{2 \cdot 3 / 8}^{2 \cdot 13 / 16}\) & 1.5 & 5.40
    5.10 \\
    \hline \(6 \mathrm{P7} 22\) & Sco to 3M Line in 500.0 nm Stops & 0 & 1.31048 & 10 & B FL & 2.1/4 & 1.7/8 & 1.1/8 & & 9 & \\
    \hline
    \end{tabular}

    AMPLIFIER AND EQUIPMENT TYPES-TUBE TO LINE AND VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type Number} & \multirow[b]{2}{*}{Primary Imp. - Ohms} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Pi. \\
    O.C. \\
    Mils
    \end{tabular}} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Secondary \\
    Imp.-Ohms
    \end{tabular}} & \multirow[b]{2}{*}{Watts} & \multicolumn{5}{|l|}{Frequency Characteristics - c. p.s.} & \multirow[t]{2}{*}{\begin{tabular}{l}
    MIE. \\
    Style
    \end{tabular}} & \multicolumn{5}{|c|}{Dimensions} & \multirow[t]{2}{*}{Not WI.} & \multirow[t]{2}{*}{List Price} \\
    \hline & & & & & 50 & 200 & IM & 5 M & 10M & & \(A\) & 8 & C & D & E & & \\
    \hline 69726 & P.P. 3300 or 3800 Plates & 90 & 4-8-15-250-500 & 60 & -0.3. & 0 & & \(+0.1\) & +0.5 & GL & 3.3/4 & 3-1/16 & 3.3/8 & 2.1/2 & 2.3/15 & 4.4 & 10.70 \\
    \hline 6 P 731 & P.P. 1500 or 6800 Plates & 90 & 4-8-16-250-500 & 60 & \(-0.3\) & 0 & 0 & \(+0.2\) & 0 & GL & 3.3/4 & 3-1/16 & 3-3/8 & 2-1/2 & 2-3/15 & 4.4 & 10.70 \\
    \hline 6P736 & P.P. 5000 Plates & 70 & 4-8-15-250-500 & 25 & -0.9 & \(-0.2\) & 0 & \(+0.2\) & \(+0.5\) & OL & \(2.5 / 8\) & 2.3/16 & 2.1/8 & 2.13/16 & & 1.5 & 7.20 \\
    \hline 6 P 740 & P.P. 4300 Plates & 70 & 4-8-15-250-500 & 25 & -0.9 & -0.3 & 0 & \(+0.3\) & +0.5 & 01 & 2.5/8 & 2-3/16 & 2.1/8 & 2.13/16 & & 1.5 & 7.20 \\
    \hline 6 6743 & P.P. 6600 Piates & 70 & 4-8-16-250-500 & 25 & -0.7 & -0.1 & 0 & \(+0.2\) & \(+0.5\) & OL & 2.5/8 & 2-3/16 & \(2.1 / 8\) & 2.13/16 & & 1.5 & 7.20 \\
    \hline 6P746 & P.P. 8000 Plates & 70 & 4-8-16-250-500 & 25 & -0.7 & -0.1 & 0 & +0.1 & \(+0.3\) & OL & 2.5/8 & 2.3/16 & 2.1/8 & 2.13/16 & & 1.5 & 7.20 \\
    \hline 6 6719 & P.P. 10.000 Plales & 60 & 4-8-16-250-500 & 25 & -0.4 & -0.1 & 0 & +0.2 & +0.3 & OL & 2.5/8 & 2-3/16 & 2.1/8 & 2.13/16 & & 1.5 & 7.55 \\
    \hline 6 P752 & Sti. 2500 Plate & 60 & 4-8-16-250-500 & 10 & -3.0 & -0.4 & & \(+0.3\) & +0.5 & OL & 2.1/4 & 1.7/8 & \(2.1 / 8\) & 2.3/t & & 1.0 & 5.70 \\
    \hline
    \end{tabular}

    TELEVISION REPLACEMENT (VERTICAL DEFLECTION)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\[
    \begin{gathered}
    \text { Type } \\
    \text { Number }
    \end{gathered}
    \]} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Ration } \\
    & \text { Pii. to } \mathrm{Sec} .
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Primary Imp.-Ohms} & \multirow[b]{2}{*}{Leakage Inductance} & \multirow[b]{2}{*}{Mounting siple} & \multicolumn{5}{|c|}{Dimensions} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Net } \\
    & \text { WI. }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Prict }
    \end{aligned}
    \]} \\
    \hline & & & & & 1 & 1 & c & D & E & & \\
    \hline 6 P 860 & \(10: 1\) & 19,000 Min. & 0.33 Hy . Max. & B 11 & 3.3/16 & 2.3/4 & 2-9/16 & 1.19/32 & 2 & 2.2 & 6.70 \\
    \hline
    \end{tabular}

    MODULATION TRANSFORMERS - THE "FIVE" SERIES
    SNC universol modulation tronsformers ore specifically designed to provide moximum opplicotion possibilities per type. All units ore provided with two indenticol secondory windings, permitting series of parollel operotion. Chonges in the rotio con be reodily accomplished, when desired, without removing the unit from the chossis. Most units ovoiloble in either oir cooled or compound fitied coses.
    UNIVERSAL TYPES
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow{3}{*}{Type Number} & \multirow{3}{*}{Waits} & \multirow[b]{3}{*}{Pumary Current Mils} & \multicolumn{4}{|c|}{Setondary Characteristics} & \multirow[b]{3}{*}{Primary Impadance Ohms} & \multirow{3}{*}{\[
    \begin{aligned}
    & \text { Mig. } \\
    & \text { Siyle }
    \end{aligned}
    \]} & \multicolumn{5}{|c|}{\multirow[t]{2}{*}{Oimensions}} & \multirow{3}{*}{Nel Weight} & \multirow{3}{*}{\begin{tabular}{l}
    List \\
    Prics
    \end{tabular}} \\
    \hline & & & \multicolumn{2}{|l|}{Serres Sec.} & \multicolumn{2}{|l|}{Parallel Sec.} & & & & & & & & & \\
    \hline & & & Impedance & Mils & Impadance & Mils & & & 4 & 8 & 6 & 0 & E & & \\
    \hline 5 5341 & 15 & 60 & & 50 & & 100 & 3 M 108 M & OL & 2.5/8 & 2.3/16 & 2-3/8 & 2.13/16 & & 1.5 & 9.00 \\
    \hline 5P346 & 50 & 80 & 2M to 18M & 75 & 500104500 & 150 & 3 M 1015 M & GTL & 3.7/8 & 3.1/8 & 3.3/8 & 2.1/2 & 2-3/16 & 4 & 14.10 \\
    \hline 5P352 & 100 & 120 & 2 M to 18 M & 100 & 500104500 & 200 & 3 M to 15M & GTL & 4.5/8 & 3.3/4 & 3.7/8 & 3 & \(2 \cdot 13 / 16\) & 9.7 & 22.50 \\
    \hline \[
    \begin{aligned}
    & 5 P 354 \\
    & 5 P 355
    \end{aligned}
    \] & 200 & 200 & 2M to 18M & 150 & 500104500 & 300 & 3 M 10 15M & \[
    \begin{aligned}
    & \text { HT } \\
    & \text { IT }
    \end{aligned}
    \] & 7.1/t & 5-1/2 & 5.15/16 & 4.3/8 & 4.13/16 & \[
    \begin{aligned}
    & 24 \\
    & 32 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 51.60 \\
    & 56.40
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & 5 P 357 \\
    & 5 P 350
    \end{aligned}
    \] & 300 & 250 & 2 M io 18 mm & 250 & 500 is 4300 & 500 & 3M to 151m & \[
    \begin{gathered}
    \text { HT } \\
    \text { IT }
    \end{gathered}
    \] & 7.1/8 & 6.1/2 & 7.1/4 & 5.3/t & 6.1/8 & 33 & \[
    \begin{aligned}
    & 62.48 \\
    & 67.28
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & 5 P 363 \\
    & 5 P 364
    \end{aligned}
    \] & 500 & 300 & 201418M & 300 & 500 to 4500 & 600 & 3 M to 15 M & \[
    \begin{aligned}
    & H I \\
    & \text { JT }
    \end{aligned}
    \] & 10.3/4 & 6.1/2 & 7.1/1 & 5.3/8 & 6.1/t & \[
    \begin{aligned}
    & 51 \\
    & 64
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 125.00 \\
    & 138.00
    \end{aligned}
    \] \\
    \hline
    \end{tabular}
    

    POWER TRANSFORMERS—THE "EIGHT" SERIES
    All units conserwatively roted for operation on either 50 or 60 cyeles and contain on electrastalic shield between primory ond all ather windings REPLACEMENT TYPES (B.3 Volt Heater Winding)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type Number} & \multirow[b]{2}{*}{Primary Voltage} & \multirow[b]{2}{*}{R.M.S. - High Volt. Secondary} & \multirow[t]{2}{*}{Pri. O.C. Mils} & \multirow[b]{2}{*}{Rectifies Filament} & \multirow[b]{2}{*}{Haster Wiadine Center Tapped} & \multirow[b]{2}{*}{\[
    \begin{gathered}
    \text { Mit. } \\
    \text { Style }
    \end{gathered}
    \]} & \multicolumn{5}{|c|}{Oimensions} & \multirow[b]{2}{*}{Net WL} & \multirow[b]{2}{*}{List Price} \\
    \hline & & & & & & & 4 & 8 & C & 0 & E & & \\
    \hline 18040
    8055 & 117 & \(265-0-265\)
    \(300-0-300\) & 40
    55 & 5v. (a, 2 a & 6.3V. (a. 21.
    \(6.3 y\) (a 254 & FL & 3 & \(2.1 / 2\)
    \(2.1 / 2\) & \(2.3 / 4\)
    \(3.1 / 4\) & \(2.1 / 2\)
    \(2.1 / 2\) & \(?\) & 2.3 & 5.415 \\
    \hline 8 PO 70 & 117 & 325-0-325 & 70 & 5v. (a, 2a. & 6.3v. @ 3n. & F & 3 & \(2.1 / 2\) & -3.1/2 & 2.1/2 & 2 & 3.2 & 6.90 \\
    \hline
    \end{tabular}
    heavy duty replacement and new equipment types (6.3 valt healer Winding)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type Number} & \multirow[t]{2}{*}{Pumary Vollate} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { R.M.S. High Volt. } \\
    & \text { Secondary }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Pri. } \\
    & \text { O.C. } \\
    & \text { Mils }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{Rectifier filamont} & \multirow[t]{2}{*}{Hoalw Winding Center Tappod} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { M4. } \\
    5+710
    \end{gathered}
    \]} & \multicolumn{5}{|c|}{Dimansions} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \mathrm{Net} \\
    & \mathrm{wt}
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Pint } \\
    & \text { Prict }
    \end{aligned}
    \]} \\
    \hline & & & & & & & \(A\) & B & C & 0 & E & & \\
    \hline 3 P180 PPIBOG & 111 & 265-0-265 & 40 & 5V.@2A. &  & \[
    \begin{aligned}
    & \mathrm{FL} \\
    & \mathrm{GL}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.1 / 16
    \end{aligned}
    \] & \[
    \underset{\substack{2.1 / 2 \\ 2.73}}{ }
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 4 \\
    & 3 \cdot 1 / 8
    \end{aligned}
    \] & \[
    2_{2}^{2 \cdot 1 / 2}
    \] & \[
    \frac{2}{2 \cdot 3 / 16}
    \] & 3.2 & 1.41 \\
    \hline \[
    \begin{aligned}
    & 8 P 143 \\
    & 8 P 183 G
    \end{aligned}
    \] & 117 & 300-0-300 & 50 & 5V. (a, 2 A . & 6.3V. (a) 2 A . & \[
    \begin{aligned}
    & \text { FL } \\
    & \text { GI }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 3 / 8 \\
    & 3 \cdot 1 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.13 / 16 \\
    & 2.27 / 32
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.1 / 16 \\
    & 3.1 / 4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.13 / 16 \\
    & 2 \cdot 1 / 4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \cdot 1 / 4 \\
    & 2 \cdot 1 / 1 \\
    & \hline
    \end{aligned}
    \] & 3.5 & 1.81 \\
    \hline \({ }^{8 P 186}\) 8P1A6G & 117 & 325-0-325 & 0 & 5V. © 1A. & 6.3V. (a) 3A. & \[
    \begin{aligned}
    & \mathrm{Fl} \\
    & \mathrm{GL}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.3 / 8 \\
    & 3 \cdot 7 / 16 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \cdot 13 / 16 \\
    & 2 \cdot 27 / 32
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.11 / 16 \\
    & 3 \cdot 1 / 2
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \cdot 13 / 16 \\
    & 2 \cdot 1 / 4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \cdot 1 / 4 \\
    & 2-3 / 8 \\
    & \hline
    \end{aligned}
    \] & 4.0 & 0.20 \\
    \hline \[
    \begin{aligned}
    & 8 \mathrm{PP199} \\
    & \text { PPIE99G }
    \end{aligned}
    \] & 117 & 350-0-350 & 70 & 5V. © \({ }_{\text {a }}\) 3a: & 6.3V. es, 3.5A. & \[
    \begin{aligned}
    & \text { FL } \\
    & 61
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.3 / 4 \\
    & 3.13 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.1 / 4 \\
    & 3.5 / 32
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.3 / 4 \\
    & 3.5 / 1
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 8 \\
    & 2 \cdot 1 / 2
    \end{aligned}
    \] & \[
    \underset{2 \cdot 1 / 716}{2 \cdot 1 / 2}
    \] & 5.0 & 9.08 \\
    \hline \[
    \begin{aligned}
    & \hline \text { SP192 } \\
    & \text { 8P192G } \\
    & \hline
    \end{aligned}
    \] & 117 & 350-0-350 & 50 & 5V. ac 3A. & 6.3 V . (a) AR. & \[
    \begin{aligned}
    & \mathrm{FL} \\
    & \mathrm{GL}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3-3 / 4 \\
    & 3-13 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.1 / 8 \\
    & 3.5 / 32
    \end{aligned}
    \] & \[
    3 \cdot 1 / 8
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 8 \\
    & 2 \cdot 1 / 2
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \cdot 1 / 2 \\
    & 2 \cdot 11 / 16
    \end{aligned}
    \] & 5.1 & 9.90 \\
    \hline bP194 8P194G & 117 & 375-0-375 & 110 & 5V. © 3A. & 6.3V. © \({ }^{\text {c/ }}\) A. & \[
    \begin{aligned}
    & \mathrm{FL} \\
    & \mathrm{GL}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.3 / 4 \\
    & 3.13 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.1 / 1 \\
    & 3-5 / 32 \\
    & \hline
    \end{aligned}
    \] & \[
    4^{4 \cdot 1 / 8}
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 8 \\
    & 2-1 / 2 \\
    & \hline
    \end{aligned}
    \] & \[
    \frac{2 \cdot 1 / 2}{2 \cdot 13 / 16}
    \] & 6.0 & 11.10 \\
    \hline \[
    \begin{aligned}
    & \text { 8P196 } \\
    & \text { SPI96G }
    \end{aligned}
    \] & 117 & 350-0-350 & 150 & 5V. © 3 3. & 5.3V. © 4.8.8. & \[
    \begin{aligned}
    & \mathrm{Fl} \\
    & \mathrm{GL}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.1 / 8 \\
    & 4.3 / 16 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.7 / 16 \\
    & 3.15 / 32
    \end{aligned}
    \] & \[
    \begin{array}{r}
    4.3 / 8 \\
    4.3 / 8 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 3.1 / 16 \\
    & 2.3 / 4 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.3 / 4 \\
    & 3.5 / 16
    \end{aligned}
    \] & 1.1 & 11.70 \\
    \hline JP199 :3P199G & 117 & 400-0-400 & 70 & 5v. (a) 3a. & 6.3V. (a, 3.5A. & \[
    \begin{aligned}
    & \mathrm{FL} \\
    & \mathrm{GL}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.3 / 4 \\
    & 3.13 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 8 \\
    & 3.5 / 32
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.1 / 8 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 8 \\
    & 2-1 / 2
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2-1 / 2 \\
    & 2-11 / 16
    \end{aligned}
    \] & 5.8 & 10.50 \\
    \hline \[
    \begin{aligned}
    & 8 P 202 \\
    & 8 P 202 \mathrm{G}
    \end{aligned}
    \] & 117 & 150-6-150 & 200 & 5v. © 3A. & 6.3V. (a, 5A. & \[
    \begin{aligned}
    & \mathrm{FL} \\
    & \mathrm{GL}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 8.1 / 2 \\
    & 4.9 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 3 / 4 \\
    & 3 \cdot 25 / 32
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.3 / 4 \\
    & 4.3 / 4
    \end{aligned}
    \] & \[
    3^{3 \cdot 3 / 4}
    \] & \[
    \begin{aligned}
    & 3.11 / 16 \\
    & \hline
    \end{aligned}
    \] & 10.7 & 15.08 \\
    \hline \({ }^{3} 2905\) & 117 & 450-0-450 & 325 & 5V. (i) 64 . & 6.3V. (1) \%A. & HT & 1.1/8 & 5.1/2 & 5.15/16 & 4.3/8 & 4.13/16 & 22.3 & 40.88 \\
    \hline 3 P 208 & 117 & 550-0-350 & 275 & 5V. (u) 6 A. & 6.3V. (a) 6 . & MT & 1.1/8 & 5.1/2 & 5.15/16 & 4.3/8 & 4.13/16 & 23.3 & 48.86 \\
    \hline
    \end{tabular}

    REPLACEMENT TYPES (2.5 Voli Heoter Winding)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & 8 p 287 \\
    & 8 P 993 \\
    & \text { iP295 }
    \end{aligned}
    \] & 117
    117
    117 & \[
    \begin{aligned}
    & 350-0-350 \\
    & 350-0-350 \\
    & 350-3-350
    \end{aligned}
    \] & 70
    90
    150 & 5V. (a) 3 A. & \begin{tabular}{l}
    2.5V. (a) 6 A . \\
    2.5Y. (a) 14 . \\
    2.5V. (14) 12 A .
    \end{tabular} & \[
    \begin{aligned}
    & \text { FL } \\
    & \text { FL } \\
    & \text { fI }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 3 / 4 \\
    & 3.3 / 4 \\
    & 4 \cdot 1 / 8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 1 / 8 \\
    & 3.1 / 1 \\
    & 3.7 / 16
    \end{aligned}
    \] & 3-3/4
    4.3
    \(4.3 / 8\) & \(3.1 / 8\)
    \(3.1 / 8\)
    \(3.7 / 16\) & 2.1/2 & 5.0
    8.6
    7.8 & 9.00
    .80
    11.18 \\
    \hline
    \end{tabular}

    REPLACEMENT TYPES (Two 2.5 Voll Hooler Windings)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline 3 P47 PP476 & 111 & 350-0-350 & 70 & 5V. (a 3A. & \(\mathrm{No} .1=2.5 \mathrm{~V}\). (a, 3.5A. \(\mathrm{Ho} .2=2.5 \mathrm{~V}\). (a A . & \[
    \begin{aligned}
    & \hline \text { FL } \\
    & \text { GL }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.3 / 4 \\
    & 3.13 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.1 / 8 \\
    & 3.5 / 32
    \end{aligned}
    \] & \[
    4.1 / 8
    \] & \[
    \begin{aligned}
    & 3.1 / 8 \\
    & 2 \cdot 1 / 2
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \cdot 1 / 2 \\
    & 2 \cdot 11 / 16
    \end{aligned}
    \] & 5.8 & 18.68 \\
    \hline \[
    \begin{aligned}
    & \text { 8PPA94 } \\
    & \text { 8PA9GG }
    \end{aligned}
    \] & 117 & 315-0-375 & 110 & 5V. © 3 A. & \begin{tabular}{l}
    \(\mathrm{No} .1=2.5 \mathrm{~V} .(\mathrm{a} 3.5 \mathrm{~A}\).
    \(\mathrm{Ne} .2=2.5 \mathrm{~V}\). \\
    No. \(2=2.5 \mathrm{~V}\). (a. 10A.
    \end{tabular} & \({ }_{6 L}\) & \[
    \begin{aligned}
    & 3 \cdot 3 / 4 \\
    & 3 \cdot 13 / 16
    \end{aligned}
    \] & \(3.1 / 1 /\)
    \(3.5 / 32\) & 4.1/4 & 3.1/8 & \[
    \begin{aligned}
    & 2.1 / 2 \\
    & 2.15 / 16
    \end{aligned}
    \] & 6.2 & 11.10 \\
    \hline
    \end{tabular}
    general purpose types with convenient lug terminals ( 6.3 Voli hooter Winding)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type Number} & \multirow[b]{2}{*}{Primary Vollase} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { R.M.S. - High Volt. } \\
    & \text { Sccondary }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Pri. } \\
    & \text { D.C. } \\
    & \text { Mils }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Rectifiex Filament} & \multirow[b]{2}{*}{Healw Winding Centes Tapped} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Mitit. } \\
    & \text { miye }
    \end{aligned}
    \]} & \multicolumn{5}{|c|}{Drmensions} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Net } \\
    & \text { W! }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { pisicte }
    \end{aligned}
    \]} \\
    \hline & & & & & & & A & 8 & c & 0 & E & & \\
    \hline \({ }^{81} 362\) & 117 & 300-0-300 & 50 & 5v. (e) 2 A . & 5.3V. (13) 2 A & E1 & 3-3/8 & 2.13/16 & 3.7/16 & 2.13/16 & 2.1/4 & 3.2 & 7.10 \\
    \hline 83335 & 111 & 325-0-325 & 60 & 5V. (3)24. & c.3V. (a) 3 A. & EI & 3-3/8 & 2.13/16 & 3.11/16 & 2.13/16 & 2.1/4 & 4.0 & 7.60 \\
    \hline \%P389 & 117 & 350-0-350 & 70 & 5V. © 3 3A. & 6.3V. (a. 3.54 . & E1 & 3-3/4 & 3.1/8 & 3-3/4 & 3.1/8 & \(2 \cdot 1 / 2\) & 4.7 & 8.30 \\
    \hline
    \end{tabular}

    \section*{BIAS TYPES}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline iPs10
    sP311 & 117 & \[
    0.40-0-40
    \] & 25
    50 & \begin{tabular}{l}
    5y. (a) 2 A. \\
    5V. (a) 2A.
    \end{tabular} & \({ }_{\text {cl }}^{\text {Cl }}\) & \[
    \begin{aligned}
    & 1.7 / 1 \\
    & 3-1 / 16 \\
    & \hline
    \end{aligned}
    \] & 2.1/4 & 2.3/4 & \({ }_{2}^{2.13 / 16}\) & 1.11/16 & \({ }^{1.0}\) & 4.50 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { ipfo } \\
    & \text { iPf11 } \\
    & \text { iP612 }
    \end{aligned}
    \] & 6
    6
    6 & \[
    \begin{aligned}
    & 225-0-225 \\
    & 320-2320 \\
    & 390-0-390
    \end{aligned}
    \] & 10
    40
    60 & 11
    61
    61 & \[
    \begin{aligned}
    & 2.3 / 16 \\
    & 3.1 / 16 \\
    & 3.7 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.5 / 1 \\
    & 2.1 / 32 \\
    & 2.21 / 32
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \\
    & 2.1 / 2 \\
    & 3.5 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \cdot 1 / 1 \\
    & 2 \cdot 1 / 4
    \end{aligned}
    \] & \(1.9 / 16\)
    \(2.3 / 16\) & 1.3
    2.1
    3.1 & 5.16
    5.16
    6.51 \\
    \hline
    \end{tabular}

    \section*{TELEVISION REPLACEMENT TYPES}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline PPb03 & 111 & 315-1-315 & 218 & 5v. © 3 A. & \[
    \begin{gathered}
    \text { No. 1-5V.@ } 2 A . \\
    \text { No. 2-6.jv.(a, 5.6A. }
    \end{gathered}
    \] & \(f 1\) & 4-1/2 & 3-3/4 & 1-3/4 & 3-3/4 & 3 & 10.1 & 11.15 \\
    \hline 3P105 & 111 & 235-8.935 & 81 & 5v.@ 2 A . & 6.3V.@ 5.5A. & FL & 3-3/8 & 2-13/16 & 4 & 2-13/16 & 2.1/4 & 5.1 & 18.201 \\
    \hline [P107 & 111 & 365-1-365 & 311 & 5v.@4. & No. 1-12.6V.@. 5A. No. 2-5V. (n. 2A. & FL & 4-23/32 & 3-21/32 & 6-3/4 & 4-1/16 & 3-3/16 & 16.1 & 30.61 \\
    \hline
    \end{tabular}
    

    PLATE TRANSFORMERS-THE "SEVEN" SERIES
    All SNC plate tronsformers hove dual secondary ratings. Mast units ovailoble in either air cooled or compound flled cases. All units contain electrostatic shields between primary and high voltage windings.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Typt Number} & \multirow[t]{2}{*}{Primary Voltat} & \multirow[t]{2}{*}{Pri. V.A.} & \multirow[t]{2}{*}{Secontary R.M.S. Voltage} & \multirow[t]{2}{*}{D.C. Voltage from Fille:} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { Current }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{MIf. Styl} & \multicolumn{5}{|c|}{Dimansions} & \multirow[t]{2}{*}{Net Wt.} & \multirow[t]{2}{*}{List Price} \\
    \hline & & & & & & & 4 & 8 & C & 0 & E & & \\
    \hline 7P930 & 115-230 & 220 & \[
    \begin{array}{r}
    920-0-920 \\
    \text { of } 740-0-140
    \end{array}
    \] & \[
    \begin{aligned}
    & 750 \\
    & \text { or } 500
    \end{aligned}
    \] & 200 MA & GL & 4.3/4 & 3.3/4 & 5-1/8 & 3 & 4.1/16 & 12 & 18.01 \\
    \hline \[
    \begin{aligned}
    & \hline 7 P 535 \\
    & 7 P 536
    \end{aligned}
    \] & 115-230 & 320 & \[
    \begin{array}{r}
    930-0-930 \\
    \text { or } 750-0-750 \\
    \hline
    \end{array}
    \] & ( \(\begin{array}{r}750 \\ \text { or } 600\end{array}\) & 300 Ma & \[
    \begin{aligned}
    & \mathrm{HT} \\
    & \mathrm{JT}
    \end{aligned}
    \] & 1.1/4 & 5.1/2 & 5.15/16 & 4.3/8 & 4.13/16 & 22
    30 & \[
    \begin{aligned}
    & 42.01 \\
    & 48.00
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & 7 P 542 \\
    & 7 P 543
    \end{aligned}
    \] & 115-230 & 530 & \[
    \begin{aligned}
    1470-0-1470 \\
    \text { of } 1220-0-1220
    \end{aligned}
    \] & \[
    \begin{array}{r}
    1250 \\
    \text { or } 1000
    \end{array}
    \] & 300 MA & \[
    \begin{array}{ll}
    \text { MI }
    \end{array}
    \] & 7.1/8 & \(6.1 / 2\) & 7.1/4 & 5.3/8 & 6.1/8 & 33
    41 & \[
    \begin{aligned}
    & 51.41 \\
    & 55.21
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & 7 P 551 \\
    & 78592
    \end{aligned}
    \] & 115-230 & 750 & \[
    \begin{array}{r}
    2050-0-2050 \\
    \text { or } 1740-0-1740
    \end{array}
    \] & \[
    \begin{array}{r}
    1750 \\
    \text { or } 1500
    \end{array}
    \] & 300 MA & \[
    \begin{aligned}
    & \text { HT } \\
    & \text { JT }
    \end{aligned}
    \] & 7.1/8 & 6-1/2 & 7.1/4 & 5-3/8 & 6.1/\% & 43
    51 & \[
    \begin{aligned}
    & 54.04 \\
    & 65.04
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { 7P597 } \\
    & \text { 7P598 }
    \end{aligned}
    \] & 115-230 & 1060 & \[
    \begin{array}{r}
    2880-2-2880 \\
    \text { or } 2350-2350
    \end{array}
    \] & \[
    \begin{array}{r}
    2500 \\
    \text { or } 2000
    \end{array}
    \] & 300Ma & \[
    \begin{aligned}
    & \text { MT } \\
    & \text { JT }
    \end{aligned}
    \] & 10.3/4 & \(6.1 / 2\) & 7.1/4 & 5.3/1 & 6.1/8 & 51
    69 & \[
    \begin{aligned}
    & 71.40 \\
    & 10.40
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { 7P563 } \\
    & 7 P 564
    \end{aligned}
    \] & 115-230 & 1760 & \[
    \begin{array}{r}
    2300-0-2900 \\
    \text { or } 2370-0-2370
    \end{array}
    \] & \[
    \begin{array}{r}
    2500 \\
    \text { or } 2000
    \end{array}
    \] & 500 MA & \[
    \begin{aligned}
    & \text { HT } \\
    & \text { JT }
    \end{aligned}
    \] & 10.3/4 & 9 & 7-1/4 & 7 & 5.13/16 & 96
    126 & \[
    \begin{aligned}
    & 100.108 \\
    & 150.10
    \end{aligned}
    \] \\
    \hline
    \end{tabular}
    *All units mar be operated with simultaneous loads-provitod the total D.C. current of the two loats does not enceed the rating listed.
    FILAMENT TRANSFORMERS-THE "FOUR" SERIES
    Most SNC filament Transformers are constructed to provide two identical center iopped secondory windingit ond offer o minimum of three applications. They provide three.fold the number of possible applicotions of ordinary fitoment types. A few are single secondory units and are so designoted. All have 117 V . 50/60 cycle primary.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type} & \multicolumn{3}{|c|}{Applications} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { Test } \\
    \text { Voltage }
    \end{gathered}
    \]} & \multirow[b]{2}{*}{\[
    \begin{gathered}
    \text { Mit. } \\
    \text { Style }
    \end{gathered}
    \]} & \multicolumn{5}{|c|}{Dimansions} & \multirow[b]{2}{*}{Not
    Wet.} & \multirow[b]{2}{*}{List
    Price} \\
    \hline & \[
    \begin{gathered}
    \text { Puallel } \\
    \text { Secondaries }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Series } \\
    & \text { Secondizies }
    \end{aligned}
    \] & Independent Identical Secondaries & & & 1 & B & c & 0 & E & & \\
    \hline 49222 & 2.5V. C.T. (14 & 5 V.C.T. © 2.5 A. & Two of 2.5V.c.T. © 2.5 A A. & 2000 & BL & 2.1/4 & 1.7/6 & 1.3/4 & 2.3/1 & & 1.0 & 3.55 \\
    \hline \({ }^{48226}{ }^{\circ}\) & 2.5V. C.I. ald 10 A. & & & 7500 & 81 & & 2.1/2 & 2.3/8 & 3.1/8 & & 2.0 & 5.51 \\
    \hline 4 4 227 & 2.5V C.T. (10 10 & 5 V.C.T. (e) 5 A. & Two of 2.5V. C.T. \(\mathrm{B}_{6} 5\) A. & 2000 & \({ }_{81}\) & 2.5/8 & 2.3/16 & & 2.13/16 & & 1.5 & 4.6 \\
    \hline \({ }^{49234}\) & 2.5V. C.I. (a is 4. & 5 V.C.T. (a) 7.5 A. & Two of 2.5V. C.T. (1) 7.5 A. & 2000 & BL & & 2-1/2 & 2.1/4 & 3.1/8 & & 2.2 & 5.71 \\
    \hline 4 P 239 & 5 V.C.T. ef 6.5A. & 10 V.C.T. © 3.25A. & Two of 5 V.C.T. © 3.25A. & 2000 & 81 & & 2.1/2 & 2.1/4 & 3.1/1 & & 2.2 & 5.11 \\
    \hline 4P242* & 5 V.C.T. (20 A. & & & 10000 & \(8 \times 1\) & 4.1/8 & 3.7/16 & 2.3/4 & 2.3/4 & 2.1/8 & 4.6 & 10.20 \\
    \hline \({ }^{49243 .}\) & 5 Y.C.T. (120 A. & 10 V.C.T. @ 10 A . & Two of 5 V.C.T. © 10 A. & 2000 & \({ }^{\text {BL }}\) & 3.3/4 & 3.1/6 & 2.9/4 & 2-1/2 & 2.1/4 & 4.3 & 9.60 \\
    \hline 4P244. & 6.JV. C.T. © 0.6A.* & & & 2000 & 81 & 1.7/8 & 1.9116 & 1.1/2 & & & \({ }^{6}\) & 3.58 \\
    \hline \({ }^{48245 *}\) & 6.3V. C.T. (12 1.2A. & & & 2000 & 晶 & 1.7/8 & 1.9116 & 1.5/8 & 2.18 & & 3 & 3.81 \\
    \hline \(4{ }^{4} 246\) & 6.JV. C.T. (12) 2 A. & 12.6V. C.I. © 1 A. & & 2000 & 星 & 2.1/4 & 1.7/8 & 1.3/4 & 2.3/8 & & 1.4 & 4.20 \\
    \hline 4P251
    P9256 & 6.3V.C.T. (11) 6 A. &  &  & 2000
    2000 & 8 BL & \({ }^{3} 3.3 / 8\) & \(2.1 / 2\)
    \(2.13 / 16\) & 2.1/4 & 3.1/8 & & 2.0
    2.9 & 4.85
    8.31 \\
    \hline \(4 P 256\)
    48260 &  &  &  & 2000 & \({ }_{81}{ }_{81}\) & \(3.9 / 8\)
    \(2.5 / 8\) & \begin{tabular}{l}
    \(2 \cdot 13 / 16\) \\
    \(2 \cdot 3 / 16\) \\
    \hline
    \end{tabular} & \({ }_{2}^{2 \cdot 1 / 2}\) & \({ }_{\substack{2 \\ 2 \cdot 19 / 1 / 16}}^{\text {2 }}\) & 2.1/8 & 2.9
    1.5 & 8.31
    5.11 \\
    \hline 4 P 267 & 7.5V. C.T. (1) 4.5A. & is V.C.T. (a 2.3 A. & Two of 7.5V. c.T. (1).3 A. & 2000 & \({ }_{81}\) & & 2.1/2 & 2.1/4 & 3.1/8 & & 2.0 & 6.36 \\
    \hline 19272 & 11 V.C.T. © 10 A. & 22 V C.I. © 5 A. & Two of 11 V.C.T. © 5 A. & 2000 & Bxt & 3.3/4 & 3.1/8 & 2.3/4 & 2.1/2 & 2.1/4 & 4.1 & 9.80 \\
    \hline
    \end{tabular}
    - Single secondary unts

    VOLTAGE CHANGER AND ISOLATION-THE "NINE" SERIES
    All Units Have Primory Card and Secondary Plug ond Are For \(50 / 80\) Gycle Operation
    VOLTAGE CHANGER (ISOLATION)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type Number} & \multirow[t]{2}{*}{Primary Voltage} & \multirow[t]{2}{*}{Secondary Voltate} & \multirow[t]{2}{*}{Capacity in \(Y\). \(A\).} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { Mig. } \\
    \text { Style }
    \end{gathered}
    \]} & \multicolumn{5}{|c|}{Dimensions} & \multirow[t]{2}{*}{Net
    Wl .} & \multirow[t]{2}{*}{List} \\
    \hline & & & & & A & 8 & C & 0 & E & & \\
    \hline 98107
    \(9 P 713\) & \(\begin{array}{r}220-250 \\ 220-250 \\ \hline 20-25\end{array}\) & \(110-125\)
    \(110-125\)
    1 & 15
    150 & GP & \({ }_{\substack{3.13 / 16 \\ 4.9 / 16}}\) & \({ }^{3.5 / 32} 3\) & 3.1/8 & \({ }_{3}^{2.1 / 2}\) &  & 3.9 & \({ }_{13.10}^{130}\) \\
    \hline 9 g 118 & 220-250 & 110-125 & 350 & HP & 1.1/8 & 5.1/7' & 5.15/16 & 4.9/8 & 4.13/16 & 23.3 & 36.10 \\
    \hline
    \end{tabular}

    ISOLATION TYPES
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { 9P121 } \\
    & 9 P 125 \\
    & 9 P 128
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 110-250 \\
    & 110-250 \\
    & 110-250
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 110-250 \\
    & 110-250 \\
    & 110-250
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 150 \\
    & 250 \\
    & 500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & G P \\
    & H P \\
    & H P
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.9 / 16 \\
    & 7.1 / 8 \\
    & 7.1 / 8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3-25 / 32 \\
    & 5 \cdot 1 / 2 \\
    & 6-1 / 2
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.5 / 8 \\
    & 5.15 / 16 \\
    & 7.1 / 4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \\
    & 4 \cdot 1 / 8 \\
    & 5 \cdot 3 / 4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.9 / 16 \\
    & 4.13 / 16 \\
    & 6.1 / 16
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 12.1 \\
    & 23.3 \\
    & 34.8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 10.98 \\
    & 29.41 \\
    & 41.40
    \end{aligned}
    \] \\
    \hline
    \end{tabular}
    voltage adjustment types with tap change switch
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { 9p732 } \\
    & \text { 9P731 } \\
    & \text { 9P739 }
    \end{aligned}
    \] & 95-130 in 5 K . Steps 95-130 in 5V. Steps 80-130 in 5 V . Steps & \[
    \begin{aligned}
    & 115 \\
    & 115 \\
    & 115
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 150 \\
    & 250 \\
    & 500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & H S P \\
    & H S P \\
    & H S P
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.7 / 8 \\
    & 5.3 / 8 \\
    & 7.1 / 8
    \end{aligned}
    \] & \(3.7 / 8\)
    \(1.3 / 8\)
    \(5.1 / 2\) & \[
    \begin{aligned}
    & 3.1 / 8 \\
    & .1 / 4 \\
    & 5.15 / 16
    \end{aligned}
    \] & \(3.1 / 8\)
    \(3.5 / 8\)
    \(1.3 / 1\) & \[
    \begin{aligned}
    & 3.1 / 8 \\
    & 3.1 / 2 \\
    & 1.13 / 16
    \end{aligned}
    \] & 4.7
    1.0
    23.3 & 25.80

    31.60
    45.21 \\
    \hline
    \end{tabular}

    \section*{s n \(\quad\) MANUFAGTURING co., IMC., OSHKOSH, WISCONSIN}
    
    ＊＊All primarias aro 11：1．，tin cyole ＊All low－impedance windines of hish－level matput and impedaner matehinar trians． formers may be worked intu loals willin \(\pm 20 \%\) of the rated imbmante．
    + N1］trinsformers ju llis wron
    phlied with eleretro－statio sharlil．
     ＇CN－（＇ontimbous duty．
    
    ：So criter tap on semond wimdins．
    
    （hokr input in tilter．
    －Impodance is totial of two separate wind invs，
    EFor RTMA standardized io volt line．
    O These units may also te usell as bridering transformers．complete application lata in＂acll placking bex．

    COMBINATION PLATE AND FILAMENT TRANSFORMERS＊＊\(\dagger\)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type Number} & \multicolumn{2}{|l|}{High Voltage Secondary} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{```
    Filament Current. Amperes
    5 V. 6.3 V.C.T.
    ```}} & \multicolumn{3}{|l|}{Dimensions，Inches} & \multirow[t]{2}{*}{Weight Lbs．} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} \\
    \hline & AC Volts & DC MA． & & & Height & Depth & Width & & \\
    \hline R－320．A &  & 711 & 3. & 3. & \(\therefore{ }^{16}\) & \(\therefore \bar{r}\) & \(\because \mathrm{F}\) & 1 & \＄11．25 \\
    \hline R－340－F & \(3 \pm 5-0-385\) & 1019 & 3. & i． & \(43 / 8\) & \(3{ }_{16}^{16}\) & \(23 / 4\) & \(31 / 2\) & 18.50 \\
    \hline R－400．A & \(3511 \cdot 0 \cdot 3.50\) & 111 & 3. & 4. & \(4{ }^{3}\) & \(3 \%\) & 33 & （；1／4 & 12.50 \\
    \hline R．480－A & 3511.0 .350 & 120 & 3. & 5. & 4 & \(31 / 2\) & \(31 / 1\) & 4 & 14.00 \\
    \hline R．480－Q & \(3.50 \cdot 0-3.50\) & 1211 & 3. & 5. & ： & ＋\({ }_{5}^{5}\) & 414 & \(\checkmark\) & 27.40 \\
    \hline R－482－A & 350－0－35．51 & 120 & 3. & 3.3. & 4 & \(31 / 2\) & \(31 / 4\) & 4 & 14.50 \\
    \hline R－490－F & 850－0－3．50 & 2010 & 3. & 6. & 5\％ 11 & 31 \begin{tabular}{l}
    18 \\
    \hline 18
    \end{tabular} & 3\％ & is 1／2 & 23.00 \\
    \hline R－560－A & 4000.0 .4110 & 2110 & 3. & 6. & \(\therefore\) & ＋7／8 & \(4 \%\) & 113 & 19.75 \\
    \hline R－562－F \({ }_{\text {F }}\) & ＋00．0．400 & 220 & 3. & 6. & \(5{ }^{16}\) & 315 & \(33 / 8\) & \(61 / 2\) & 30.00 \\
    \hline \[
    \begin{aligned}
    & \text { R-630-F } \\
    & -
    \end{aligned}
    \] & \[
    \begin{gathered}
    500-435-(0-435-500 \\
    \text { (Itas } 100 \mathrm{~V} \text { tap for C' hias) }
    \end{gathered}
    \] & \(2 \cdot 5\) & 3. & 8. & \(53 / 8\) & 4 宕 & 318 & 8 & 37.50 \\
    \hline R－800－A & 1061－0．401） & 31111 & \(\pm\). & 1．－5． & 5 & \(61 / 4\) & \(43 \%\) & 141／2 & 25.30 \\
    \hline
    \end{tabular}

    FILAMENT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type Number & 2．5V．C．T． & 5.V. C.T. & ary Current． \(6.3 \mathrm{~V} . \mathrm{C} . \mathrm{T}\). & \[
    \begin{aligned}
    & \text { iperes } \\
    & 7.5 \mathrm{~V} . \mathrm{C.T} .
    \end{aligned}
    \] & 10．V．C．T． & Test Volts R．M．S． & Primary Volts 60 Cycle & \multicolumn{3}{|l|}{Dimensions，Inches} & Weight Lbs． & List Price \\
    \hline F－012－X & & & 1. & & & 20000 & 11： & 1 ＂is & \(28 / 8\) & \(15 / 8\) & 1／2 & \＄ 3.75 \\
    \hline F．037－X & & & \[
    \frac{1-1}{(2)} \text { Windin }
    \] & & & 20010 & \(11 \%\) & 2 & \(31 / 2\) & \(\because\) & 1 & 10.90 \\
    \hline F－073－X & & & \[
    \left(\because \mathbf{w i n}_{\text {inn }}^{2-2}\right.
    \] & & & 2000 & 117 & 238 & \(33 / 4\) & \(21 / 4\) & 116 & 12.50 \\
    \hline F．096－X & 10 & & & & & －500 & 117 & － \(5 / 8\) & \(11 / 1\) & \(21 / 2\) & \(31 / 8\) & 9.00 \\
    \hline F．139－E & & & \(\cdots\) & & & \(\because 000\) & 117 & 816 & \(31 / 8\) & \(\because 7 / 8\) & 3 112 & 10.50 \\
    \hline F－140－E & & & & & 5 & \(\because 000\) & 117 & \(31 / 2\) & \(31 / 8\) & \(\geq 7 / 8\) & \(31 / 2\) & 10.50 \\
    \hline F－155－E & & 17 & & & & 10，000 & 117 & \(\therefore 7 / 8\) & \(31 / 2\) & \(3^{1 / 1}\) & i & 24.00 \\
    \hline F．168－E & & & & & 10 & 2000 & 117 & \(4{ }^{3} 6\) & 31／8 & \(\because 7 / 8\) & ［51／4 & 13.50 \\
    \hline F．342．E & & & & 24 & & 2000 & 117 & 45\％ & 41／2 & \(37 / 8\) & 11 & 25.50 \\
    \hline
    \end{tabular}

    \section*{SMOOTHING CHOKES}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type Number} & \multirow[t]{2}{*}{Current D．C．MA．} & \multirow[t]{2}{*}{Inductance Henrys} & \multirow[t]{2}{*}{Resistance Ohms} & \multirow[t]{2}{*}{Test Volts R．M．S．} & \multicolumn{3}{|c|}{Dimensions，Inches} & \multirow[t]{2}{*}{Weight Lbs．} & \multirow[t]{2}{*}{List Price} \\
    \hline & & & & & Height & Depth & Width & & \\
    \hline C－305－X & 90 & 10 & \(3 \sim 5\) & 1500 & \(2^{3 / 8}\) & 334 & \(21 / 4\) & \(11 / 4\) & \＄ 3.40 \\
    \hline C－315－X & \(\because シ\) & 3 & \(\cdots 1\) & 1500 & \(2{ }^{3} \times\) & \(33 / 4\) & \(21 / 2\) & \(13 / 4\) & 5.20 \\
    \hline C．325－F & 120 & 10 & \(\because 40\) & 15110 & \(3^{1 / 4}\) & \(3{ }_{10}^{15}\) & \(23: 4\) & 23.4 & 11.75 \\
    \hline C－325－X & 120 & 111 & \(3+0\) & 1500 & \(35 /\) & \(41 / 4\) & \(21 / 2\) & \(\because 1 / 8\) & 6.20 \\
    \hline C．390－F & 200 & 10 & 150 & 1500 & 411 & \(3{ }^{4}\) & \(3{ }_{15}^{315}\) & \(1 ;\) & 15.80 \\
    \hline C．445－A & 250 & 10 & 110 & 2500 & 4 骨 & \(33 / 4\) & \(33 / 4\) & （；1／2 & 13.25 \\
    \hline
    \end{tabular}

    \section*{INPUTTRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Type Number & Descriptive Data & Impedance，Ohms & Turns Ratio & Frea．Range \(\pm 1 \mathrm{db}\) & Dimens Height & ions．II Depth & ches Width & Weight Lbs． & List Price \\
    \hline K－007－X &  （irids． & 700．000 C＇．＇1， & \(1: 4\) & Vinicr & \(15 / 8\) & \(27 / 8\) & \(15 / 8\) & \(1 / 2\) & \(\$ 6.50\) \\
    \hline \[
    \begin{gathered}
    \text { K-044-D } \\
    \text { low } \\
    \text { level }
    \end{gathered}
    \] & \begin{tabular}{l}
    Lime Nixat，or Mice to serld．fion－9．5ll Grial．Max．leverl：－ 20 anm \(30-50\) rlhma．fill dh Mametic Shieldinur． （＇an be rutated in clamp ring for mall， \\
    
    \end{tabular} & 70.000 & & \[
    \begin{gathered}
    30 \\
    15.000
    \end{gathered}
    \] & 134 & 1 \％ & Rombl & 1／2 & 19.00 \\
    \hline K－049－D & J．ine Mixer or Mic．to singlo son（ - T．－．33 3 Grill．Max．Ievel：+8 rlhm凶． 250.200 （t．T． 30 dis Mametice Shieldimer． 125－50 & 130.000 & & \[
    \stackrel{20}{20,000}
    \] & 27 & \(13 \%\) & \(13 / 4\) & 1 & 21.50 \\
    \hline K－049－Q &  & 40.000 & & \[
    \begin{gathered}
    20 \\
    90,000
    \end{gathered}
    \] & 31／2 & \(23 \%\) & \(21 / 2\) & \(11 / 2\) & 29.90 \\
    \hline K－054－Q & \begin{tabular}{l}
     \\
     dh，shielding．
    \end{tabular} & 711000 & & \[
    \stackrel{9011}{20.0001}
    \] & if \(1 \times\) & \(28 \%\) & \(21 / 2\) & 112 & 33.00 \\
    \hline \[
    \begin{gathered}
    \text { K-063-A } \\
    \text { high } \\
    \text { level }
    \end{gathered}
    \] & 
    ```

    +!"% dlmm*
    ``` & 12.500 （1） & & \[
    \begin{gathered}
    30 \\
    15,000
    \end{gathered}
    \] & \(31 / 8\) & 3 & 210 & \(21 / 2\) & 12.65 \\
    \hline
    \end{tabular}

    INTERSTAGETRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline G－306－X & Siumbe l＇late to 1 or 2 Gricls． & 10.1000 &  & 1：3．1 & 1011－50100 & 1尔 & \(27 / 8\) & \(15 / 4\) & \(1 \%\) & \＄ 6.00 \\
    \hline G－318－D &  l．लval：+E dhma． 30 dh Maturtir shieldins． & 11.10110 & 60.000 & & \[
    \begin{gathered}
    20 \\
    20,000
    \end{gathered}
    \] & \(2 \%\) & 13 & 133 & 1 & 17.85 \\
    \hline G－322－0 & 1 or 2 Platme to 2 （irids．Max． I．evil：+15 （llm＠． 30 fll， blimplinar． & 20.000 － & 70.000 & & \[
    \stackrel{20}{20,0100}
    \] & \(31 / 4\) & \(23 \%\) & \(21 / 4\) & \(11 / 2\) & 29.90 \\
    \hline
    \end{tabular}

    IMPEDANCE MATCHING TRANSFCRMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type Number & Descriptive Data & Aud Max． & \[
    \begin{aligned}
    & \text { io Watts } \\
    & 70 \mathrm{~V} \text { Line }
    \end{aligned}
    \] & \multicolumn{2}{|r|}{Impedance．Ohms mary Secondary} & \[
    \begin{gathered}
    \text { Frea. Ranje } \\
    \pm 1 \mathrm{db}
    \end{gathered}
    \] & Dimens Height & sions，In Depth & ches Width & Weight Lhs． & List Price \\
    \hline \begin{tabular}{l}
    E－372－Q \\
    Repeat Coil
    \end{tabular} &  & \[
    \begin{array}{r}
    +18 \\
    \text { and }
    \end{array}
    \] & － & \[
    \begin{gathered}
    500(1 \mathrm{~T},-333 \\
    3.50-200(\% \mathrm{~T} \\
    125-50
    \end{gathered}
    \] & \[
    \begin{gathered}
    500 \text { (T,-333 } \\
    250-200(\because \mathrm{O} \\
    125-50
    \end{gathered}
    \] & \[
    \stackrel{20}{20,0100}
    \] & \(31 / 4\) & 2818 & \(21 \frac{1}{2}\) & \(11 / 2\) & \＄27．50 \\
    \hline E－374－X & Jine to Spkr．Insertion Jors 0.6 （1b－ \(1 / 1\) watt taj for limes of 500 or less ohms． & & \[
    \begin{aligned}
    & 1 / 6-1 / 2 \\
    & 2 / 2-1 \\
    & 2.4
    \end{aligned}
    \] & \[
    \begin{gathered}
    10.1000(\div T \\
    7500 \\
    5000(\therefore .7 \\
    2500-1250
    \end{gathered}
    \] & \[
    \begin{gathered}
    14 i-12-i \\
    4=2 \\
    *
    \end{gathered}
    \] & \[
    \begin{gathered}
    301 \\
    15,000
    \end{gathered}
    \] & \(2^{3}\) & \(33 / 4\) & \(21 / 4\) & \(13 / 4\) & 11.75 \\
    \hline E－377－X & Sine to Sipeaker． & 5 & － & 500 & 16.8 & 40.10 .000 & \(\stackrel{ }{2}\) & \(31 / 2\) & 2 & 1 & 7.00 \\
    \hline E－383－X & I．ine to Spkr．Insertion Loss 0.6 dh， \(21 / 2\) watt tap for lines of 500 or leas ohns． Rated 20 watts 50 ． 15,000 eps． 40 watts 150－15，000 cps． & 10 & \[
    \begin{gathered}
    11 / 4-218 \\
    31 / 3-5 \\
    10-20-40 \\
    \left(\begin{array}{c}
    10+1
    \end{array}\right)
    \end{gathered}
    \] & \[
    \begin{gathered}
    4000 \mathrm{C.T} \\
    2000 \mathrm{C} . \mathrm{T} \\
    1500 \\
    1000 \mathrm{C} . \mathrm{T} \\
    500-250-125
    \end{gathered}
    \] & \[
    \begin{gathered}
    16-19 \\
    4-2 \\
    \vdots
    \end{gathered}
    \] & \[
    \begin{gathered}
    30 \\
    10,000
    \end{gathered}
    \] & 25 & \(41 / 8\) & \(27 / 8\) & \(21 / 2\) & 18.75 \\
    \hline E－386－E & Line to spaker．Insertion Loss 0．fi dh．Max． & 24 & \[
    \begin{gathered}
    3.4 \\
    6.12 \\
    24
    \end{gathered}
    \] & \[
    \begin{gathered}
    1600 \mathrm{C} . \mathrm{T} . \\
    1200 \\
    800 \mathrm{C.T} . \\
    400.200
    \end{gathered}
    \] & \[
    \begin{gathered}
    16-12-8 \\
    4.2 *
    \end{gathered}
    \] & \[
    \begin{gathered}
    30 \\
    15,000
    \end{gathered}
    \] & \(37 / 8\) & 3 & \(31 / 4\) & \(41 / 4\) & 18.50 \\
    \hline E－392－E \({ }_{\text {－}}\) & Same Data as E－3Sf－E． & 6.4 & \[
    \begin{gathered}
    8.11 \\
    16 .-32 \\
    64
    \end{gathered}
    \] & \[
    \begin{gathered}
    625 \text { C.T. }-470 \\
    312 \text { C.T. } 156 \\
    78
    \end{gathered}
    \] & \[
    \begin{gathered}
    1 \mathrm{fi}-12-\mathrm{s} \\
    4-2 \star
    \end{gathered}
    \] & \[
    \stackrel{30}{15,000}
    \] & \(43 / 4\) & \(47 / 8\) & \(37 / 8\) & 9 & 29.55 \\
    \hline
    \end{tabular}

    \section*{REACTOREQUALIZING}
    

    \section*{D PEERLESS \\ ELECTRICAL PRODUCTS}

    STANDARDOUTPUT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type Nuntber & Descriptive Data & Freq．Range \(\pm 1 \mathrm{db}\) & \multicolumn{2}{|l|}{Impedance，Ohms} & \multicolumn{2}{|l|}{Pri．DC MA． Max．Unbal．} & Audio Watts & \multicolumn{3}{|l|}{Dimensions，Inches Height Depth Width} & Weight Lbs． & List Price \\
    \hline S－448－Q & sinele or \(\mathrm{P}^{\prime}\)－platos to line． 3（）di limm luckint． & 20.20 .000 & \[
    \begin{aligned}
    & 20,000 \mathrm{C} \mathrm{~T} \\
    & 12,500 \mathrm{C} \mathrm{~T} \\
    & 5000-3125
    \end{aligned}
    \] & \[
    \begin{gathered}
    500 \mathrm{C} . \mathrm{T} . \\
    300 \text { C.T. }-333 \\
    250-125-50
    \end{gathered}
    \] & 15 & \(\because\) & \[
    \begin{aligned}
    & +18 \\
    & 418
    \end{aligned}
    \] & 33 & \(\cdots 3\) & 212 & \(1^{12}\) & \＄26．10 \\
    \hline S－508－A & P－1 platis to sueaker． & \(311.15,000\) & 8000 C．T． & 16－12－S－4 & 45 & 5） & 10 & 218 & 217 & \(21 / 4\) & \(13 / 4\) & 11.00 \\
    \hline S－510－F & P－P platis to spuaker． & 20－30，000 & \[
    \begin{gathered}
    10,000 \mathrm{C} . \mathrm{T} \\
    0.000 \mathrm{C} . \mathrm{T} .
    \end{gathered}
    \] & 1才－8＊ & 40 & 4 & 10 & 2 7／8 & \(23 / 4\) & \(\cdots\) & \(\stackrel{\square}{2}\) & 17.00 \\
    \hline S－516－A & P－I＇plates to speaker， & 311.15 .1000 & 6900 C．T． & 16．12－＊．4 & io & 7 & 20 & \(31 / 8\) & 3 & 29 & \(21 / 2\) & 12.75 \\
    \hline S－526－F & P－r＇plates to speaker． & \(20-30.1000\) & \[
    \begin{aligned}
    & 6,600 \mathrm{C.T} . \\
    & .000 \mathrm{C.T}
    \end{aligned}
    \] & 16－8－4＊ & 60 & \(1 i\) & 20 & 438 & \(83^{1} 6\) & \(\underline{3} / 4\) & 3 & 21.00 \\
    \hline S．532－A & P－F plates to spaker． & \(311.15,000\) & \[
    \begin{aligned}
    & \mathrm{B} 000 \mathrm{C} . \mathrm{T} . \\
    & 3000 \mathrm{C} .
    \end{aligned}
    \] & 16．12－8．1 & \％ & \(!\) & 20 & \(31 / 8\) & 3 & 210 & \(21 / 2\) & 14.50 \\
    \hline S－542－F（E） & P－1 phates to speaker． & \(20-30,000\) & \[
    \begin{aligned}
    & 5000 \text { C.T. } \\
    & 1000 \text { C.T. }
    \end{aligned}
    \] & 16－8－4＊ & 141 & 14 & 10 & 418 & 3 嵒 & 316 & \(51 / 2\) & 26.00 \\
    \hline S－552－A & ［－1］plts．to spkr．or line & \(301-15,000\) & \[
    \begin{aligned}
    & 3800 \mathrm{C} \\
    & 3200 \mathrm{C} . \mathrm{T}
    \end{aligned}
    \] & \[
    \begin{gathered}
    330,8216 \\
    1(i-12-8-4-2
    \end{gathered}
    \] & 450 & 25 & 10 & 434 & 458 & \(37 / 8\) & （1） & 33.00 \\
    \hline
    \end{tabular}

    INPUT TRANSFORMERS（20－20 IPLCS）
    
     G
     use as outpur frans

    \section*{OUTPUT TRANSFORMERS（20－20 PIUS）}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { S-217-D } \\
    & \text { Line } \\
    & \text { Level }
    \end{aligned}
    \] & \begin{tabular}{l}
    Frequeney response：\(\pm 1\) Alb： 5 ． \\
     siurle enflem or 1＇－l＇．sue．wind－ ings lave lal．（afy to mrurl． \\
     Istatio lablame and ubetroma exwellent imput transi．In rithr lino terminalion．
    \end{tabular} & \begin{tabular}{l}
    \(+20\) \\
    1 llm \\
    ij \(\cdot \boldsymbol{h}\) ie sh usle
    \end{tabular} & \begin{tabular}{l}
    12.500 \\
    31－5 \\
    Tert \\
    Hsed for ovill a erins．
    \end{tabular} & \begin{tabular}{l}
    10 10.300 \\
    150．7： \\
    Data \\
    dhatrk an \\
    is）1］ 11s＋il \＆
    \end{tabular} & \begin{tabular}{l}
    25 \\
    d． \\
    lalin \\
    \(\mid 1: t\)
    \end{tabular} & 0 & \begin{tabular}{l}
    \(31 / 4\) \\
    ie s uss \\
    少的？
    \end{tabular} & \begin{tabular}{l}
    \[
    11 / 2
    \] \\
    ll． \\
    （li）
    \end{tabular} & \(\because\) & \begin{tabular}{l}
    \[
    11 / 4
    \] \\
    is may －ides
    \end{tabular} & \begin{tabular}{l}
    \(\$ 56.50\) \\
    quired． nsell as xellont
    \end{tabular} \\
    \hline
    \end{tabular}

    MATCHING TRANSFORMERS（20－20 PLLSS）
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    E-204.D \\
    Repeat Coil
    \end{tabular} & \begin{tabular}{l}
    Frequency respunse：\(\pm 1\)＂lh：- \\
     Astatic balame and remetro－ \\
     50 alh mandetie shieliliner． Atronuafos longeturdinal current
    \end{tabular} & \begin{tabular}{l}
    \(+23\) \\
    （1）m
    \[
    11
    \]
    \end{tabular} & \[
    \begin{aligned}
    & 500 \text { C.T. } \\
    & 12 \mathrm{c} \text { (. } \mathrm{T} \\
    & \text { or } \\
    & \text { fion C.T. } \\
    & 150 \mathrm{C} . \mathrm{T} \\
    & \text { riruit }
    \end{aligned}
    \] & \[
    \begin{gathered}
    500 \text { C.T. } \\
    128 \text { C.T. } \\
    \text { or } \\
    \text { ioo C.T. } \\
    1 \text { 50 C.T. } \\
    \text { rell }
    \end{gathered}
    \] & 10 & & It & & \(11 / 2\)
    lose & \multicolumn{2}{|r|}{\％} & \＄56．50 \\
    \hline \begin{tabular}{l}
    As a \\
    Hybrid \\
    Trans－
    \end{tabular} & This prowers matchinur loanst．is two こ． restuixed in pri．eircuit．For & all & \begin{tabular}{l}
    elorid unit ir of al \\
    
    \end{tabular} & \begin{tabular}{l}
    \(r\) oproration \\
    1251.11 \\
    surers 1lı
    \end{tabular} & & Total Pri． & \[
    \begin{aligned}
    & \text { Impe } \\
    & \text { Pri. } 1
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { ces, } 0 \\
    \text { Pri. } 2
    \end{gathered}
    \] & Ohms & Sec． & & Max． Level 4 \\
    \hline former & 1alum of resistor shomla lå dot where transf．is used．Comert 30 alb with a max．altermation （9）ami 1.0100 ras． &  & measilron 1 averame （l）at sirm & mand in ma：al ion of int lestw• & （111 & \[
    \begin{aligned}
    & 501 \\
    & \text { no1 } \\
    & \text { Hisis }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.51 \\
    & 06 \\
    & 300
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 350 \\
    & 1110 \\
    & 300
    \end{aligned}
    \] & & \[
    \begin{gathered}
    500-12.2 \\
    01 \\
    000-150
    \end{gathered}
    \] & & \[
    \begin{aligned}
    & +23 \\
    & \mathrm{dhm}
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    OUTPUT TRANSFORMERS（ \(\mathbf{2 0} \mathbf{- 2 0}\) PLLS）
    

    OUTPUT TRANSFORMERS (20-20 IDLUS) (Confinued)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type Number & Descriptive Data & \multicolumn{2}{|l|}{\begin{tabular}{cc}
    \begin{tabular}{c} 
    Impedance, \\
    Ohms \\
    Primary
    \end{tabular} & \begin{tabular}{l} 
    Secondary
    \end{tabular}
    \end{tabular}} & Max. Level 4 & \multicolumn{2}{|l|}{\[
    \begin{aligned}
    & \text { Primary DC MA } \\
    & \text { Max. Unbal. }
    \end{aligned}
    \]} & \multicolumn{3}{|l|}{Dimensions, Inches} & Weight Lbs. & List Price \\
    \hline S-256-0 & Name as s-2.2i-c(9, except: lower ratine, at 15 cps, , 20 watts: at 10 chs., 10 watts. Insertinnt loss, 0.4 d ). & \[
    5000 \text { c:T. }
    \] & \[
    115.1 \cong .
    \] & \[
    \begin{aligned}
    & +46 \text { dhm } \\
    & \text { (fo watts) }
    \end{aligned}
    \]
    See Data & 120 & 12 & 45 & 3 F & \(31 / 2\) & \(61 \%\) & \$50.00 \\
    \hline \multicolumn{12}{|c|}{INPUT TRANSFORMERS (20-20)} \\
    \hline \[
    \begin{aligned}
    & \text { K-221.Q } 0 \\
    & \text { Low } \\
    & \text { Level }
    \end{aligned}
    \] & See. may be used simgle anded or in I'-l-has two ser. windings with halanced capaleitance for zrod. Electro-statio shield is p &  &  & \begin{tabular}{l}
    \[
    \text { - } 12 \mathrm{~d} 1 \mathrm{~mm}
    \] \\
    sec. Has 90
    \end{tabular} & 0 & masmet & 31/2 & 23 & \(21 / 2\) & 15 & \$38.50 \\
    \hline \[
    \begin{gathered}
    \text { K.281.Q } \\
    \text { High } \\
    \text { Levet }
    \end{gathered}
    \] & For P-1' arranmement only-has two see. windings with hal. cap. to cmil. & \[
    \begin{gathered}
    500-2001 \\
    125-50-14 \\
    0 \% \\
    6000.25 \% \\
    150-47-17
    \end{gathered}
    \] & \[
    \begin{gathered}
    30,0000^{\circ} \\
    \text { or } \\
    36.01000
    \end{gathered}
    \] & +3s cllm & 0 & & \(4 \%\) & 3\% & 3112 & \(51 / 2\) & 59.85 \\
    \hline
    \end{tabular}

    INTERSTAGE TRANSFORMERS (20-20)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { G-212-Q o } \\
    & \text { Low } \\
    & \text { Level }
    \end{aligned}
    \] & Both uri. and see. nay be hated singlu-ended or int P-l'has two see, windings with bat. (a menderl. Has 9 (d) eleotro-matit & \begin{tabular}{l}
    \[
    \begin{aligned}
    & 10.000 \\
    & 2.500
    \end{aligned}
    \] \\
    to \(r\) rn \\
    tic shit
    \end{tabular} & \[
    \begin{aligned}
    & 40,000 \\
    & 10,900 \\
    & \text { as electro }
    \end{aligned}
    \] & \begin{tabular}{l}
    \[
    \text { — } 1: \mathrm{d} 1 \mathrm{~mm}
    \] \\
    tic shield
    \end{tabular} & 5 & \[
    0.5
    \] & 312 & & \(21 / 2\) is & \[
    15 / 8
    \] & \$40.00 \\
    \hline \[
    \begin{aligned}
    & \text { G-252-0 } \circ \\
    & \text { Line } \\
    & \text { Level }
    \end{aligned}
    \] & Same as C-212-Q except has 30 (d) electro-magnetic slield. & \[
    \begin{aligned}
    & 10,000 \\
    & 2, \therefore 100
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 40,000 \\
    & 10.000
    \end{aligned}
    \] & +23 \({ }^{\text {d }} \mathrm{lmm}\) & 10 & 1.0 & 41/8 & 3 กิ & 314 & 23/8 & 57.00 \\
    \hline
    \end{tabular}

    OUTPUT TRANSFORMERS (20-20)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { S-227.Q } \\
    \text { High }
    \end{gathered}
    \]
    Level & Nec. may be operaterl with ous end gronnded. & \[
    1^{10.001)(1.1 .}
    \] & \[
    1(i-\psi-4-2) \text { * }
    \] & \[
    \begin{gathered}
    +43 \mathrm{dhm} \\
    (\Omega 0 \text { watts })
    \end{gathered}
    \] & 50 & 5 & 4\%8 & 3\% & \(31 / 2\) & 1 & \$28.00 \\
    \hline S-230-0 & Same as S-227-Q. & 6if00 C.L. & 16-8.4.2* & \[
    \begin{aligned}
    & +43 \mathrm{dlom} \\
    & (20 \text { watts })
    \end{aligned}
    \] & 70 & 7 & \(4 \%\) & 3尔 & \(31 / 2\) & ; & 27.50 \\
    \hline S-240-Q & Same ats S-227-\%. & 5000 C.T. & 16-8.7-2* & \[
    \begin{aligned}
    & +43 \mathrm{dhmm} \\
    & \text { (20 watts) }
    \end{aligned}
    \] & 90 & ! & 4/8 & 3 \% & \(31 / 2\) & \({ }^{6}\) & 27.50 \\
    \hline S-242-Q & Nec. shonld be oftrated bat. (1) 1 rolutid. & :000 C.T. & \[
    \begin{aligned}
    & 500-9.516 \\
    & 125-621 \%
    \end{aligned}
    \] & \[
    \begin{aligned}
    & +43 \text { rllmm } \\
    & (20 \text { watts) }
    \end{aligned}
    \] & 90 & ! & \(4 \%\) & 35 & \(3^{1 / 2}\) & \({ }^{1}\) & 28.00 \\
    \hline S-245-Q & Same as S-227-(). & 3000 C.I. & 16-8.4-2 * & \[
    \begin{gathered}
    +43 \text { (llimt } \\
    \text { (21) watts) }
    \end{gathered}
    \] & 110 & 11 & 4\%\% & \(3{ }^{3}\) & 31 \% & 1 & 27.50 \\
    \hline S-265-Q & Two eenter-tapped pri. for simiew or parallel. Sec. oferated with one end grounded. &  & 16-8-1-2* & \[
    \begin{aligned}
    & + \text { f(f) dimm } \\
    & \text { (41) watts) }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 110 \\
    & 9 \geq 0
    \end{aligned}
    \] & \[
    \begin{array}{ll}
    11 \\
    2
    \end{array}
    \] & : & 4 & 41.6 & 10 & 47.50 \\
    \hline S-270-Q & Same as S-205-() wropt see. should be operated hal. to ermit. & \[
    \begin{gathered}
    10.000(\mathrm{C} \cdot \mathrm{~T} . \\
    2 \vdots 00 \mathrm{c} \cdot \mathrm{~T} .
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 5010-250- \\
    & 125-62 \%
    \end{aligned}
    \] & \[
    \begin{aligned}
    & +46 \text { dhm } \\
    & \text { (40 watts) }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    110 \\
    290 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 11 \\
    & 20 \\
    & \hline
    \end{aligned}
    \] & i & \(4{ }_{6}\) & 4 \% & 111 & 50.00 \\
    \hline
    \end{tabular}

    BRIDGING TRANSFORMERS (20-20)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow{4}{*}{\[
    \begin{gathered}
    \text { Type } \\
    \text { Number } \\
    \text { K-221-Q }
    \end{gathered}
    \]} & \multirow[b]{2}{*}{Descriptive Data} & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{Impedance, Ohms Sec. Pri.}} & \multicolumn{2}{|l|}{Unmatched Bridging \(500 / 6000 \mathrm{hm}\) Lile} & \multicolumn{3}{|r|}{Matched Bridging 500/600 Line} & \multicolumn{3}{|l|}{\multirow[b]{2}{*}{Dimensions, Inches Height Depth Width}} & \multirow[b]{2}{*}{Weight Lbs.} & \multirow[b]{2}{*}{List Price} \\
    \hline & & & & Bridged Line Max. Levela & Bridging Loss db & Bridged Line Max Levela & \[
    \begin{aligned}
    & \text { Bridging } \\
    & \text { Loss } \\
    & \text { db }
    \end{aligned}
    \] & Resist. 2 Reqd. (1 watt) & & & & & \\
    \hline & Has electrostatic shinh
    and go dhy leatho- & \(500 / 6019\)
    \(250 / 3011\) & 70,000 & +9 dhm & \(211 \%\) & +15 dbm & 28 \(1 / 2\) & 33,100 & \(31 / 2\) & \(2 \%\) & 213 & 1 5/8 & \$38.50 \\
    \hline & and \({ }^{\text {anamentic shield. }}\) & \[
    30 / 3 * i
    \] & 17,500 & +3 31 mm & 151/4 & +8 \(\mathrm{dbm}^{\text {d }}\) & 21 & 7500 & & & & & \\
    \hline G-212-Q &  & \[
    \begin{aligned}
    & 40.0001 \\
    & 10.000
    \end{aligned}
    \] & 1 10,000 & +1 dlam & \begin{tabular}{l}
    \[
    +6 ; 113
    \] \\
    ( (tain)
    \end{tabular} & +8 4lbm & 1 & 415 & 83 & \(2 \% / 8\) & \(21 / 2\) & \(15 / 8\) & 40.00 \\
    \hline G-252-Q & Has electrostatic shield and 30 dhe electro. magnetic shiele]. & \[
    \begin{aligned}
    & 40,0001 \\
    & 10,0000
    \end{aligned}
    \] & 10.01011 & +36illun & \[
    \begin{gathered}
    +6 \mathrm{~d} 1 \\
    (\mathrm{lin} \mathrm{in})
    \end{gathered}
    \] & \[
    +48 \text { dhimt }
    \] & 0 & 361111 & 4118 & 3 it & \(3{ }^{15}\) & 2\% & 57.00 \\
    \hline
    \end{tabular}

    IMPEDANCE MATCHING TRANSFORMERS (20-20)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type Number & Descriptive Data & \begin{tabular}{l}
    Impedance, \\
    Primary
    \end{tabular} & Ohms Secondary & \begin{tabular}{l}
    Max. \\
    Level 1
    \end{tabular} & \begin{tabular}{l}
    Primary DC MA Max. \\
    Unbal.
    \end{tabular} & \begin{tabular}{l}
    Watt \\
    Power RMA 70 V Line
    \end{tabular} & Dimel Height & ions, I Depth & ches Width & Weight Lbs. & List Price \\
    \hline E-214-Q & \[
    \begin{aligned}
    & \text { For use lnetworelt } \\
    & \text { line amd spkr. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Inow-.5101 } \\
    250
    \end{gathered}
    \] & \[
    \begin{gathered}
    10-12 * \\
    4-2 *
    \end{gathered}
    \] & \[
    \begin{aligned}
    & +40 \text { alhm } \\
    & (10 \text { watis })
    \end{aligned}
    \] & - - & & \(41 / 8\) & \(3{ }^{3}\) & \(3{ }_{3}{ }^{2}\) & \(23 / 4\) & \$26.00 \\
    \hline E-243-Q & Jime to sulir. Inser1 inn lase less tham 3 ath. Folaterd mounting plate farmishere. & \[
    \begin{gathered}
    1000(1 . T \\
    550 \\
    5000 \\
    250-185
    \end{gathered}
    \] & \[
    \begin{gathered}
    10-1 \because-8- \\
    4-2 *
    \end{gathered}
    \] & \[
    \begin{gathered}
    +43 \text { dhim } \\
    (20 \text { watts })
    \end{gathered}
    \] & - - & \[
    \begin{aligned}
    & 5-8 ; 24 \\
    & 10-20
    \end{aligned}
    \] & 45 & 35 & \(31 \%\) & 4 & 31.00 \\
    \hline
    \end{tabular}

    \section*{Kenyon"T" LINE TRANSFORMERS}
    DIMENSIONS OF "'T" LINE TRANSFORMERS
    
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|c|}{MOUNTING DIMENSIONS} \\
    \hline Case No. & ML & MW \\
    \hline 1 A & 2-1/32 & 1-9:16 \\
    \hline 2A & 21/8 & 1-13/16 \\
    \hline 3A & 2-7/16 & 1-15/16 \\
    \hline 4A & 37/8 & 2-7/16 \\
    \hline 5A . & 4-5 16 & 3-316 \\
    \hline 51/2A & 4-5/16 & 3-27/32 \\
    \hline 6A & 4-5:16 & \\
    \hline 7A & 51/2 & 4-5/16 \\
    \hline 8A & . \(53 / 4\) & \(4.13 / 16\) \\
    \hline 9A & 6.15 16 & 53/4 \\
    \hline 10A & .85/8 & 7-11/32 \\
    \hline
    \end{tabular}
    \begin{tabular}{c|c}
    \multicolumn{2}{c}{ OVERALL DIMENSIONS } \\
    \hline Length (L) & Width (W) \\
    \hline \(2-7 / 16\) & 2 \\
    \(23 / 4\) & \(23 / 8\) \\
    \(3-116\) & \(2-9 / 16\) \\
    \(41 / 2\) & \(37 / 8\) \\
    5 & \(41 / 2\) \\
    5 & \(51 / 8\) \\
    5 & \(5-3 / 16\) \\
    \(6-516\) & \(5-11 / 16\) \\
    \(6-9 / 16\) & \(65 / 8\) \\
    \(73 / 4\) & \(81 / 4\) \\
    \(91 / 2\) & \\
    \hline
    \end{tabular}
    \begin{tabular}{l} 
    Height \((H)\) \\
    \(27 / 8\) \\
    \(3-3 / 16\) \\
    \(35 / 8\) \\
    \(37 / 8\) \\
    5 \\
    5 \\
    5 \\
    \(63 / 8\) \\
    \(71 / 8\) \\
    \(7-3 / 16\) \\
    \(105 / 8\) \\
    \hline
    \end{tabular}

    LOW IMPEDANCE SOURCE TO GRID TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & From & Primary Ohms & Secondory Ohms & Case No. & Weight lbs. ozs. & List Price \\
    \hline T-2 (Hum bucking type) & Any line & 500-333-250-200-125-50 & 80,000 Single Grid & 1 A & 11 & \$11.75 \\
    \hline T-3 (Hum bucking type) & Any line & 500-333-250-200-125-50 & 80,000 P.P. Grids & 1 A & 1 & 12.10 \\
    \hline T-6 (Multiple Shielded) & Any line & 500-333-250-200-125-50 & 20,000 Single Grid & 1A & 1 & 15.95 \\
    \hline
    \end{tabular}

    LINE-TRANSFORMERS - LINE TO LINE AND LINE TO VOICE COIL
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & Primary Ohms & Secondory Ohms & Maximum Level & Case No. & \begin{tabular}{l}
    Weight \\
    lbs. ozs.
    \end{tabular} & List Price \\
    \hline T-26 (Hum bucking type)
    T-28 & \[
    \begin{aligned}
    & 500-333-250-200-125-50 \\
    & 500-200
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 500-333-250-200-125-50 \\
    & 15-8-4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & +24 \text { D.B. } \\
    & 30 \text { watts }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1 A \\
    & 4 A
    \end{aligned}
    \] & \[
    \begin{array}{rr}
    1 & 1 \\
    5 & 10
    \end{array}
    \] & \[
    \begin{array}{r}
    \$ 10.75 \\
    17.80
    \end{array}
    \] \\
    \hline
    \end{tabular}

    \section*{DRIVER TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type
    No. & Primory to Match & Class \(A B\) or Closs B Tubes & \[
    \begin{gathered}
    \text { Rotio } \\
    \text { (pri. to } 1 / 2 \mathrm{Sec} \text {.) }
    \end{gathered}
    \] & Case No. & \multicolumn{2}{|l|}{Weight lbs. ozs.} & List Price \\
    \hline T-251 & Single 53, 6A6, 6N7, 56, 6C5 & 53, 6A6, 6N7 & 2.3:1 & 2 A & 1 & 14 & \$ 9.75 \\
    \hline T-255 & P.P. 56, 6' 5, 53, 6N7 &  & 2.9:1 & 2 A & 1 & 14 & 10.55 \\
    \hline T-271 & P.P. 45's, 2A'3's, 6F6's & 6L6's, 809's, TZ40's & 3.7:1 & 3A & 2 & 13 & 13.65 \\
    \hline T-264 & 7 Wotts & (Any Line or Single or Push ) & & 3A & 2 & 12 & 14.55 \\
    \hline T-263 & 18 Watts & | Pull Plotes to Closs B Grids | & & 4A & 5 & 12 & 21.80 \\
    \hline
    \end{tabular}

    PREAMPLIFIER OUTPUT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type
    No. & From & Secondory Ohms & Case No. & \multicolumn{2}{|l|}{Weight lbs. ozs.} & List Price \\
    \hline \[
    \begin{aligned}
    & \mathrm{T}-101 \\
    & \mathrm{~T}-102
    \end{aligned}
    \] & Single 56, 76, 6C5
    \[
    \text { P.P. } 56,76,6 \mathrm{C} 5
    \] & \[
    \begin{aligned}
    & 200-500 \\
    & 200-500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1 A \\
    & 1 A
    \end{aligned}
    \] & 1 & 4 & \[
    \begin{array}{r}
    \$ 8.35 \\
    8.90
    \end{array}
    \] \\
    \hline
    \end{tabular}

    OUTPUT TRANSFORMERS TO 500-200 OR 15-8-4 OHMS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & From & \multicolumn{2}{|l|}{Primory Ohms} & Case No. & \[
    \mathrm{V}
    \] & ht ozs. & List Price \\
    \hline \[
    \begin{aligned}
    & T-104 \\
    & T-105 \\
    & T-301
    \end{aligned}
    \] & Single 2A5, 6F6, 42, 47, 89 Closs "A," P.P. 2A5's, 6F6's, 42's, 47's, 89's Class "A," P.P. 6L6's, Class AB 45's, 2A3's & \[
    \begin{array}{r}
    7,000 \\
    14,000 \\
    5,000 \text { or }
    \end{array}
    \] & & \[
    \begin{aligned}
    & 2 A \\
    & 2 A \\
    & 4 A
    \end{aligned}
    \] & 1
    2
    4 & \[
    14
    \]
    \[
    5
    \] & \[
    \begin{array}{r}
    \$ 11.20 \\
    12.15 \\
    17.95
    \end{array}
    \] \\
    \hline Type No. & & & & Cose No. & & ozs. & List Price \\
    \hline \[
    \begin{aligned}
    & T-108 \\
    & T-109
    \end{aligned}
    \] & Will match any set of Push-Pull or Push-Pull single plote to 500-200 or speaker voice-co pedonce connection for speaker voice coils .5 to 25 ohms. & allel or a Low imange from & 15 watts 30 watts & \[
    \begin{aligned}
    & 3 A \\
    & 4 A
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \\
    & 5
    \end{aligned}
    \] & \[
    \begin{array}{r}
    13 \\
    2
    \end{array}
    \] & \[
    \begin{array}{r}
    \$ 13.80 \\
    19.40
    \end{array}
    \] \\
    \hline
    \end{tabular}

    KEN-O-TAP MODULATION TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No. & Audio Watts & Class C. W. Sec. & \[
    \underset{\text { Pri. D.C. }}{\text { Max. }}
    \] & \begin{tabular}{l}
    Mox. \\
    Sec. D.C.
    \end{tabular} & Max D.C. Voltage & Primory Ronge Ohms & Secondary Ronge Ohms & Cose No. & & \[
    \begin{aligned}
    & \text { ght } \\
    & \text { ozs. }
    \end{aligned}
    \] & Lis Price \\
    \hline T-489 & 15 & 30 & 120 & 120 & 600 & 2000-20000 & 200-20000 & 3A & 2 & 13 & \$13.15 \\
    \hline T-493 & 40 & 80 & 250 & 250 & 750 & 2000.20000 & 200-20000 & 4A & 5 & 10 & 19.10 \\
    \hline T-494 & 75 & 150 & 250 & 300 & 1250 & 2000-20000 & 200-20000 & 5A & 9 & & 25.95 \\
    \hline T-441 & 125 & 250 & 250 & 250 & 1500 & 2000-20000 & 200-20000 & 6A & 15 & 8 & 36.05 \\
    \hline T-496 & 300 & 600 & 250 & 300 & 2500 & \(500-18000\) & 200-19000 & 8A & 26 & 4 & 80.60 \\
    \hline T-442 & 600 & 1200 & 400 & 400 & 3000 & 500.18000 & 200-19000 & 9A & 45 & & 90.10 \\
    \hline
    \end{tabular}

    \section*{FILAMENT TRANSFORMERS}
    

    \footnotetext{
    The MASTER - 20th Edition
    }

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    \section*{Kenyon"t" HINE TRANSEORMERS}

    PLATE TRANSFORMERS DESIGNED FOR BOTH CONTINUOUS AND INTERMITTENT DUTY
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No. & Primary Conn. & \multicolumn{2}{|l|}{\begin{tabular}{l}
    Volts \\
    Secondary No. 1 \\
    D.C. \\
    A.C.
    \end{tabular}} & \(55^{\circ} \mathrm{C}\) Rise MA Cont. & \(55^{\circ} \mathrm{C}\). Rise 15 Min. On 15 Min . Off MA Int. & & Case No. & & h \(\dagger\) ozs. & List Price \\
    \hline T-655 & High Low & \[
    \begin{aligned}
    & 450 \\
    & 350
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 575-0-575 \\
    & 460-0-460
    \end{aligned}
    \] & 250 & \[
    \begin{aligned}
    & 340 \\
    & 375
    \end{aligned}
    \] & & 5A & 10 & 1 & \$26.30 \\
    \hline T-656 & High Low & \[
    \begin{aligned}
    & 750 \\
    & 600
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 925-0.925 \\
    & 740-0.740
    \end{aligned}
    \] & \[
    270
    \] & \[
    \begin{aligned}
    & 320 \\
    & 360
    \end{aligned}
    \] & & 6 A & 15 & 9 & 40.30 \\
    \hline T-665 & High Low & \[
    \begin{aligned}
    & 1250 \\
    & 1000
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1470-0.1470 \\
    & 1180.0-1180
    \end{aligned}
    \] & 200 & \[
    \begin{aligned}
    & 270 \\
    & 300 \\
    & \hline
    \end{aligned}
    \] & & 7 A & 23 & 4 & 60.60 \\
    \hline T-666 & & 1250 & 1460-0.1460 & 280 & 350 & & 8A & 32 & 2 & 66.65 \\
    \hline T-652 & High Low & \[
    \begin{aligned}
    & 1750 \\
    & 1500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2080-0-2080 \\
    & 1760-0.1760
    \end{aligned}
    \] & 320 & \[
    \begin{array}{r}
    450 \\
    500 \\
    \hline
    \end{array}
    \] & & 9 A & 50 & 8 & 86.35 \\
    \hline T-663 & & 2000 & 2360-0.2360 & 350 & 500 & & 10A & 82 & & 149.15 \\
    \hline T-673 & High Low & \[
    \begin{aligned}
    & 3000 \\
    & 2500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3400-0-3400 \\
    & 2840-0-2840
    \end{aligned}
    \] & 425 & \[
    \begin{aligned}
    & 400 \\
    & 500 \\
    & \hline
    \end{aligned}
    \] & Primaries on these items for 115/230 volt series- & 10A & 82 & & 154.55 \\
    \hline T-674 & High Low & \[
    \begin{aligned}
    & 3000 \\
    & 2500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3400-0.3400 \\
    & 2840-0.2840
    \end{aligned}
    \] & \[
    850
    \] & \[
    \begin{array}{r}
    800 \\
    1000 \\
    \hline
    \end{array}
    \] & parallel connection. & Spec. & 135 & & 219.40 \\
    \hline
    \end{tabular}

    REACTORS
    

    OPERATING VOLTAGES FOR 1500 VOLT TEST - UP TO 600 VOLTS D.C. OPERATING VOLTAGES FOR 5C00 VOLT TEST - UP TO 2000 VOLTS D.C. OPERATING VOLTAGES FOR 3000 VOLT TEST - UP TO 1000 VOLTS D.C.

    \section*{FILAMENT TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type
    No. & \multicolumn{2}{|l|}{Secandary Rating} & Case No. & & ozs. & List
    Price \\
    \hline T-388 & 2.5, 5, 6.3 V. 3 A & 1000 V. Test & 1A & 1 & 7 & \$ 8.75 \\
    \hline T-352 & 2.5 V .10 A . CT. & 2000 V. Test & 2A & & 14 & 9.55 \\
    \hline T-360 & 2.5 V .10 A . CT. & 5000 V. Test & 3A & 2 & 13 & 11.70 \\
    \hline T-389 & \(2.5 \mathrm{~V} .10 \mathrm{~A}, \mathrm{CT}\). & 9000 V. Test & 4A & 4 & 14 & 16.80
    9.35 \\
    \hline T-354 & \(5{ }_{5} \mathrm{~V}_{-}-3 \mathrm{~A}\). CT, & 2000 V. Test & \({ }_{51 / 2 A}\) & 11 & 14 & 27.05 \\
    \hline T-390 &  & 10000 V. Test & \({ }_{4 A}{ }^{1 / 2 A}\) & 5 & 10 & 18.90 \\
    \hline T-382
    \(\mathrm{T}-351\) & \(5,5.1, ~ 5.25 ~\)
    \(6.3 \mathrm{~V} .-3 \mathrm{~A}\).
    CT & 2000 V. Test & 2 A & 1 & 14 & 9.10 \\
    \hline T-378 & \(6.3,7.5 \mathrm{~V} .7 \mathrm{~F}\) A. СT. & 2000 V. Test & 3A & 2 & 13 & 12.10 \\
    \hline T-387 & \(6.3,6.45,6.6 \mathrm{~V} .-8 \mathrm{~A} . \mathrm{CT}\). & 2000 V. Test & 3A & 2 & 13 & 12.55 \\
    \hline T-395 & 6.3 V .20 A . CT. & 2000 V. Test & \(5{ }_{51}\) & 12 & & 21.90
    30.05 \\
    \hline T-396 & \(6.3 \mathrm{~V} .30 \mathrm{~A} . \mathrm{CT}\). & 2000 V. Test & \(5_{4 A}^{1 / 2 A}\) & 12
    5 & 12 & 30.05
    17.60 \\
    \hline T-397 & 6.3 V.-12 A. CT. & 2000 V. Test & 4 A & 5 & 12 & \\
    \hline
    \end{tabular}

    \section*{PLATE AND FILAMENT TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No. & \multicolumn{2}{|l|}{\begin{tabular}{l}
    High Voltage Volts \\
    M. A.
    \end{tabular}} & Fila Vol & ment & No. 1 Amps & Filament Volis & No. 2 Amps & \begin{tabular}{l}
    Filament \\
    Volts
    \end{tabular} & No. 3 Amps & Filament Volts & \begin{tabular}{l}
    No. 4 \\
    Amps
    \end{tabular} & Case No. & & \[
    \begin{aligned}
    & \text { ht } \\
    & \text { ozs. }
    \end{aligned}
    \] & List Price \\
    \hline T-249* & 235-0-235 & 20 & 6.3 & C.T. & 0.6 & 6.3 C.T. & 0.9 & & & & & 2 A & 2 & & \(\$ 12.80\)
    14.30 \\
    \hline T-245* & 320-0-320 & 40 & 5 & & 2 & \(6.3 \mathrm{C} . \mathrm{T}\). & 2 & & & & & 3 A & 2 & 13
    10 & 14.30
    19.90 \\
    \hline T-205* & 350-0.350 & 75 & 5 & & 2 & \(6.3 \mathrm{C} . \mathrm{T}\). & 3 & & & & & 4A & 5
    2 & 10
    13 & 19.90
    13.70 \\
    \hline T-222* & 250-0.250 & 50 & 5 & & 2 & \(6.3 \mathrm{C} . \mathrm{T}\). & 2 & & & & & 3A & 2 & & 13.70 \\
    \hline T-206* & 325-0-325 & 100 & 5 & & 3 & 6.3 C.T. & 3 & 6.3 C.T. & 2 & & & 5A & 9 & & 27.05
    27.15 \\
    \hline T-212 & 420-0.420 & 125 & 5 & & 3 & 6.3 C.T. & 3 & 2.5 C.T. & 4 & & & 5A & 9
    13 & 11 & 34.60 \\
    \hline T-244* & 425-0.425 & 165 & 5 & & 3 & \(6.3 \mathrm{C} . \mathrm{T}\). & 3 & 6.3 C.T. & 3 & & & & 13 & & \\
    \hline T-213 & 520.110 .0 .520 & 180 & 5 & & 3 & 2.5 & 3 & 6.3 C.T. & 3 & 6.3C.T. & 3. & 5A & 10
    10 & 6 & 32.05
    32.15 \\
    \hline T-215 & 360-125-0-360 & 200 & 5 & & 3 & 2.5 C.T. & 3 & \[
    2.5 \mathrm{C} . \mathrm{T} .
    \] & 10
    3 & 6.3 C.T. & 2.1 & \(5 A\)
    \(5 A\) & 12 & 8 & 33.10 \\
    \hline T-247 & 590-0-590 & 200 & 5 & & 3 & 6.3 C.T. & 3 & 6.3 C.T. & 3 & & & SA & & & \\
    \hline T-220* & 125-0.125 & 200 & 5 & & 3 & & & & & & & \(4 A\)
    \(6 A\) & 15 & 9 & 16.75
    39.10 \\
    \hline T-246 & 625.0.625 & 250 & 5 & & 3 & 6.3 C.T. & 3 & 6.3 C.T. & & & & 6 6A & 15 & ? & 39.60 \\
    \hline T-223 & 600-0-600 & 300 & 5 & & \({ }^{6}\) & 6.3 C.T. & \({ }^{3}\) & 6.3 C.T. &  & & & 7A & 21 & 10 & 61.70 \\
    \hline T-221 & High & volto & sec & ndo & \[
    \begin{gathered}
    520-39 \\
    \text { and } 3
    \end{gathered}
    \] & \[
    \begin{aligned}
    & -105-390-5 \\
    & 0 \text { V. D.C. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 20 \text { to de } \\
    & \text { at } 160
    \end{aligned}
    \] & \begin{tabular}{l}
    er 400 \\
    A.
    \end{tabular} & D.C. at & 00 M.A. & & 7A & 21 & 10 & \\
    \hline & Filament N 5 V.-6A & \[
    0.1
    \] & & \[
    5 \mathrm{~V}
    \] & No. 2 & Filament
    \[
    2.5 \mathrm{~V}
    \] & \[
    \begin{gathered}
    \mathrm{Na}, \\
    -3 \mathrm{~A}
    \end{gathered}
    \] & Filament 6.3 V . & \[
    \mathrm{Na}_{. \mathrm{N}^{-}}{ }^{4}
    \] & \[
    \begin{gathered}
    \text { Filament } \\
    6.3 \mathrm{~V} . \mathrm{C}
    \end{gathered}
    \] & \begin{tabular}{l}
    No. \\
    T. 4 A
    \end{tabular} & & & & \\
    \hline
    \end{tabular}
    * Indicates unit designed for candenser input. All other units should be used choke input. If used with condenser input, the D.C. current rating af these items should be reduced to \(70 \%\) of that specified.

    \section*{POWER LINE AUTO TRANSFORMERS}
    

    \title{
    PRECISION \\ FREED TRANSFORMERS vanurr
    }

    \section*{BROADCAST QUALITY COMPONENTS}

    \section*{INPUT TRANSFORMERS}
    

    See next page for
    Case Dimensions

    Modern high fidelity hroadcasting and transcription apparatus require the utmost per－ formance and reliability in the audio transformers used in their circuitry．The Freed ＂Quality Grade＂audio transformers are wide band．high fidelity components featuring astatic construction，longitudinal halance，low harmonic distortion，uniform response， high efliciency，and constant impedance match thoughout the audio frequency spectrum． Maximum neutralization of stray fields is accomplished by use of humbalanced coil structures and multiple alloy shielding．High fidelity is achieved on every tap of universal impedance winding without line reflection of transverse coupling．
    All Quality Grade Components are thoroughly impregnated in a special non－hygroscopic varnish，and fully encapsulated in a moisture proof，high－melting point compond．

    > U-60 IIAPEDANCES IN OHMS
    > \(2.5,5.10 .15 .24,30.40 .60\)
    > U-500 IMPEDANCES IN OHMS
    \(511,125,200\) CT． 250.330 .500 CT．
    125 and 500 ohms can be used for 150 and 600 ohms．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Catalog No． & Application & \[
    \begin{aligned}
    & \text { Impedance } \\
    & \text { Primary }
    \end{aligned}
    \] & \begin{tabular}{l}
    Level \\
    Secondary
    \end{tabular} & Maximum Power Level V．U．＂ & Ratio & Equiva－ lent Shield． ing D．B． & \begin{tabular}{l}
    Max． Pri． \\
    D．C． \\
    per \\
    Side \\
    Ma．
    \end{tabular} & \[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { Un- } \\
    & \text { bal- } \\
    & \text { ance } \\
    & \text { Ma. }
    \end{aligned}
    \] & Frea． Response C．P．S． & Case Number \\
    \hline QGA 1 & I＇niversal 500）ohm line in push－pull aribs & 1－500 & \[
    \begin{gathered}
    100.0 n 0 \\
    \text { split }
    \end{gathered}
    \] & \(+10\) & 1：14．1 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20,000
    \end{aligned}
    \] &  \\
    \hline QGA 2 & 1＂niversal 500 ohm line to push－pull grids & 1＇500 & \[
    \begin{gathered}
    100.0000 \\
    \text { split }
    \end{gathered}
    \] & \(+10\) & 1：14．1 & 90 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & -0.20,000
    \end{aligned}
    \] & WC－018T \\
    \hline QGA 3 & Iniversal 500 ohm line to single or mali－jult crids & 1－500 & \[
    \begin{gathered}
    \text { on,nno } \\
    \text { split }
    \end{gathered}
    \] & \(+10\) & 1：1］ & i0 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20,000
    \end{aligned}
    \] & WC－®13T \\
    \hline QGA 4 & ITnitersal 500 olim line to simele or pusla－pull srives & 1－500 & \[
    \begin{aligned}
    & \text { fin.onon } \\
    & \text { split }
    \end{aligned}
    \] & ＋10 & 1：11 & 90 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DR} \\
    & 20-20.000
    \end{aligned}
    \] & \(1 \mathrm{CO} \cdot \mathrm{BT}\) \\
    \hline QGA 5 & Iniversal low impedanere microfhone，pickup or line to single or push－pull grids & I＇－60 & \[
    \begin{gathered}
    \text { an.0n0 } \\
    \text { split } \\
    \hline
    \end{gathered}
    \] & \(+10\) & 1：31．6 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DR} \\
    & 20-20.000
    \end{aligned}
    \] & MC－2日T \\
    \hline QGA 6 & I＇niversal low impodaner microphone．pickup or line in single ne push－pulll gripls & ［－6；0 & \[
    \begin{gathered}
    60.000 \\
    \text { split }
    \end{gathered}
    \] & \(+10\) & 1：31．6 & 00 & n & & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DF} \\
    & 20-20.000
    \end{aligned}
    \] & いく：313 \\
    \hline
    \end{tabular}

    \section*{HYBRID AND REPEAT COILS}

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Catalog No． & Application & Impedance Ohms Primary． & Level Secondary & Maximum Power Level V．U．＊ & Ratio & \[
    \begin{aligned}
    & \text { Equiva- } \\
    & \text { lent } \\
    & \text { Shield- } \\
    & \text { ing } \\
    & \text { D.B. }
    \end{aligned}
    \] & Max． Pri． D．C． per Side Ma． & D．C． Un． bal－ ance Ma． & Freq． Response C．P．S． & Case Number \\
    \hline QGA 7 & \[
    \begin{aligned}
    & \text { Tivhrid. Twhalameed } \\
    & \text { 5ion/60 ohm limes in } 300 \\
    & \text { ohms. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Tutal Pri } \\
    \text { 1200/1000 } \\
    \text { split } \\
    300 / 250 \\
    300 / 250 \\
    \hline
    \end{gathered}
    \] & \[
    \begin{gathered}
    600 / 150 \\
    \text { or } \\
    500 / 125 \\
    \text { sjlit }
    \end{gathered}
    \] & \(+10\) & 1．41：1 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20 .000
    \end{aligned}
    \] & WC．：319 \\
    \hline \[
    \text { QGA } 8
    \] & Hybrid．Ralancel \(500 / 600\) ohm lines in 600 nhms，I．ongitulinal balance \(\div 0 \mathrm{DB}\) & \[
    \begin{gathered}
    \text { Tintal Pri } \\
    1200 / 1000 \\
    \text { Eplit } \\
    300 / 250 \mathrm{C} . \mathrm{T} . \\
    300 / 250 \mathrm{C.T} .
    \end{gathered}
    \] & \[
    \begin{gathered}
    \operatorname{con} / 150 \\
    o r \\
    \text { son/125 } \\
    \text { split }
    \end{gathered}
    \] & \(+10\) & 1．41：1 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20 .000
    \end{aligned}
    \] &  \\
    \hline QGA 9 & Hybrid，Untralancerd 500／600 olim lines in trimbe plate．No D．C．in sueonulary． & \[
    \begin{gathered}
    \text { Total Pri } \\
    1200 / 1000 \\
    \text { split } \\
    300 / 250 \\
    300 / 250 \\
    \hline
    \end{gathered}
    \] & \[
    \begin{gathered}
    15.000 \\
    o r \\
    12.500
    \end{gathered}
    \] & \(+10\) & 1：3．54 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DF} \\
    & 20.20 .000
    \end{aligned}
    \] & 1）（－213T \\
    \hline \[
    \text { QGA } 10
    \] & Wybird，Balancerl \(500 / 400\) nhm lines to triokle plate．No D．C．in secontars： doncitutinallab－ ance 70 DR ． & Total I＇ri \(1200 / 1000\) split \(304 / 250 \mathrm{C} . \mathrm{T}\) ． 30ロ／ロ50С．T． & \[
    \begin{gathered}
    15.000 \\
    \text { or } \\
    12.500
    \end{gathered}
    \] & \(+10\) & 1：3．54 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DR} \\
    & 20-20.000
    \end{aligned}
    \] & い（－2）\({ }^{\text {a }}\) \\
    \hline \[
    \overline{\text { QGA } 11}
    \] & liepeat onil for low fre－
    hueney ringing
    rlinal halnmee 70 Dls． & \[
    \begin{gathered}
    600 / 500 \\
    \text { splif } \\
    \hline
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Bon/ano } \\
    & \text { split } \\
    & \text { Balanced }
    \end{aligned}
    \] & \(+10\) & 1：1 & 90 & 0 & \(n\) & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20 .000
    \end{aligned}
    \] & DC．4．1T \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 to 116

    \title{
    precision FREED TRANSFORMERS puâury
    }

    \section*{BROADCAST QUALITY COMPONENTS}

    \section*{INTERSTAGE TRANSFORMERS}
    

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Case \#} & \multirow[b]{2}{*}{Mtg. Centers} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Knockout} & \multirow[t]{2}{*}{\begin{tabular}{l}
    M tg. \\
    Studs
    \end{tabular}} & \multirow[b]{2}{*}{Wgt.} \\
    \hline & & W & D & H & & & \\
    \hline DC-2B &  & \(2 \overline{5}_{6}^{\prime \prime}\) & & 315 & \(11 / 3^{\prime \prime} \times 13 / 8^{\prime \prime}\) & 8.32 & 3 lls. \\
    \hline DC-4A & \(21 / 2{ }^{\prime \prime} \times 21 / 2\) & 31/3" & 3" & \(3 \% 1\) & \(2^{\prime \prime} \times 13 /{ }^{\prime \prime}\) & 8-32 & +1/2 11s. \\
    \hline
    \end{tabular}

    L after case number indicates leards.
    T after case number indicates terminals.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Catalog No. & Application & Impedance Ohms Primary & \begin{tabular}{l}
    Level \\
    Secondary
    \end{tabular} & Maximum Power Level V.U.* & Ratio & \[
    \begin{aligned}
    & \text { Equiva- } \\
    & \text { lent } \\
    & \text { Shield- } \\
    & \text { ing } \\
    & \text { D.B. }
    \end{aligned}
    \] & Max. Pri. D.C. per Side Ma. & \[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { Un- } \\
    & \text { bal- } \\
    & \text { ance } \\
    & \text { Ma. }
    \end{aligned}
    \] & Freq. Response C.P.S. & Case Number \\
    \hline QGA 12 & Bridging line to single or push-pull grids. & 10,000 & \[
    \begin{gathered}
    \text { fin,000 } \\
    \text { split }
    \end{gathered}
    \] & +10 & 1:2.45 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20-20.000
    \end{aligned}
    \] & DC-213' \\
    \hline QGA 13 & Single 6C4, 6J5, \(1 / 2\) 6SN7 triode to push-pull gride. shunt feed. & 15,000 & \[
    \begin{gathered}
    60,000 \\
    \text { split }
    \end{gathered}
    \] & +18 & 1:3 & 4.5 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20-20.000 \\
    & \hline
    \end{aligned}
    \] & \(10 \cdot-2131\) \\
    \hline QGA 14 & Single 6C4, 6J5, \(1 / 265 \times 7\) triode to push-pull grids. & 15,000 & \[
    \begin{gathered}
    60,000 \\
    \text { split }
    \end{gathered}
    \] & +18 & 1:2 & 45 & 8 & 8 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 50-20.000
    \end{aligned}
    \] & DC'ent \\
    \hline QGA 15 & Push-pull triode plates to pusir-pull class A gride. & \[
    \begin{gathered}
    20,000 \\
    \text { split }
    \end{gathered}
    \] & \[
    \begin{gathered}
    45.000 \\
    \text { sylit }
    \end{gathered}
    \] & +2\% & 1:1.5 & 30 & 8 & 0.5 & \[
    \begin{aligned}
    & \pm 1.0 \quad \text { DB } \\
    & 20-20,000
    \end{aligned}
    \] & DC-4.1T \\
    \hline
    \end{tabular}

    LOW LEVEL OUTPUT, MIXING, MATCHING TRANSFORMERS
    U-500 IMPEDANCES IN OHMS
    \(50,125,200 \mathrm{CT}, 250,330,500 \mathrm{C} . \mathrm{T}\).
    125 and 500 ohms can he used for 150 and 600 ohms
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Catalog No. & Application & \begin{tabular}{l}
    Imbed \\
    Primary
    \end{tabular} & \begin{tabular}{l}
    Level \\
    Secondary
    \end{tabular} & Maximum Power Level V.U.* & Ratio & Equivalent Shielding D.B. & Max. Pri. D.C. per Side Ma. & \[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { Un. } \\
    & \text { bal- } \\
    & \text { ance } \\
    & \text { Ma. }
    \end{aligned}
    \] & Frea. Response C.P.S. & Case Number \\
    \hline QGA 16 & single plate or bridming line to Universal 500 olm line. Shunt feed. & 15,000 & L-500 & \(+18\) & 5.5:1 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20-20,000
    \end{aligned}
    \] & Dr-2 \({ }^{\text {Pr }}\) \\
    \hline QGA 17 & Single plate to Universal 500 ohm line. & 15,000 & U. 500 & +18 & 5.5:1 & 70 & 8 & 8 & \[
    \begin{aligned}
    & \pm 1.0 \quad \mathrm{DB} \\
    & 50-20,000
    \end{aligned}
    \] & DC.213T \\
    \hline QGA 18 & Push-pull triode plates to Üniversal 500 olim line. & \[
    \begin{gathered}
    20,000 \\
    \text { С.Т. }
    \end{gathered}
    \] & U-500 & +25 & 6.3:1 & 70 & 8 & 0.5 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20,000
    \end{aligned}
    \] & DC-213T \\
    \hline QGA 19 & Mixing, low impedance microphone or line to Iniversal 500 olom line. & Ľ.500 & U-500 & +12 & 1:1 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20,000
    \end{aligned}
    \] & DC-3 \({ }^{\text {ar }}\) \\
    \hline QGA 20 & Line level mixing and matching. & U. 500 & I'-500 & +30 & 1:1 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20,000
    \end{aligned}
    \] & DC'el3T \\
    \hline QGA 21 & High mu triole phota-cell to Coniversal 500 ohm line. & 100,000 & 1-500 & +12 & 14.1:1 & 70 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20,000
    \end{aligned}
    \] & DC-2BT \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \section*{precision FREED TRANSFORMERS quality bROADCAST QUALITY COMPONENTS \\ DRIVER TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Catalog No. & Application & Primary impedance Ohms & Maximum Power Level V.U.* & Turn Ratio Pri: \(1 / 2\) Sec. & Max. Pri. D.C. per Side Ma. & D.C. Unbalance Ma. & Frequency Response C.P.S. & Case Number \\
    \hline QGA 22 & Cniversal bou ohm line to ('lass 13 srids. & \(1 \cdot 500\) & +40 & 1:1 & 0 & \(1)\) & \[
    \begin{aligned}
    & \pm 1.0 \text { DB } \\
    & 20.20 .000
    \end{aligned}
    \] & DC-4AT \\
    \hline QGA 23 & Push-pull 6.J5, ete. to pushpull 2 A3's, GLo's, etc. & \(90.000{ }^{\circ} \mathrm{C}\). & +30 & 3.2:1 & \& & 0. 5 & \[
    \begin{aligned}
    & \pm 1.0 \text { VH } \\
    & 20.20 .000
    \end{aligned}
    \] & \(\mathrm{DC} \cdot 2 \mathrm{BT}\) \\
    \hline QGA 24 &  & 5.000 (. T. & \(+40\) & 3.1 :1 & 50 & : & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 20.20 .000
    \end{aligned}
    \] & DC.4AT \\
    \hline
    \end{tabular}

    \section*{HIGH LEVEL OUTPUT TRANSFORMERS} tubes to line, tubes to voice coil, line to line, line to voice coil
    \begin{tabular}{llllllllll}
    \hline \\
    Catalog \\
    No.
    \end{tabular}
    ; These units supplimi with taps for alplyine somen ferallath.
    \begin{tabular}{|c|c|}
    \hline Case \# & Mtg. Centers \\
    \hline DC-2B & \(\underline{2}^{\prime \prime} \times 1{ }^{3 / 4}\) \\
    \hline DC.4A & 21/2" \(\times 2\) 16" \\
    \hline DC.5B & \(31 / 80 \times 2{ }^{\prime \prime}\) \\
    \hline DC.6A & \(33^{\prime \prime} \times 3^{\prime \prime}\) \\
    \hline DC.7B & \(43^{\prime \prime \prime} \times 8{ }^{3 \prime \prime}\) \\
    \hline
    \end{tabular}

    When supplien with leads: bC.I

    \section*{CASE DIMENSIONS}
    

    When supplied with terminals: \(1 \mathrm{C}-\mathrm{T}\)
    U- 16 IMPEDANCES IN OHMS U-500 IMPEDANCES IN OHMS
    Tit. 1 rane \(T\)

    \section*{500 ohms \\ 330 ohms \\ 250 olims \\ \(20 n\) ohms \\ 125 ohms \\ 50 ohim}

    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \title{
    ction（FREED TRANSFORMERS owiur
    }

    \section*{QUALITY GRADE HIGH Q REACTORS}
    
    \begin{tabular}{|c|c|c|}
    \hline & Mtg． & Dimensions \\
    \hline Case & Centers & W D H \\
    \hline DC－2A & \(2^{\prime \prime} \times 13 / 4{ }^{\prime \prime}\) &  \\
    \hline Knockout & Mtg． & Wgt． \\
    \hline ］16＂\(\times 13 / 8{ }^{\text {a }}\) & 8－32＇s & 23. \\
    \hline
    \end{tabular}
    high Q．LOW frequency reactors
    Whenever there is need for a stable reactor with high \(Q\) at the lower audio irequencies，these reactors will be ideally suited．Units up to 400 hemries can be sup－ plied with inductance tolerance of \(\pm 2 \%\) ．
    \begin{tabular}{cc} 
    Inductance in Henries & Sase Size \\
    100 & I）C－2AT \\
    75 & 1）C－2AT \\
    50 & UC－2AT \\
    25 & DC－2AT \\
    10 & IC．2AT \\
    5 & DC－2AT \\
    1 & DC－2．TT
    \end{tabular}

    FREED MINIATURE TRANSISTOR TRANSFORMERS
    These hish qualite mintianmer trams－ formers are hich wftic it noy andion rallu－ tormers faturine hormet is sealint mote thaximum motertion and corrosinn of wime（allosed he mosture fenctration．The unita are amstructod in accordane will 311
    
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Cat．No． & Impedance Pri． & in 0 hms Sec． & Max．Power Level VU & Frequency Response Cps & Type of Unit & Case No． \\
    \hline TMA． \(1^{*}\) & 500 & －710 & 24 & \(\pm 1\) ，16，2011－15000 & Isolat inm & 1）31－1． \\
    \hline TMA． 2 ． & － 3 トに & 800 & \(\because 4\) & \(\pm 1\) th， \(20016.1 \mathrm{Son0}\) & Intarstame & 111.15 \\
    \hline TMA． 3 & эいに & 6 & \(\because 1\) & \(\pm 1\) ，11） 3001.10000 & （lut1ut & 1M－1． \\
    \hline TMA 4 & 1いいに & 1200619 & \(2+\) & \(\pm 1\) A1 \(300-1.5000\) & Interstage & 19．19\％ \\
    \hline TMA－5＊ & ごうに & 120019 \({ }^{10}\) & 24 & \(\pm 1\) 小了 \(200 \cdot 1.5000\) & 1ntirstater & WM1．\(\%\) \\
    \hline TMA． 6 & 50に & \(12001 \%\) & \(\because 4\) &  & loterstate & 101.15 \\
    \hline TMA－ 7 & （i00 \(1 . \mathrm{Tl}\) & 1200 （＂1 & 21 & \(\pm 1\)（1） \(2000-15000\) & Interstara & 139－1． \\
    \hline TMA．8＊ & 2．うに & \(1 ; 60\) & 21 &  & futersiate & 1391－1． \\
    \hline TMA． 9 & 4006） 1 & 10010 & 24 & \(\pm 1\)（th 200 －15000 & lutarsiaral & 11919 \\
    \hline TMA－10 & 20100 & \(3 .:\) & 24 & \(\pm 1\) 16， 200 －1．5000 & （）u！口и！ & 1311－1． \\
    \hline TMA－11＊ & 40000 T & 3.2 & 24 & \(\pm 1\) 11） \(2(100-15000\) & Output & 10．3－1．5 \\
    \hline TMA－12＊ & 20000 & ． 31 & 21 & 玉－3113010－1．5000 & Output & 1）M－1． \\
    \hline TMA－13 & 1000 & －10 & 21 & 土二 ： \(11,30061.5000\) & （\％ulpul & 1 W－1．7 \\
    \hline TMA－14． & 1006 & 1000 & 24 & \(\pm \pm\)＋11300－1．5000 & In¢ut & 111－1． \\
    \hline TM0－15 & －0000 & io） & 131 & \(\pm\)－11， \(400-15000\) & Output & （3）pert \\
    \hline TM0．16 & 20000 & 4181 & 13 & \(\pm 2\) 115 100－15000 & Interstage & ＂spe＇li \\
    \hline TM0．17 & 1000 & ．10 & 1：3 &  & thitur & （1） \\
    \hline TM0．18 & 1010 k & 1000 & 13 & \(\pm 3\) は，＋110－1．5000） & Inputt & （1）¢ッフ｜ \\
    \hline TMA－19＊ & 1000 & 3.2 & 30 & \(\pm 2\)＋16200．］5000 & Oulput & 1）310－1 \\
    \hline
    \end{tabular}
    

    \section*{NEW FREED CIRCUIT REVISES WILLIAMSON}

    \section*{HI－FIDELITY AMPLIFIER FOR IMPROVED PERFORMANCE}
    
    
    
    
    
    
    
    
    Freed KAlO Output Transformer－10000
    
    1．C．pur sille bill ma．
    
    Freed KCll Filter Reactor－？ 11 Hy（a） 30 mal
    

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 to 116

    \title{
    petcicion fREED TRANSFORMERS\} outuirn
    }
    
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|l|}{UNCASED DIMENSIONS} \\
    \hline Type & T & OD \\
    \hline TI-1 & 127 & \(13{ }^{\prime \prime}\) \\
    \hline Ti-2 & \(2{ }^{18}\) & 1 1is" \\
    \hline TI. 3 & \(3 / 4\) " & \(18 / 8{ }^{\prime \prime}\) \\
    \hline TI-3A & \(1 \prime\) & 21尔" \\
    \hline
    \end{tabular}
    

    \section*{FREED TOROIDAL INDUCTORS}

    STANDARD TOLERANCE \(\pm 1 \%\)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{TYPE TI-1} \\
    \hline Freauency & \multicolumn{2}{|l|}{\[
    \underset{\substack{\text { Range } \\ \text { Non-stabilized }}}{\text { Up to }} 15 \mathrm{KC}
    \]} & Maximum Maximum & \multicolumn{2}{|l|}{Inductance - \(\mathrm{CO}^{20} 185 \mathrm{HY}\)} \\
    \hline Cat. No. Uncased & \[
    \begin{aligned}
    & \text { Inductance } \\
    & \text { Value }
    \end{aligned}
    \] & \begin{tabular}{l}
    Cat. No \\
    Uncased
    \end{tabular} & Inductance
    Value & \[
    \begin{aligned}
    & \text { Cat. No } \\
    & \text { Uncased }
    \end{aligned}
    \] & Inductance Value \\
    \hline F-800 & \(5_{5} \mathrm{MIIIP}\) & F.811 & 1000 Miv & F-822 & 4500 MIIY \\
    \hline F-801 & 10 M \(\mathrm{MH}^{-}\) & F.812 & 1250 M1\% & F.823 & 5000 MIIY \\
    \hline F. 802 & 15 miv & F. 813 & 1500 MIIT & F. 824 & 6000 MIIY \\
    \hline F. 803 & 30 MHI & F.814 & 1750 МНГ & F-824 & 6000 M ¢ \\
    \hline F.804 & 50 Miv & F.815 & 2000 мит & F.825 & 7000 MITY \\
    \hline F-805 & 75 M14Y & F.816 & 2250 MHY & F-826 & 8000 MIIY \\
    \hline F.806 & 100 mily & F.817. & 2500 M15 & F-827 & 9000 MHY \\
    \hline F.807 & 150 Mim & F.818. & 2750 MHY & F. 828 & 10000 MHIY \\
    \hline F.808 & 200 M1I\% & F. 819 & 3000 М1\% & F-828 & 10000 mm \\
    \hline F.809. & 600 MHY & F.820. & 3500 MHY & F-829 & 15000 MIIY \\
    \hline F-810. & \(750 \mathrm{MH5}\) & F. 821 & 4000 MHY & F-830... & 20000 MHY \\
    \hline
    \end{tabular}
    
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{8}{|c|}{TYPE TI-3s} \\
    \hline & Frequency Range - U Stabilized & \[
    \text { - } 200 \mathrm{KC}
    \] & & Maxim Maxim & \[
    \begin{aligned}
    & \text { Inductane } \\
    & \text { "Q" } 28
    \end{aligned}
    \] & & \\
    \hline Cat. No. Uncased & Inductance Value & Cat. No. Uncased & & etance alue & Cat. No. Uncased & \[
    \stackrel{I n d u}{V}
    \] & tance lue \\
    \hline F. 1846 & . 1 Mir \({ }^{-}\) & F. 1850 & & 5 MIIV & F. 1854 & 4 & MHY \\
    \hline F. 1847 & . 2 MIIY & F-1851 & 1 & Mily & F. 1855 & 5 & MHY \\
    \hline F. 1848 & . 3 MHy & F-1852 & 2 & MiIY & F.1845.. & 7.5 & MHY \\
    \hline F-1849 & . 4 MIIY & F. 1853 & 3 & M HIY & F. 1844 & 10 & MHY \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{TYPE TI-3As
    Available in following ease types: DC and D} \\
    \hline \multicolumn{3}{|l|}{Frequency Range - Up to 200 KC Stabilized} & \multicolumn{3}{|l|}{\[
    \begin{aligned}
    & \text { Maximum Inductance - } 100 \mathrm{MHY} \\
    & \text { Maximum } \\
    & \hline \text { " } " 300 @ 17
    \end{aligned}
    \]} \\
    \hline \begin{tabular}{l}
    Cat. No. \\
    Uncased
    \end{tabular} & Inductance Value & Cat. No. Uncased & Inductance Value & \begin{tabular}{l}
    Cat. No \\
    Uncased
    \end{tabular} & Inductance Value \\
    \hline F. 1856 & 10 MIIY & F. 1859 & 30 M119 & F. 1862 & 75 MHY \\
    \hline F-1857. & 15 Мเए & F.1860.. & 40 Mı5 & & \\
    \hline F-1858. & 20 Mแ゙ & F.1861.. & 50 MHY & F. 1863 & . 100 MIV \\
    \hline
    \end{tabular}

    NOTE: When orrering Freed Inductors in Commercial Type Cases, add "C" to Catalog Number. When orderine Hermetically" sealed units, alld "th.:
    Freed Toroidal Inductors can also be supplied on special order to tolerances of closer than \(\pm 1 \%\).
    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \title{
    petcision fREED TRANSFORMERS opuairy
    }
    
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|l|}{UNCASED DIMENSIONS} \\
    \hline Type & T & OD \\
    \hline TI-4 & "\% & \(1 \mathrm{H}^{\prime \prime}\) \\
    \hline T1.5* & 3 " & 1" \\
    \hline TI-6 & 3" & 1 1.." \\
    \hline T1.7* & 3s" & \(1 "\) \\
    \hline \multicolumn{3}{|l|}{*Weddinge Ring Size} \\
    \hline
    \end{tabular}
    

    \section*{FREED TOROIDAL INDUCTORS}

    STANDARD TOLERANCE \(\pm 1 \%\)

    \section*{TYPES TI-4 \& 4s}

    Available in following type cases: DM and DT-2

    \section*{TYPE TI-4}

    Frequency Range - Up to 15 KC Non-stabilized
    Maximum Inductance - 5 HY Maximum "Q"175@7.5 KC
    Cat, No,
    Uncased
    F. 850
    F. 851
    F. 852
    F. 853
    F. 854
    F. 855
    F. 856
    F. 857
    F. 858
    F. 859
    \(\qquad\)
    \begin{tabular}{|c|c|}
    \hline Inductance Value & Cat. No. Uncased \\
    \hline - MII \({ }^{\text {M }}\) & F.860 \\
    \hline 10.1115 & F. 861 \\
    \hline 15 SII & F-862 \\
    \hline (3) \(11 / \mathrm{y}\) & F.863 \\
    \hline 50 MII & F-864 \\
    \hline \(\therefore 1019\) & F. 865 \\
    \hline 100 MHI & F.866 \\
    \hline 1.10 MHV & F-867 \\
    \hline 200 M11 & F. 868 \\
    \hline 300 MHY & F.869 \\
    \hline
    \end{tabular}

    \section*{TYPES TI-5 \& 5s}

    Available in following type cases: DM and DT-1
    

    \section*{TYPE TI-5}

    Frequency Range - Up to 15 KC Maximum Non-stabilized - 2 HY Maximum "Q" 115 @ 10 KC
    

    \section*{TYPES TI-6 \& 6s}

    Available in following type cases: DM and DT-2

    \section*{TYPE Ti-6}

    Frequency Range - Up to 75 KC Non-stabilized
    Maximum Inductance - 1 HY Maximum "Q" 250 @ 17 KC
    

    TYPE Tl-4s
    Frequency Range - Up to 15 KC Stabilized
    Maximum Inductance - 5 HY Maximum "Q" \(175 @ 7.5\) KC
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|l|}{Inductance Value} \\
    \hline & U \\
    \hline S11 & MII \\
    \hline 10 & W11 \\
    \hline 711 & MII \\
    \hline -11 & ) \] \\
    \hline 10 & MH1 \\
    \hline 1.00 & 11 \\
    \hline 1.25 & I \\
    \hline 1.50 & 1 \\
    \hline 1.35 & \\
    \hline
    \end{tabular}

    Cat. No.
    F. 870
    F. 870
    F. 871
    F. 871
    F .872
    F. 872
    F. 873
    F. 873
    F. 874
    F. 875
    F. 876

    F-877
    F. 878
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|l|}{Inductance Value} \\
    \hline 2.00 & 115 \\
    \hline 2.23 & 11Y \\
    \hline 2.50 & 15 \\
    \hline 2.75 & 115 \\
    \hline 3.00 & II\% \\
    \hline :. 30 & 119 \\
    \hline 4.110 & WY \\
    \hline +.in & IIV \\
    \hline . 3.00 & IIY \\
    \hline
    \end{tabular}
    
    

    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \section*{}
    
    
    
    
    
    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \title{
    petcision FREED TRANSFORMERS ovaiur
    }
    

    All Freed Toroidal Inductors can be supplied in tolerances of closer than \(+1 \%\) on special order. . . . Complete Toroid Catalog with curves for each unit is available on request. ... Jobbers and Engineers are urged to send for it.

    \section*{FREED TOROIDAL INDUCTORS}

    STANDARD TOLERANCE \(\pm 1 \%\)

    \section*{TYPES TI-12 \& 12s \\ Available in case types: DC and DT-4 \\ TYPE TI-12 \\ TYPE TI-12s}

    Frequency Range - Up to 15 KC Non-stabilized
    Maximum Inductance - 30 HY Maximum "Q" 200 @ 5 KC
    \begin{tabular}{|c|c|c|}
    \hline Cat. No. Uncased & \multicolumn{2}{|l|}{Inductance Value} \\
    \hline F. 1655 & 1 & MIIY \\
    \hline F-1656 & 2 & MIIY \\
    \hline F-1657 & 3 & MIIY \\
    \hline F-1658 & 4 & MIIY \\
    \hline F-1659 & 5 & MHY \\
    \hline F-1660 & 7.5 & MIIY \\
    \hline F-1661 & 10 & MIIY \\
    \hline F. 1662 & 15 & MIIY \\
    \hline F-1663 & 30 & MIIY \\
    \hline F-1664 & 50 & MH5 \\
    \hline F-1665 & 75 & MIV \\
    \hline F.1666 & 100 & MHY \\
    \hline F-1667. & 150 & MHY \\
    \hline F-1668 & 200 & MITY \\
    \hline F-1669 & 300 & M1IY \\
    \hline F-1670 & 400 & MHy \\
    \hline F-1671 & 500 & MIIY \\
    \hline F-1672 & 600 & MHI \\
    \hline F-1673. & 750 & MIIY \\
    \hline F-1674 & 100 & MHY \\
    \hline
    \end{tabular}
    Frequency Range — Up to 15 KC
    Stabilized

    \section*{TYPE TI-13s}

    Available in case types: DC and DT-4
    Frequency Range - Up to 75 KC Non-stabilized
    Maximum Inductance - 500 MHY Maximum " \(Q\) " 340 @ 15 KC
    \begin{tabular}{|c|c|c|}
    \hline Cat. No. Uncased & \multicolumn{2}{|l|}{Inductance Value} \\
    \hline F-1629., & 1 & MH\% \\
    \hline F-1630. & 2 & MIIY \\
    \hline F-1631.. & 3 & MIIY \\
    \hline F-1632. & 4 & MHY \\
    \hline F-1633 & 5 & MIIY \\
    \hline F. 1634 & & MHY \\
    \hline F-1635 & 10 & MIIY \\
    \hline F. 1636 & 15 & MIIV \({ }^{\text {P }}\) \\
    \hline F. 1637 & 30 & MIIY \\
    \hline
    \end{tabular}
    Cat. No.
    Uncased
    F-1638
    F-1639
    F-1640
    F-1641
    F-1642
    F-1643
    F-1644
    F-1645
    \begin{tabular}{cc}
    \multicolumn{2}{c}{\begin{tabular}{c} 
    Inductance \\
    Value
    \end{tabular}} \\
    50 & MIIY \\
    75 & MIIY \\
    100 & MHY \\
    150 & MIIY \\
    200 & MHY \\
    300 & MHY \\
    400 & MIIY \\
    500 & MHY
    \end{tabular}

    NOTE: When ordering Freed Toroidal Inductors in Commercial Type cases, add "C" to catalog number.

    When ordering Hermetically Sealed units, add "H."

    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \section*{paction FREED TRANSFORMERS\} ouaiur}
    
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|l|}{UNCASED DIMENSIONS} \\
    \hline Type & T & OD \\
    \hline Ti－14 & \＃， & 1\％＂ \\
    \hline TI－15＊ & 7． & \(1{ }^{\text {＊}}\) \\
    \hline \multicolumn{3}{|l|}{＊Wedding Ring Size} \\
    \hline
    \end{tabular}
    

    DIMENSIONS DM CASES
    \[

    \]
    

    FREED TOROIDAL INDUCTORS
    STANDARD TOLERANCE \(=10^{\circ}\)

    \section*{TYPE TI－14s}

    Available in following type cases：DM and DT－2
    Temperature Stabilized
    Frequency Range－Up to 50 KC
    Maximum Inductance－ 300 MHY
    Maximum＂\(Q\)＂ 140 ＠ 25 KC
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat．No． Uncased & \multicolumn{2}{|l|}{Inductance Value} & \begin{tabular}{l}
    Cat．No． \\
    Uncased
    \end{tabular} & \multicolumn{2}{|l|}{Inductance Value} \\
    \hline F－1920 & 1 & MH5 & F． 1929 & 30 & MッY \\
    \hline F． 1921 & 2 & мแ\％ & F－1930 & －1 & دH5 \\
    \hline F－1922 & 3 & Mバ & F－1931 & － & MHV \\
    \hline F－1923 & 4 & МН¢ & F－1932 & 100 & Mry \\
    \hline F－1924 & 5 & MH゙ & F． 1933 & \(1 . \mathrm{in}\) & MIT \\
    \hline F－1925 & －． & Мแリ & F－1934 & 200 & Mily \\
    \hline F－1926 & 111 & د115 & F－1935 & 2.00 & MIV \\
    \hline F－1927 & \(1 \%\) & แ115 & F－1936 & 300 & 3115 \\
    \hline F． 1928 & 20 & リい゙ & & & \\
    \hline
    \end{tabular}

    \section*{TYPE TI－15s}

    Available in following type cases：DM and DT－1
    Temperature Stabilized
    Frequency Range－Up to 50 KC
    Maximum Inductance－ 100 MHY
    Maximum＂＇Q＂ 140 ＠ 25 KC
    Cat．N
    Uncased
    F－1870
    F．1871
    F． 1872
    F． 1873
    F． 1874
    F－1875
    F． 1876
    F． 1877
    F． 1878
    F－1879
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Inductance Value}} & \multirow[t]{2}{*}{Cat．No． Uncased} & \multicolumn{2}{|l|}{Inductance} \\
    \hline & & & & lue \\
    \hline 0.1 & MHY & F－1880 & 7.7 & MHY \\
    \hline 0.2 & M119 & F－1881 & 10 & Mリソ \\
    \hline 0.8 & MIIY & F－1882 & \(1 \%\) & MIV \\
    \hline 0.4 & MHV & F－1883 & 20 & MII \\
    \hline 0.5 & M15 & F－1884 & 2．） & MHY \\
    \hline 1 & MHI & F－1885 & 80 & MHY \\
    \hline 2 & MHY & F－1886 & 40 & MHY \\
    \hline \(:\) & MHV & F－1887 & 50 & M11） \\
    \hline 4 & MIY＇ & F－1888 & 75 & MHY \\
    \hline 5 & MHV & F－1889 & 100 & M1\％ \\
    \hline
    \end{tabular}

    NOTE：When ordering Freed Inductor：in Commercial Type Cases， add＂C＂to Catalog Number
    When ordering ITermetically Sealed units．add＂H．＂

    Freed Toroidal Inductors can also be supplied on special order to tolerances of closer than \(\pm 1 \%\) ．

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 10 116

    \section*{prection \｛RREED TRANSFORMERS\} outurr}

    \section*{FREED SUB－MINIATURE TOROIDAL INDUCTORS}

    Standard tolerance is \(\pm 1 \%\) or \(\pm 2 \%\) depending on inductance value．
    

    ENCAPSULATEDUNITS
    
    
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{3}{|c|}{TYPE TI－16} & \multicolumn{2}{|c|}{TYPE TI． 17} & \multicolumn{2}{|c|}{TYPE T1．18} & \multicolumn{2}{|c|}{TYPE TI－19} \\
    \hline \multicolumn{3}{|l|}{Frequency Range up to 15 KC Maximum Inductance 2 HY Non－stabilized} & \multicolumn{2}{|l|}{Frequency Range up to 60 KC Maximum Inductance 100 MHY Non－stabilized} & \multicolumn{2}{|l|}{Frequency Range up to 75 KC Maximum Inductance 100 MHY Non－stabilized} & \multicolumn{2}{|l|}{Frequency Range up to 200 KC Maximum Inductance 5 MHY Non－stabilized} \\
    \hline Catalog No． Uncased & Indu V & ctance alue & Catalog No． Uncased & Inductance Value & Catalog No． Uncased & Inductance Value & Catalog No． Uncased & Inductance Value \\
    \hline F－\({ }^{(2050}\) & 1 & M118 & ド－2100 & ． 1 M15 & r－\({ }^{1}+11\) & & & \\
    \hline F－20． 1 & 3 & 11115 & －゙－ 101 & \(\therefore\) \115 &  & \(\therefore\) M115 & ドッ1上1 & \[
    \begin{array}{lll}
    .3 & 1111 \\
    .3 & 1115
    \end{array}
    \] \\
    \hline F－35： & 5 & M115 & \(10210 \%\) & \(\therefore\) M119 & F゙011\％ & \％ 11115 & ドーローシ & \[
    \begin{array}{lll}
    3 \\
    4 & 1115
    \end{array}
    \] \\
    \hline F－9053 & 111 & W115 & H－2103 & ¢ M11 & F－2143 & ．． 11115 & \(1 \because 1\)－ & \(\therefore\) MIIS \\
    \hline F－？05： & \(1 \%\) & \＄1118 & ドッ104 & ．．1）M11 & － & 1 ज115 & \(1-31-5\) & ¢ M11\％ \\
    \hline 1－20．34 & \(\because\) & \1115 & －＇＊100 & －V115 & － & \(\because\) M115 & \(\cdots\) & －M1IV \\
    \hline F゚＊＊い．う & 75 & N119 & ト゚ン10： & ： 1111 & F－o115 & ：M11Y & ドロ1～す & －8，MHy \\
    \hline F－065x & 100 & W115 & \(\mathfrak{H - 2 1 0 心}\) & 1 MII & ドッ14＊ & 1 111 Y &  & 1 MHY \\
    \hline F－2050） & 150 & \(\pm 115\) & \(1-2110!\) & ＿ 31115 & \(10-211!\) & － 11119 & \(10-2189\)
    -2190 & \[
    \begin{aligned}
    & 1 \\
    & \because \text { MI }
    \end{aligned}
    \] \\
    \hline F゙－ & 200 & WHY & ド－？ 1110 & ¢．．． 11115 & ドッlinl & 10，\115 & \(1 \therefore 2191\) & \[
    \overline{3} \text { WIIV }
    \] \\
    \hline F－otil & 3010
    400 & M1H
    \1H & \(\begin{array}{rrrllll}\text { F－} & 1 & 1 & 1 \\ -2 & 1 & 1 & \ddots\end{array}\) & \(\begin{array}{ll}10 \\ 1.5 & \text { M115 }\end{array}\) &  & 1.5 MII & 1－21！ & 43115 \\
    \hline F－20063 & 400
    500 & \115 & F－2113 & 20 VIIS & ト－2］-3 & 20 31118 & F－ッ） 193 & 5）MIIY \\
    \hline F－2064 & \(\bigcirc .80\) & \＄1115 & \(F-2114\) & 311 W11\％ & ドせ1ら！ & 31103118 & & \\
    \hline  & 1.00 & 115 & F－2115 & in MIIV & F－215 & SO M1H & & \\
    \hline F－00tic & 1．35 & IIV & F－3116 & \(\therefore \mathrm{F}\) & ド＊ 1.80 & 7\％3115 & & \\
    \hline Frenci & 1．5n & 119 & F－2117 & 104 M以 & ト゚ッ1． & 11010 JHO & & \\
    \hline F－obis & 1.75
    3.00 & 115 & & & & & & \\
    \hline F－－ & & II & & & & & & \\
    \hline
    \end{tabular}

    \section*{FREED HIGH FREQUENCY TOROIDS}

    Standard tolerance is \(\pm 1 \%\) or \(\pm 2 \%\) depending on inductance value．
    

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 to 116

    \title{
    precision FREED TRANSFORMERS puâurr
    }

    \section*{FREED DELAY LINES}

    Freed Miniature and Standard Delay Lines are available in uncased cased, hermetically sealed and encapsulated units.

    A wide variety of lines are available incorporating the following desirable features:
    Wide Band Wirltl
    Low Insertion Loss
    Excellent Transient Response
    Reflection as low as \(5 \%\)
    Wide 「Temperature Range
    Extreme Stability
    Characteristic impedance from 25 olms to 10.000 ohms are available with time delays from 0.1 microseconds to 10 microseconds.

    Engineering and production facilities are avalable to design and package delay lines to your physical and electrical reguirements.

    \section*{FREED FILTERS}

    Freed Standard Filters are Hermetically Sealed miniature high performance components designed for both production and laboratory apparatus in the Communications and Electronic industry. In order to achieve attenuation lefuirements not obtainable with one single filter, one can combine several standard filters of different transmission claracteristics.
    Wide Band Pass characteristics are obtainable by combining low and high Pass ['nits. The astatic construction of inductive components together with special shielding reduces the hum pick-up of the standard filters. The standard filters are available in Low Pass. High Pass and Band Pass Filters.
    LOW PASS FILTERS: The attenuation characteristics of Low Pass Filters are 6 db at cut-off frequency, 35 db at 1.5 cut-oft frefuency and 40 db at 2 cut-off frequency.
    ILP—Interstage Low Pass Filter. Characteristic impedance 10.000 ohnts.
    LLP—Line Low Pass Filter. Characteristic Imperdance \(500 / 600\) ohms.
    HIGH PASS FILTERS: The attenuation characteristics of High Pass Filters are 6 db at cut-off freguency, 35 db and 40 db at 0.67 and 0.5 cut-ofi frequency.
    IHP—Interstage High Pass Filter. Characteristic Impedance 10,000 olims.
    LHP—Line High Pass Filter. Characteristic Impedance 500-600 olmms.
    BAND PASS FILTERS: The attenuation characteristics of Band Pass Filters are 2 db at plus or minus \(3 \%\) of center frequency. 40 db at 0.5 and 2 center frequency.
    IBP—Interstage Band Pass Filter. Nominal input impedance - 10.000 ohms. Nominal output impedance 5 megolnms or grid of vacumm tube. Effective voltage step-up 2:1.
    LBP-Line Band Pass Filter. Nominal input impedance 500-600 ohms. Nominal output impedance 5 megohms or grid of vacuum tul)e. Effective voltage gain 9:1
    

    STOCK FILTERS
    Frequency is indicated by numbers following filter designation:
    

    Special filters in all six types are avallable for any frequency from 300 to 20,000 cycles.

    For Freed Precision Laborafory Test Instruments see Section G, Pages G-106 to 116

    \title{
    precision FREED TRANSFORMERS quániur
    }

    \title{
    FREED MACNETIC AMPLIFIERS
    }
    

    \title{
    MAGNETIC AMPLIFIERS－SATURABLE TRANSFORMERS SATURABLE REACTORS－FAST－RESPONSE MAGNETIC AMPLIFIERS
    }

    Freed Magnetic Implifiers，saturable Transformers and feactors are desiuned for efficient operation and long life．They can be used in most applications that require reliable power amplifers．
    The types of amplitiers listed helow are designed to control IC servometors．
    bevelopment facilities are avablable for the desiun of marnetic amplifiers to meet specific repuirements． All standarel units have their induetance components hermetically sealed to meet MH－T－27 supeifications．

    SATURABLE TRANSFORMERS
    （controlled with dual triode；plate supply can be either DC or IC；no rectifiers． PUSH－PULL MAGNETIC AMPLIFIERS
    DC control signals；high gain：may be used with magnetic or vacum tube preamplifiers if needect

    SATURABLETRANSFORMERS
    

    PUSH－PULL MAGNETIC AMPLIFIERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline 11．5V．．60 cps． & \begin{tabular}{l}
    \(115 \mathrm{~V} . \mathrm{AC}\) \\
    whase rowrsible
    \end{tabular} & 1．2 m．a．\({ }^{\text {（ }}\) & 5 & \[
    \begin{aligned}
    & \text { Kollsman } \\
    & 951-0160
    \end{aligned}
    \] & 0.57 & in．－0z． & 3150 & 1213 & 31．81－1 \\
    \hline 11．5V．．lio chs． & \(1151.1 C\) phase reveraihle & \(1.6 \mathrm{~m} . \mathrm{H}\) ．\({ }^{\text {（ }}\) & 15 & \[
    \begin{aligned}
    & \text { bixhl } \\
    & \text { FPE,25-11 }
    \end{aligned}
    \] & －\％ & in．－172． & 3.510 & ［R3M & MAJ－3 \\
    \hline  & \(11.51 . A\) whase reversible & 2 m．a．\({ }^{\text {a }}\)（ & 50 & \begin{tabular}{l}
    Diehl \\
    Fl＇F＋！）－！
    \end{tabular} & \(\because 11\) & in．\(-0 \%\) ． & 3.504 & RIPM & M．13－3 \\
    \hline 115\．． 40 cps． & 115V．AC phase reversible & 2 mıa．｜＞ & 17\％ & \[
    \begin{gathered}
    \text { 以iwh1 } \\
    \text { FPFゥラ-1 }
    \end{gathered}
    \] & 4.5 & in．－oz． & 3.500 & RPS & MAP－4
    \(11 \mathrm{D}-7\) \\
    \hline 11ヶV．． 400 cps & 11．5．\0 phase reversible & ．5．5 m．a．D） & 15 & \[
    \begin{aligned}
    & \text { lirarfott } \\
    & \text { RI12-2 }
    \end{aligned}
    \] & \＃， & in． 0 O ． & 19＊00 & RPM & M15－7 \\
    \hline 115 C .400 mos ． & \(115 \mathrm{~V} . \mathrm{J}\) plase reversilile & 1．75m．a．\({ }^{\text {a }}\) & 50 & \[
    \begin{aligned}
    & \text { Bendix } \\
    & \text { C'K-3000) }
    \end{aligned}
    \] & 14 & in． 0 oz ． & \(\frac{3760}{10.5011}\) & RPM & M．\({ }^{\text {M1］－8 }}\) \\
    \hline 11．5V．． 400 rps． & 115 N ． M phase reversilole & 3 mia． 10 & 140 & \[
    \begin{gathered}
    \text { Keartott } \\
    \text { XWr. } 144.6! \\
    \hline
    \end{gathered}
    \] & \(2: 3\) & in．－0\％． & 10.501 & RPM & M．UL＇！ \\
    \hline 11501.400 cps & \(1151.1 C\) phase reversible & ．5 m．a．DC & ． & Kearfott
    \[
    \mathrm{K} 1110.2
    \] & 1.5 & in．－0\％． & 5300
    5300 & R1＇M & MAP－10 \\
    \hline \(115 \mathrm{~N}, 400 \mathrm{cps}\) ． & 11．71．I whase reversible & ． 5 m．a．DC & 10 & \[
    \begin{aligned}
    & \text { Kearfott } \\
    & \text { R111.2 } \\
    & \hline
    \end{aligned}
    \] & 2.4 & int．0\％． & 530 & RP & 311 \\
    \hline
    \end{tabular}

    FAST－RESPONSE MAGNETIC AMPLIFIERS
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline 115゙．．（i0 çs． & \begin{tabular}{l}
    1150．． 0 \\
    （Eff．） \\
    phase reworsible
    \end{tabular} & 1 V .10 or IK （ 10.000 ohms input imped－ ancer） & 15 & \[
    \begin{aligned}
    & \text { Dirhl } \\
    & \text { FPE2J-11 }
    \end{aligned}
    \] & \(5 . \%\) & in．－oz． & 3.3101 & R13 & M．AF゙・1 \\
    \hline 11．iv．． 400 & \begin{tabular}{l}
    57．5N．． 10 \\
    （Eff．） \\
    phase reversjble
    \end{tabular} &  （10．000 ohms input imprers－ sance） & 5 & \begin{tabular}{l}
    Kıalfot \\
    R1：10－2
    \end{tabular} & 1．\％ & i11．02． & 53000 & RIPM & M．1F－2 \\
    \hline 115け．． 400 c！ls． &  & \begin{tabular}{l}
    \(.11 .1(011)\) \\
    （ 10.000 ohms imput imperd－ （ince）
    \end{tabular} & 10 & Kemant
    R111-2 & 2.4 & in．-17. & 53000 & R1PM & 11．1F－3 \\
    \hline 11：V゙． 400 rıs． & \begin{tabular}{l}
    57．51．AC \\
    （ F：NT．） \\
    phase revorsible
    \end{tabular} & \begin{tabular}{l}
    ．11゙．IC or DC \\
    （10．010）Blums infut impred－ athers）
    \end{tabular} & 15 & \[
    \begin{aligned}
    & \text { Kearfott } \\
    & \text { R } 11 \geq-2
    \end{aligned}
    \] & \(\because .8\) & in．－oz． & 11.900 & RPM & MAF－5 \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 to 116

    \section*{petcison FREED TRANSFORMERS onaim}

    \section*{MILITARY PULSE TRANSFORMERS}
    

    DM-12
    
    

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline CASE \# & FL & FD & W & H & M & Screws & Cutout & Wgt. \\
    \hline DM-12 & 11/2 & \(1{ }^{\text {g }}\) & \(1{ }^{6}\) & 125 & 1 县 & 4 -40 & 7/8 & 1.5 nz . \\
    \hline DM-8 & \multicolumn{8}{|l|}{Dimensions shown oft drawing.} \\
    \hline DM-18 & \multicolumn{8}{|l|}{Dimensions shown on drawing.} \\
    \hline DM-01 & \multicolumn{8}{|l|}{Dimensions shown on drawing (knockout 1 1/4" diam.)} \\
    \hline
    \end{tabular}

    HERMETICALLY SEALED PULSE TRANS. FORMERS for use in llocking oscillators, low level interstage coupling, and modulator outputs. Made in accordance with MIL-T-27 specifications. These pulse transformers are designed for maximum power, efficiency and ontimum pulse performance power, emciency and ont coil structures permit series or paralle connection of windines for turn retios other than connection of windings for turn ratios other than pedance levels will doperml upon interconncetions made.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Catalog Number & Application & Pulse Voltage Kilovolts & Pulse Duration Microseconds & Duly Ratio & Test Voltage KV., RMS & Characteristic Impedance Ohms & Case Size \\
    \hline MPT-1 & Blocking oscillator or interstase coupling. & 0.25/0.25/0.25 & 0.2-1.0 & . 004 & 0.7 & 250 & DM-12 \\
    \hline MPT-2 & Blocking oscillator or interstare coupling. & \(0.25 / 0.25\) & 0.2-1.0 & 004 & 0.7 & 250 & DM-12 \\
    \hline MPT-3 & Blocking oscillator or interstare eompling. & \(0.5 / 0.5 / 0.5\) & 0.2-1.5 & . 002 & 1.0 & 250 & DM-18 \\
    \hline MPT-4 & Blocking oseillator or interstare couplines. & \(0.5 / 0.5\) & 0.2-1.5 & . 002 & 1.0 & 250 & DM-18 \\
    \hline MPT-5 & Blockinar oscillator or interstaze counlines. & \(0.5 / 0.5 / 0.5\) & 0.59 .9 .0 & . 002 & 1.0 & 500 & DM-12 \\
    \hline MPT-6 & Blocking oscillator or interstage coupling. & \(0.5 / 0.5\) & 0.5-2.0 & . 002 & 1.0 & 500 & DM-12 \\
    \hline MPT.7 & Blockinn oscillator, interstare coupling or low power nutput. & \(0.7 / 0.7 / 0.7\) & 0.5-1.5 & . 0022 & 1.5 & 200 & DM-18 \\
    \hline MPT-8 & Blocking nacillator, interstage coupling or low power nitput. & 0.7/0.7 & 0.5-1.5 & . 002 & 1.5 & 200 & DM-18 \\
    \hline MPT-9 & Blocking oscillator, interstare coupling or low power output. & 1.0/1.0/1.0 & 0.7-3.5 & . 002 & 2.0 & 200 & DM-18 \\
    \hline MPT. 10 & Blocking oscillator, interstare coupling or low power output. & 1.0/1.0 & 0.7-3.5 & . 002 & 2.0 & 200 & DM-18 \\
    \hline MPT-11 & Blockins oscillator, interstace eoupling or low nower output. & 1.0/1.0/1.0 & 1.0-5.0 & . 002 & 2.0 & 500 & DM-01 \\
    \hline MPT-12 & Blocking oscillator, interstape enupling or 10w power ontput. & \[
    \begin{aligned}
    & 0.1 .5 / 0.15 \\
    & 0.3 / 0.8
    \end{aligned}
    \] & 0.2-1.0 & . 004 & 0.7 & 700 & DM-8 \\
    \hline
    \end{tabular}

    \section*{ENCAPSULATED UNITS AVAILABLE!}

    Plug-in or Printed Circuit Types
    

    Whan orterine phasin type, specify "C. after mumbey - tor orinted divelat type specify" "PG"

    \section*{UNIQUE BLOCKING OSCILLATOR CIRCUIT CAN PASS UP TO 200,000 PULSES PER SECOND}

    Fred Miniature Pulse Transformers are lowite used in a moul hlockiner nscillatur circuit which prowlures sharp pulses a relntition ratos ur the 200.000 pulses and serame. With the civeriti eonstants shown.
     tion. fit wolts amplitude can be olitaineal with a r.r.f. of 20.000 . The rise time old taimed with the FlBEES MPT-R for than 0.n.5 microserent. This fast reperi. tion rate dirouit can he triguered will ijther a sime or a sfuare wave, and requires a driving voltare uf anwwere from onu. to tifter volts. The bias voltares need mot he olitained from a low impedance supply. If anegative palse mutput is required. the FRFE:D MrT. A transformer proviles at
     tortiary winding for this purpose.

    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \footnotetext{
    The M.4.5TER - 20th Edition
    See Pages N-64, 65 for FREED Prices
    Copyrialt by U. C. P., Inc. Page N-54
    }

    \section*{precision \｛FREED TRANSFORMERS\} qualiur}
    

    \section*{STANDARD MILITARY TRANSFORMERS}

    A groun of hermetically seated transformers designed in accordance with MlL－T－27 specifications．The functional chatacteristics of these transtormers were established by the Armed Services．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Case No． & A & B & c & D & Studs & Case No． & A & B & C & 0 & Studs \\
    \hline 1.1 & 1 \％ & \(1{ }^{4}\) & \(\because\) ？ & \(1 \ldots \times 1\) & （i） 3 ？ & 11 l & 3 & \(\because \vdots\) & \(3{ }^{7}\) & \(24 \times 1 \%\) & －32 \\
    \hline \(1: 13\) & 1 & 1 & 2\％ & \(1 \times 11\) & （1）3？ & lis & 3 & a） & 1 & \(3 \times 8{ }^{3}\) & 10：3\％ \\
    \hline 1713 & 21 & \(1!\) & 21 & \(11 \times 1\) & ¢ 3 & 1.13 & 1 & 31： & \(11 \%\) & \(8{ }^{8} 15 \times 211\) & 10.38 \\
    \hline （11） & \(\stackrel{20}{3}_{1}^{1}\) & 3 － & 近 &  & 10， & 1113 & 1 & 1 & \(\pm\) & （11）\(\times 3\) & 1， 20 \\
    \hline 1113 & 31 & \(\because 2\) & \(\because\) & ？ \(3 \times 1\) & － 3 ？ & 13 & 5． & 1： & \(\therefore 1\) & \(4{ }^{4}\) & 1－20 \\
    \hline 11.1 & 3 ！ & 25 & 11, & \(2!\times 1\) & － 3.3 & & & & & & \\
    \hline
    \end{tabular}

    STANDARDMILITARYAUDIOTRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat． No． & Application & Type Designation & \[
    \begin{aligned}
    & \text { Impedar } \\
    & \text { in } \\
    & \text { Primary }
    \end{aligned}
    \] & nce Level hms Secondary & Ratio & \begin{tabular}{l}
    Max． \\
    Power Level V．U．
    \end{tabular} & Pri． D．C． Per Side in MA & Max． D．C． Unbalance & Frequency Response & Case \\
    \hline MGA 1 & \begin{tabular}{l}
    Thansformer：intorstabe，simser of \\
    
    \end{tabular} & TF1．11．i．10 & \[
    \begin{gathered}
    10.0000 \\
    1.10
    \end{gathered}
    \] & \[
    \begin{gathered}
    90.010 \\
    \text { sulit and } \\
    \text { CT }
    \end{gathered}
    \] & \[
    \begin{gathered}
    1: 3 \\
    \text { my } \begin{array}{c}
    \text { Mall }
    \end{array}
    \end{gathered}
    \] & －15 & \(1 \%\) & 10 & \[
    \begin{gathered}
    \pm=210 \\
    \therefore 10-10.000
    \end{gathered}
    \] & 1.1 \\
    \hline MGA 2 & Tramsionor：malchang follo ohm line to wien coil & F＇F＇ 1161.10 & \[
    \begin{aligned}
    & \text { tiol } \\
    & \text { silit }
    \end{aligned}
    \] & 1．5． 1 fi & \[
    \begin{aligned}
    & \text { S. } 12: 1 \\
    & \text { overall }
    \end{aligned}
    \] & －3：3 & 13 & 0 & \[
    \begin{gathered}
    \pm \because \quad 1118 \\
    3000-10,000
    \end{gathered}
    \] & 1.1 \\
    \hline MGA 3 & Transtomer：ingut． 600 whon line （6）rimethe of IP．P．grids & 「た1 116.1 .10 & \[
    \begin{aligned}
    & 1 ; 110 \\
    & \text { si.1.it }
    \end{aligned}
    \] & 185,0000 & 1：1．7 & －1． & 0 & 0 & \[
    \begin{gathered}
    \stackrel{+2}{ \pm} 1) B \\
    30.10 .000
    \end{gathered}
    \] & A． \\
    \hline MGA 4 & Tratasform ；matchine． （i0）whim lime to（i00 ohm lino & TF1 110 （．10 & \[
    \begin{aligned}
    & \text { 6o11 } \\
    & \text { - bllis } \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { tino } \\
    \text { =plit }
    \end{gathered}
    \] & 1：1 & －15 & 0 & 0 & \[
    \begin{gathered}
    \cdots \stackrel{2}{2} 1111 \\
    300) \cdot 10,000
    \end{gathered}
    \] & 1.1 \\
    \hline MGA 5 & ＂ranstormer：оитин． sine le pate inou whm． f wifs ahm to fion ohm lime & ＇Fド11：1．10 &  & \[
    \begin{aligned}
    & \text { filof } \\
    & \text { sylit }
    \end{aligned}
    \] & 3.56 ： 1 & \(+3.3\) & 10 & 40 & \[
    \begin{gathered}
    \pm=213 \\
    \sin -10.000
    \end{gathered}
    \] & ． 1.7 \\
    \hline MGA 6 & Transtormer：autput．sinkle platro Tatol ohme 4 － 00 whm tan wise coil & TF゙1113．1．10 & \[
    \begin{aligned}
    & \text { ifino } 1: 11 \\
    & \text { (18 } 1=000
    \end{aligned}
    \] & 4．1 14 & 21． 1 ： 1 & \(-338\) & 40 & 40 & \[
    \begin{gathered}
    \pm 01131 \\
    : 00.10 .000
    \end{gathered}
    \] & 1．J \\
    \hline MGA 7 & Transformor：outpur，singlo om P．1＇．patas to fioll whan lime & Tト1 \13 \({ }^{\text {a }}\) & \[
    \begin{gathered}
    1.101011 \\
    11 \\
    \hline
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { fol } \\
    & \text { split }
    \end{aligned}
    \] & \(\therefore: 1\) & +33 & 10 & 10 & \[
    \begin{gathered}
    +\frac{1}{2} 13 \\
    300.10 .000
    \end{gathered}
    \] & 1.1 \\
    \hline MGA 8 & \begin{tabular}{l}
    ＂Tanstormer＂：whtput． \\
    l．P．plates to fion ohm lime
    \end{tabular} & ＇1F＊ 113.1 .10 & \[
    \begin{gathered}
    9.0010 \\
    (17
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 6001 \\
    & \text { 21lit }
    \end{aligned}
    \] & 13．8．2：1 & \(-30\) & 10 & 1 & \[
    \begin{gathered}
    \square=191 \\
    300-10,000
    \end{gathered}
    \] & 1．J \\
    \hline MGA 9 & \begin{tabular}{l}
    Transtormor：outpur． \\
    J．J＇platue to fino whm line
    \end{tabular} & TF1．173．1．10 & \[
    \begin{gathered}
    \text { 80. (rols } \\
    \hline
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { cino } \\
    & \text { silit }
    \end{aligned}
    \] & 10：1 & \(+27\) & 10 & 1 & \[
    \begin{gathered}
    \pm 21013 \\
    300-10,000
    \end{gathered}
    \] & A．J \\
    \hline
    \end{tabular}

    \section*{STANDARD MILITARY POWER TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Cat． No． & MIL－T－27 Type Designation & Hi Volt． & D．C．Volts & D．C．Amps． & Fil．\(=1\) & Fil．\(=2\) & Case No． \\
    \hline MGP－1 & ＇TF゙1 \03311 \001 & 200－100－10．100－2000 & 1－： & \(0 \% 11\) & ＋i．3－）\(\quad 1\) ？ & 16.3 （i）： & H． 1 \\
    \hline MGP－2 & ＇IF゙1 \113．1300） &  & 21，6 & 070 & 16．3 if ur & ＋1． \(\mathrm{B}_{6} 11\) & IIS \\
    \hline MGP． 3 &  & （i）ita \({ }^{\circ}\) & 21.1 & 1.711 & ＋i．3 un is & F tı 3 & 1il \\
    \hline MGP． 4 & TF1．10：1．13003 & －110＋ 1 & 11. & ．17： & － 614 & 1．．3 m－ & I．H \\
    \hline MGP． 5 & Tド110：，313000」 & 9010）\({ }^{\text {c }}\) & 31.7 & ．2－， & \(\therefore\)＇t ： & A．3 6 Ir & Mis \\
    \hline MGP． 6 & 「ド1 10－218001 & \(7001 \%\) & \(2 \therefore\)－ & \(\therefore\) ： 011 & & & 1il3 \\
    \hline MGP． 7 & TF゙1．10－21．80t2 & 11001 T & \(11: 1\) & 250 & & & 1.13 \\
    \hline MGP－8 & T＊F゙1．16こ入13（0）：3 & 1 fiou（\％ & 1.10 & ．\(\because 61\) & & & N13 \\
    \hline
    \end{tabular}

    STANDARD MILITARYFILAMENTTRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat． No． & MIL．T． 27 Type Designation & Secondary Volts & Secondary Current & Secondary Test Volts RMS & Case Size \\
    \hline MGF－1 & ＇F゙\ 101\％1\％00\％ & \(\because\) & 3.9 & 2.500 & F．P3 \\
    \hline MGF－2 & ＂F＇1 \016 P000： &  & 11.11 & \(\because\) \％ 100 & （i） \\
    \hline MGF． 3 &  & ． 3.11 & 3.11 & 2.510 & FIS \\
    \hline MGF． 4 & TF1 101113005 & 8.11 & 111.11 & 2．0601 & 118 \\
    \hline MGF． 5 &  & \(1 . .3\) & \(\because .11\) & 2.51018 & 1113 \\
    \hline MGF－6 &  & 1.3 & ． 5.11 & 2 OnO & （：13 \\
    \hline MGF－7 & T：1 191．ग300， & \(1 . .3\) & 111.11 & \(\because\)－ 0 \％ & 1：18 \\
    \hline MGF－8 & TF1吅にはり04 & 1．．． & － 1.11 & A：\％11 & kis \\
    \hline MGF－9 & TF1 101．JR012 & \(\because \cdot\) & 11.11 & 11.9111 & ． 13 \\
    \hline MGF－10 & ナF1101た1301： & \(\therefore .6\) & 111.11 & 110.1176 & 1 B \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test instruments see Section G，Pages G－106 to 116

    \title{
    petcion frRED TRANSFORMERS ouaiur
    }

    \section*{PROFESSIONAL GRADE COMPONENTS}

    \section*{MINIATURE AUDIO TRANSFORMERS}
    
    \begin{tabular}{|c|c|}
    \hline DM． 12 & CASE DIMENSIONS \\
    \hline & FL － \(11 /{ }^{\prime \prime}\) \\
    \hline & FI）－ \(1 \begin{aligned} & 3 \\ & 3\end{aligned}\) \\
    \hline & W－I\％＂ \\
    \hline & II－ 130 \\
    \hline & \(\mathrm{M}-18 \mathrm{l}\) \\
    \hline
    \end{tabular}
     maximum mutuction from muisture pentration with subsequent elec． trol？si＊amb corrosion of fiar wires．While primarily intemberl for nom－
     Mll，－T•․․ Surifications．
    \begin{tabular}{lllllll}
    \hline
    \end{tabular}

    \section*{PROFESSIONAL GRADE AUDIO TRANSFORMERS}
    
    
    
    
    

    \section*{INPUT TRANSFORMERS}

    Mtg．Centers
    

    U． 500 IMPEDANCES IN OHMS
    Mtg．Wgt． Studs
    \％．12．．，20，（2，20，330， 500 CT
    125 amd 500 ohms can be used for 150 and U（ ohms．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Catalog No． & Application & \begin{tabular}{l}
    Imped \\
    Primary
    \end{tabular} & \begin{tabular}{l}
    Level \\
    Secondary
    \end{tabular} & Maximum Power Level V．U．＊ & Ratio & Equiva－ lent Shield－ ing D．B． & \begin{tabular}{l}
    Max． \\
    Pri． \\
    D．C． \\
    per \\
    Side \\
    Ma．
    \end{tabular} & \begin{tabular}{l}
    D．C． \\
    Un－ \\
    bal－ \\
    ance \\
    Ma．
    \end{tabular} & Frequency Response C．P．S． & Case Number \\
    \hline PGA 1 & Iniversal son ohm line to single grid． & ゲ－50\％ & 50.000 & \(+1 \%\) & 1：10 & 50 & \(n\) & 0 & \[
    \begin{aligned}
    & \pm 1.0 \quad 113 \\
    & 30.15 .000
    \end{aligned}
    \] & 119．01\％ \\
    \hline PGA 2 & Coniversal fon ohm line to push－puld grids． & だー\％กの & \[
    \begin{aligned}
    & 60,000 \\
    & \text { split }
    \end{aligned}
    \] & \(+12\) & 1：11 & 50 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \text { IV13 } \\
    & 30.15,000
    \end{aligned}
    \] & D．M．01T \\
    \hline PGA 3 & Iniversal 500 olim line to push－pull grids． & 「゙－500 & \[
    \begin{gathered}
    100.000 \\
    \text { split }
    \end{gathered}
    \] & \(+12\) & 1：14．1 & 50 & 0 & 0 & \[
    \frac{ \pm 1.0}{30-15,000}
    \] & D．M．01T \\
    \hline PGA 4 & IBriblume line to sinele
    erid． & 10.000 & 60.000 & ＋12 & 1：2．45 & 50 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{JH} \\
    & 30.15,000
    \end{aligned}
    \] & DM．01T \\
    \hline PGA 5 & Irialquin line to pushopult grils． & 10，000 & \[
    \begin{aligned}
    & 60.000 \\
    & \text { Enlit }
    \end{aligned}
    \] & ＋12 & 1：2．4\％ & 50 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \\
    & 30.15,000
    \end{aligned}
    \] & DM．01T \\
    \hline PGA 6 & I．ow level line matehing． & V500 & ［－500 & ＋18 & 1：1 & 50 & 0 & 0 & \[
    \begin{gathered}
    \pm 1 \text { 101 } \\
    30-15.000
    \end{gathered}
    \] & DM－017 \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 to 116

    \title{
    putcision fREED TRANSFORMERS ofuiur
    }

    \section*{PROFESSIONAL GRADE COMPONENTS}

    LOW LEVEL OUTPUT AND MIXING TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat． No． & Application & \multicolumn{3}{|l|}{Impedance Level \begin{tabular}{c} 
    Maximum \\
    Ohmer Level V．U．＊ \\
    Ohms Power in \\
    or \\
    Wrimary Secondary \\
    Watts
    \end{tabular}} & Ratio & \[
    \begin{gathered}
    \text { Max. } \\
    \text { Pri. D.C. } \\
    \text { Per Side } \\
    \text { Ma. }
    \end{gathered}
    \] & D．C． Unbalance Ma． & \[
    \begin{gathered}
    \text { Frequency } \\
    \text { Response } \\
    \text { C.P.S. }
    \end{gathered}
    \] & Case Number \\
    \hline PGA 7 & Finrle triode plate to Eniversal 500 ohm line．shunt feed． & 15，000 & U500 & ＋18 & 5．48：1 & 0 & 0 & \[
    \begin{gathered}
    \pm 1.0 \mathrm{DB} \\
    30 \cdot 15,000
    \end{gathered}
    \] & いM－01T \\
    \hline PGA 8 & Sinsle triode plate to Universal 500 ohm line． & 15，000 & U500 & ＋18 & 5．48：1 & 8 & 8 & \[
    \begin{gathered}
    \pm 1.01 \mathrm{~PB} \\
    100.15,000
    \end{gathered}
    \] & W． \(\mathrm{N} \cdot 01 \mathrm{l}\) \\
    \hline PGA 9 & I＇ush－pull triode plate to l＇niversal 500 ohm line． & \[
    \begin{gathered}
    20.000 \\
    (\mathrm{~T}
    \end{gathered}
    \] & じ500 & ＋30 & 13．32：1 & \(\delta\) & \(0 . \bar{\square}\) & \[
    \begin{aligned}
    & \pm 1.011 \mathrm{~B} \\
    & 30 \cdot 15,000
    \end{aligned}
    \] & 1）M．01＇I \\
    \hline PGA 10 & －Low level line matching． & じうon & 15000 & ＋18 & 1：1 & 11 & 0 & \[
    \begin{gathered}
    \pm 1.0 \mathrm{~PB} \\
    30-15,000
    \end{gathered}
    \] & WM．01T \\
    \hline
    \end{tabular}
    ＊1 mw．reference level．
    

    \section*{DRIVER TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Cat． No． & Application & Primary Impedance Ohms & Turn Ratio Pri： \(1 / 2\) Sec． & \[
    \begin{gathered}
    \text { Max. Level } \\
    \text { V.U.* }
    \end{gathered}
    \] & Max，Pri．D．C． Per Side Ma ． & Max．D．C． Unbalance Ma． & Frequency Response C．P．S． & \begin{tabular}{l}
    Case \\
    Number
    \end{tabular} \\
    \hline PGA 11 & ［＇nivarsal 500 ohm line to pushi＊pull wrids． & 【゙らいい & 1：1 & ＋11 & 1 & ） & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DB} \\
    & 30.15,000
    \end{aligned}
    \] & 10－2．\({ }^{\text {a }}\) \\
    \hline PGA 12 & Pushopull GC＇4，GsNT trionles to bushopull 2 A 3 ，fildi ipribs． & \[
    \begin{gathered}
    20,0001 \\
    \text { ('. } 19 .
    \end{gathered}
    \] & 3．0：1 & ＋30 & 111 & 1 & \[
    \begin{aligned}
    & \pm 1.01013 \\
    & 30.15,000
    \end{aligned}
    \] & 10.1 .11 \\
    \hline PGA 13 & Pushopull 2A3，gits，giva 10 push－pul］＝139，T\％－411，4／125．1 & \[
    \begin{gathered}
    \therefore .000 \\
    i . T .
    \end{gathered}
    \] & 3．2：1 & \(\pm 10\) & 50 & \(\square\) & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{INT} \\
    & 311.15 .000
    \end{aligned}
    \] & 1）（－2．23． \\
    \hline
    \end{tabular}
    

    \section*{HIGH LEVEL OUTPUT TRANSFORMERS}
    
    ＇l after case momber intirates＇lerminals．

    U－16 IMPEDANCES IN OHMS
    \[
    2,4,8,12,16
    \]

    U－500 IMPEDANCES IN OHMS
     \(12 \overline{5}\) and 5 万ol olims can he nsed fur 1.50 amd tino olims．

    A \(\overline{\text { in }} 0\) volts level can be olbtained for the following impedances：
    

    \footnotetext{
    1 mw，reterente level．
    }

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 to 116

    \title{
    precision \(\begin{aligned} & \text { bar } \\ & \text { FREED TRANSFORMERS } \\ & \text { QuALITY }\end{aligned}\)
    }

    \section*{PROFESSIONAL GRADE COMPONENTS}

    HIGH LEVEL OUTPUT TRANSFORMERS
    Continued from previous page－See same for case sizes
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat． No． & Application & \begin{tabular}{l}
    Imped \\
    Primary
    \end{tabular} & Leve！ ins Secondary & \begin{tabular}{l}
    Maximum \\
    Power Level V．U． \\
    or Power in Watts Maximum
    \end{tabular} & Ratio & \begin{tabular}{l}
    Max． \\
    Pri．D．C． \\
    Per Side Ma．
    \end{tabular} & \begin{tabular}{l}
    D．C． \\
    Unbalance Ma．
    \end{tabular} & Frequency Response C．P．S． & Case Number \\
    \hline PGA 20 & As alowe to［＇niversal volee mil． & \[
    \begin{gathered}
    68018 \\
    1.1 . \\
    \hline
    \end{gathered}
    \] & 111 & ＋14． & \(20.3: 1\) & 70 & 7 & \[
    \begin{aligned}
    & \pm 1.0101 \\
    & 30.15 .000
    \end{aligned}
    \] & 110．－1．11． \\
    \hline PGA 21 & \begin{tabular}{l}
     B．D．if，fillt self hias F＇I＇． \\
    Far． 6 V （\％）Als 10 Triverasal voice roil．
    \end{tabular} & \[
    \begin{gathered}
    501010 \\
    \text { C.T. }
    \end{gathered}
    \] & ［1］ & \(+48\) & 1\％．7：1 & ＊＊ & \(s\) & \[
    \begin{aligned}
    & \pm 1.0101 \\
    & 30.15 .000
    \end{aligned}
    \] & 1）（ \(\cdot 4.11\). \\
    \hline PGA 22 & \begin{tabular}{l}
    P．I．Par gil．ci（＇l．． \(1 \mathrm{~B}_{1}\) sell hias I．I＇．Bific Cl．Als． \\
    fixel bias Prent（1．．IIt \\
    to Iniversal iono ohm line＂
    \end{tabular} & \[
    \begin{aligned}
    & + \text { now } \\
    & \text { C.T. }
    \end{aligned}
    \] & ［゙．11） & \[
    \begin{gathered}
    +47 \\
    (50 \text { watts) }
    \end{gathered}
    \] & －，3：1 & 100 & 11 & \[
    \begin{gathered}
    \pm 1.01113 \\
    30.15 .100
    \end{gathered}
    \] &  \\
    \hline PGA 23 & As alove to［niversal］ voire cuil． & \[
    \begin{aligned}
    & +0111 \\
    & \text { ( } \because 1 .
    \end{aligned}
    \] & \(1{ }^{1} 16\) & \(+4 ;\) & 1 B，M 1 & 1111 & 1＂ & \[
    \begin{aligned}
    & \pm 1.0 \text { I1: } \\
    & 2 n-15.1100
    \end{aligned}
    \] &  \\
    \hline PGA 24 &  fixml hias［＇niversal voice reil． & \[
    \begin{gathered}
    30011 \\
    \therefore \because .1
    \end{gathered}
    \] & 110 & ＋＋1． & \(13.7: 1\) & 7 & \(7 .\). & \[
    \begin{aligned}
    & \pm 1.0 \text { I11 } \\
    & : 0.15,000
    \end{aligned}
    \] & 110.4 .11. \\
    \hline PGA 25 & \begin{tabular}{l}
     \\
    Crniveras 500 olm line．
    \end{tabular} & \[
    \frac{2100}{1} \frac{0}{}
    \] & 1\％600 & \[
    \begin{gathered}
    +\therefore 1 . \\
    (150 \text { wat1s) }
    \end{gathered}
    \] & 2．0．： 1 & \(\because 111\) & \(1^{-1}\) & \[
    \begin{aligned}
    & \pm 1.11013 \\
    & \because 0.15,000
    \end{aligned}
    \] & 119．－6i．11． \\
    \hline PGA 26 & I．P．Par 2．13．fisfor fixal hias dilst， 300 A （1．AB \(\mathrm{H}_{1}\) ． 1．l＇，Par filficl．A to ［＇niversal 500 ohm liter． & \[
    \begin{gathered}
    1500 \\
    \text { f.I. }
    \end{gathered}
    \] & \(1: 900\) & ＋＋4．： & 1．73：1 & 150 & \(1 \%\) & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{DH} \\
    & : 11.15 .4100
    \end{aligned}
    \] & 16．4．11 \\
    \hline PGA 27 & Is above to［niversal voire roil． & \[
    \begin{gathered}
    1501 \\
    \text { } \% . T .
    \end{gathered}
    \] & ［16i & ＋44．9 & 9．7：1 & 150 & 1. & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{D} 13 \\
    & \therefore 6.15 .000
    \end{aligned}
    \] & 1）（＇－4．11． \\
    \hline PGA 28 & Matrhing line to lini－ versal voice eoil． & 1 ลิ10 & 1110 & \(++1 . \pi\) & 5． 0.1 & 0 & 0 & \[
    \begin{aligned}
    & \pm 1.0 \text { I)! } \\
    & : \therefore 11.15 .0101
    \end{aligned}
    \] & \(10 \sim 4.17\) \\
    \hline PGA 29 & Matchine line to I＇ni－ versal voice roil． & 15900 & 1110 & \(+47\) & 5．4：1 & 0 & ＂ & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{JH} \\
    & : 0-1.0000
    \end{aligned}
    \] & \(1)(6-5.17\) \\
    \hline PGA 30 & Mathang line to I＇ni versal voice coll． & L．510 & 116 & \[
    \begin{gathered}
    +50 \\
    (100 \text { watts }
    \end{gathered}
    \] & 5．6： 1 & \(1)\) & 1 & \[
    \begin{aligned}
    & \pm 1.0 \mathrm{IO} \\
    & : \because 15,0)
    \end{aligned}
    \] & U（＇－f．AT \\
    \hline
    \end{tabular}

    U－16 IMPEDANCES IN OHMS
    2 ohms， 4 ohms， 8 olms， 12 ohms． 14 ohms
    U－500 IMPEDANCES IN OHMS
    \(50,125,200\) CT， 250,330 500（TT
    125
    and
    fot 40 volts level can be oltained for ther 150 and foon ohthe A 70 wolts lewel can be whitained for the following impelances
    

    \section*{HIGH Q REACTORS}

    High Q Reactors for use in resonant waye trafs and dynamic noise
    
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat． No． & Application & Rated Ind． in Henries & Q & Tuning Capacitor（Mf） & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { Size }
    \end{aligned}
    \] \\
    \hline PQC 1 & 6ill chs resomant trap & 14.00 & 10 & ．\({ }^{\text {a }}\) & DM－421． \\
    \hline PQC 2 & 400 cpes resomant trap & 1．58 & 1： & ． 1 & 193－421 \\
    \hline PQC 3 & 1000 rps resomant traj & 1.00 & 20 & ．025 & 1）M－リご \\
    \hline PQC 4 & Dynamic noife suppression imiluctor & 2.10 & \[
    \text { 雷 } 4 \mathrm{KC}
    \] & & 119－03\％ \\
    \hline PQC 5 & Dynamic noise suppression iniluretor & 2.100 & \[
    \begin{aligned}
    & 20 \\
    & 4 \mathrm{kC}
    \end{aligned}
    \] & & WM－0．1． \\
    \hline PQC 6 & Invamic mise suppression inductor & 1.30 & \[
    \stackrel{20}{4} \mathrm{KC}
    \] & & DM－11－1． \\
    \hline PQC 7 & Dynamic mone suppression inductor & ． 80 & \[
    \omega^{20} 4 \mathrm{kc}
    \] & & DM－4？ \\
    \hline PQC 8 & Dynamic mise suppression inductor & ．60 & \[
    \begin{aligned}
    & 20 \\
    & 4 \\
    & \mathrm{KCC}
    \end{aligned}
    \] & & DM－3\％ \\
    \hline PQC 9 & Dynamic noise suppression inductor & ．410 &  & & D） CH －4ツ1． \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test Instruments see Section G，Pages G． 106 to 116

    \section*{PRECISIO \\ FREED TRANSFORMERS}

    \section*{FILTER REACTORS—PROFESSIONAL GRADE COMPONENTS}
    

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Case \# & Mtg. Cent. & & ensio D & H & Mtg. Studs & Wgt. \\
    \hline DM-01 & \(1{ }_{1}^{1} \times 1\) & 114 & \(11 / 9\) & 2 & 6-32 & 1/2 \\
    \hline DC1A & \(11 / 2 \times 11 / 4\) & \(\underline{21}\) & \(11_{6}^{13}\) & \(21 / 2\) & 8-32 & 1 \\
    \hline DC2A & \(\because \times 13 / 4\) & 2 \(8 / 8\) & 21/4 & 9 & 8.32 & \(23 / 4\) \\
    \hline DC2B & \(2 \times 13 / 4\) & 25 & 21/4 & \(31 / 2\) & 8.39 & 3 \\
    \hline DC4A & \(21 / 2 \times 21 / 2\) & 31/8 & 3 & 33,4 & 8-32 & \(41 / 8\) \\
    \hline DC5B & \(31 / 8 \times 25 / 8\) & \(41 / 8\) & \(31 / 4\) & +1/2 & 10.32 & 10 \\
    \hline
    \end{tabular}

    Inductance measured at \(50 \mathrm{~V}, 60\) cycles with rated direct current in the winding.
    T following case number indicates Terminals.

    L following case number indicates Leads.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat. No. & Inductance in Hy . & Rated Current D.C. Ma. & D.C. Resistance & Dielectric Test Voltage & Case Number \\
    \hline PGC 1 & 40 & 15 & \(\because 000\) & 1000 & DM-01I \\
    \hline PGC 2 & 12 & 40 & 400 & 1000 & DC-1AL \\
    \hline PGC 3 & 8 & 50 & 300 & 1000 & DC-1AI. \\
    \hline PGC 4 & 20 & 50 & 425 & ?500 & DC-2AI. \\
    \hline PGC 5 & 10 & 70 & 250 & 2500 & \(\frac{\mathrm{DC}-2.1}{\text { DC-2 }}\) \\
    \hline PGC 6 & 6 & 100 & 160 & \(\frac{25011}{9500}\) & \(\frac{D C-2.21 .}{\text { DC }-213 \mathrm{I}}\) \\
    \hline PGC 7 & 6 & 150 & 115 & \(\underline{2500}\) & DC-4.11. \\
    \hline PGC8 & 10 & 150 & 160 & \(\underline{2500}\) & D( -4.1 l . \\
    \hline PGC 9 & 5.5 & 200 & \(\underline{95}\) & 250 & I) \({ }^{\text {c }}\) - 4.11 \\
    \hline PGC 10 & 10 & 200 & 1130 & 2500 &  \\
    \hline PGC 11 & 10 & 250 & 135 & \(\underline{2500}\) & D( -51 BI . \\
    \hline PGC 12 & 8 & 300 & 65 & \(\underline{2500}\) & 1) \({ }^{\circ} \mathrm{E}\) ) \\
    \hline PGC 13 & 7 & 400 & 60 & 2., 0 ( & 1-1. \\
    \hline \multicolumn{6}{|r|}{Parallel Feed Audio Chokes DM-01L} \\
    \hline PGC 14 & 100 & 10 & 3500 & 1000 & DC-2AI. \\
    \hline PGC 15 & 30 & 511 & 650 & \(\frac{1500}{1600}\) & IMM-01\% \\
    \hline PGC 16 & 400 & 1 & 6000 & 1000 & D.01\% \\
    \hline
    \end{tabular}

    SWINGING INPUT REACTORS
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Cat. No. & Inductance in Hy.* & Rated Current D.C. Ma. & D.C. Resistance & Dielectric Test Voltage & Case Number & \\
    \hline PGC 17 & 5. 20 & 150 & 160 & 1500 & DC-4AI & \\
    \hline PGC 18 & \(5-20\) & 250 & 135 & 1500 & 4 & See
    Above \\
    \hline PGC 19 & 3-15 & 300 & 05 & 1 1)00 & D( -5 18L & \\
    \hline PGC 20 & \(3 \cdot 15\) & 400 & 60 & 1500 & P(-6) & \\
    \hline
    \end{tabular}
    *nductance values for \(100 \%\) and \(10 \%\) of rated Direct C'urrent.

    \section*{PROFESSIONAL GRADE POWER TRANSFORMERS}
    

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Case \# & Mtg. Cent. & \multicolumn{3}{|l|}{\[
    W_{\mathrm{D}}^{\text {Dimensions }} \mathrm{H}
    \]} & Mtg. & Wgt. \\
    \hline DC2B & \(2 \times 13 / 4\) & \(25 / 8\) & \(21 / 4\) & \(31 / 2\) & \(8-32 \mathrm{~s}\) & 3 \\
    \hline DC4A & \(21 / 2 \times 21 / 2\) & \(31 / 8\) & 3 & \(33 / 4\) & \(8-32 \mathrm{~s}\) & \(41 / 2\) \\
    \hline DC5A & \(31 / 8 \times 28 / 8\) & \(41 / 8\) & \(31 / 2\) & \(37 / 8\) & \(10-32 \mathrm{~s}\) & 9 \\
    \hline DC5B & \(31 / 8 \times 25 / 8\) & 41/8 & \(31 / 2\) & \(41 / 2\) & \(10-32 \mathrm{~s}\) & 10 \\
    \hline DC6A & \(33 / 4 \times 3\) & 5) & +1/2 & 47/8 & 10.32 s & 15 \\
    \hline DC7B & \(43 / 8 \times 3 \%\) & 51/2 & 5 & \(63 / 4\) & 1/4.206 & 22 \\
    \hline
    \end{tabular}

    Fully impregnated and sealed in heavy gauge cases. Temperature rises range from \(45^{\circ}\) to \(50^{\circ} \mathrm{C}\).
    All primaries designed for \(115 \mathrm{~V} / 50-60\) creles. Available for 220 V operation on special orter".
    T following case number indivates Terminals.
    \(L\) following case number indicates L.eads.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat. No. & Pri. Va & Hi Volt & \[
    \begin{aligned}
    & \text { Choke Input } \\
    & \text { D.C.V. D.C.Ma. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Cond } \\
    & \text { D.C.V. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Input } \\
    & \text { D.C. Ma. }
    \end{aligned}
    \] & Rectifier & Fil. \#1 & Fil. \#2 & Case Number \\
    \hline PGP 1 & 15 & \[
    \begin{gathered}
    440 \mathrm{O} \\
    \text { C.T. }
    \end{gathered}
    \] & I.ow flux density. lum-bucking. For l'reamplifier service & 2710 & 15 & GX4 & 1 i 3 CT (1) 0.6.1. & 6.3 @ 0.3 A . & DC. 2 BL \\
    \hline PGP 2 & 30 & \[
    \begin{gathered}
    \text { B.5V゙. } \\
    \text { C.T. }
    \end{gathered}
    \] & I.ow flux density, hum-bucking. For Preamplifier service & 310 & 35 & \(6 \mathrm{S4}\) & 6.3 CT @ 0.6A. & 6.3 СT 0.9A. & DC-4AL
    DC.4AL \\
    \hline PḠP 3 & 45 & \[
    \begin{gathered}
    \text { 50nv*. } \\
    \text { C.T. }
    \end{gathered}
    \] & & 270 & 40 & \(6 \mathrm{X} 4,5 \mathrm{Y} 3\) & 5/6.31 @ 2A. & 6.3 ( \({ }^{\text {a }}\) A. & DC-4AL \\
    \hline PGP 4 & 57 & \[
    \begin{gathered}
    \text { conv. } \\
    \text { C.T. }
    \end{gathered}
    \] & & 330 & 50 & (1) 4,513 & \(5 / 6.3 \mathrm{~V}\) (1) 2 A . & 1.3@ 2.5A. & DC-4AI \\
    \hline PGP 5 & 14 & \[
    \begin{gathered}
    850 \mathrm{Y} \\
    \text { C.T. }
    \end{gathered}
    \] & & 370 & 50 & 6X4,5Y3 & 5/6.3V@2A. & 6.3 (i) 3A. & DC-4AL \\
    \hline PGP 6 & 73 & \[
    \begin{aligned}
    & \text { nonv. } \\
    & \text { C.T. }
    \end{aligned}
    \] & & 320 & 70 & 6X 4, 5 Y 3 & \(5 / 6.3 \mathrm{~V}\) (1) 2 A & 6.3 (1) 3 A. & 1) \({ }^{\text {c }} 4.41\). \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

    \title{
    meteision FREED TRANSFORMERS odutirr
    }

    \section*{PROFESSIONAL GRADE POWER TRANSFORMERS \\ Continued from previous page - See same for case sizes}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat. No. & Py Va & Hi Volt & \[
    \begin{aligned}
    & \text { Chok } \\
    & \text { D.C. } V .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Input } \\
    & \text { D.C. Ma. }
    \end{aligned}
    \] & Cone & \[
    \begin{aligned}
    & \text { Input } \\
    & \text { D.C. Ma. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Bias } \\
    & \text { Tap. }
    \end{aligned}
    \] & Rectifier & Fil. \#1 & Fil. \#2 & Fil. \#3 & Case Number \\
    \hline PGP 7 & 110 & \[
    \begin{gathered}
    650 \mathrm{~V} . \\
    \text { С.T. }
    \end{gathered}
    \] & 225 & 140 & 330 & 100 & & \(5 \mathrm{I} 3,5 \mathrm{U} 4\) & 5 @ 3 A. & (i.3 (it) 5 A. & & DC-5BL \\
    \hline PGP 8 & 76 & \[
    \begin{aligned}
    & 700 \mathrm{~V}, \\
    & \text { C.T. }
    \end{aligned}
    \] & 260 & 100 & 385 & 70 & & 5Y3 & 5 (1)2 2 . & 16.3 (9) 2. A. & & DC-5AL \\
    \hline PGP 9 & 108 & \[
    \begin{gathered}
    700 \mathrm{~V} . \\
    \text { С.T. }
    \end{gathered}
    \] & 250 & 125 & 370 & 90 & & \(5 \mathrm{I} 3,5 \mathrm{CH}\) & \(5 @ 3.1\) & 6.3 @ 5. & & DC-5BL \\
    \hline PGP 10 & 127 & \[
    \begin{gathered}
    \text { 700V. } \\
    \text { C.T. }
    \end{gathered}
    \] & 260 & 170 & 350 & 120 & & 5U4 & 5 (a) 3A. & \(6.3 @ 5 \mathrm{~A}\). & & DC-5BL \\
    \hline PGP 11 & 146 & \[
    \begin{gathered}
    700 \mathrm{~V} . \\
    \text { C.T. }
    \end{gathered}
    \] & 260 & 210 & 350 & 150 & & 5U4 & 5 3 & 1.3@ 5A. & \(6.3 @ 1.1\). & DC-6AL \\
    \hline PGP 12 & 207 & \[
    \begin{gathered}
    800 \mathrm{~V} . \\
    \text { C.T. }
    \end{gathered}
    \] & 295 & 280 & 400 & 200 & & 5U4, 2-5Y3 & 5 (1i) 4 A. & 6,3@6A. & & J)C.6AL \\
    \hline PGP 13 & 225 & \[
    \begin{gathered}
    800 \mathrm{~V} . \\
    \text { C.T. }
    \end{gathered}
    \] & 295 & 280 & 400 & 200 & 80 & 5U4, 2-5Y3 & 5 (i) 4 4 & 1.3@6A. & 5/6.3@2A. & DC-6AL \\
    \hline PGP 14 & 268 & \[
    \begin{gathered}
    \text { 8.40Y. } \\
    \text { C.T. }
    \end{gathered}
    \] & 330 & 350 & 450 & 250 & 80 & 2-5U4 & 5) 6A. & 6.3@ 6. & 5/6.3@ - 4. & IJC-6AL \\
    \hline PGP 15 & 320 & \[
    \begin{aligned}
    & 900 \mathrm{~V}, \\
    & \text { С.T. }
    \end{aligned}
    \] & 340 & 420 & 490 & 300 & 80 & \(2-5 \mathrm{C} 4\) & 5 (2) 6 A. & 6.3 (12) 6 . & 5/6.3 @ 2. & | ( - - - 131 \\
    \hline PGP 16 & 127 & \[
    \begin{gathered}
    900 \mathrm{~V} \\
    \text { C.T. }
    \end{gathered}
    \] & 360 & 150 & & & & \(5 \mathrm{U}^{+} 4\) & 5 (1) 3A, & \(0.3 @ 5 \mathrm{~A}\). & & DC-6AL \\
    \hline PGP 17 & 150 & \[
    \begin{aligned}
    & 900 \mathrm{~V}, \\
    & \text { С.T. }
    \end{aligned}
    \] & 350 & 200 & & & & 5 C 4 & 5 (1i 3A. & 6.3@ 5A. & & DC-6AL \\
    \hline PGP 18 & 203 & \[
    \begin{aligned}
    & 1100 \mathrm{~V} . \\
    & \text { C.T. }
    \end{aligned}
    \] & 400 & 250 & & & & 6R1GY & 5 @ 3.A. & 6.3 (1) 5A. & & DC-6AL \\
    \hline PGP 19 & 248 & \[
    \begin{gathered}
    1100 \mathrm{~V} . \\
    \text { C.T. }
    \end{gathered}
    \] & 420 & 300 & & & & \(2 \cdot 5 \mathrm{Cl} \mathrm{GI}^{\text {- }}\) & \(5 @ 4 \mathrm{~A}\). & 6.3 (1) 7A. & & DC-6AL \\
    \hline PGP 20 & 310 & \[
    \begin{aligned}
    & 12 \mathrm{sol} \\
    & \text { C.T. }
    \end{aligned}
    \] & 480 & 350 & & & & \(2 \cdot 5124 \mathrm{CT}\) & 5 (11) 4. & \(6.3 @ 7\) A. & & D) \(\mathrm{C}-7 \mathrm{BL}\) \\
    \hline
    \end{tabular}

    \section*{FILAMENT TRANSFORMERS}

    ALL PRIMARIES ARE FOR 115 V., 50/60 c.p.s.
    

    L after case number indicates Leads
    T after case number indicates Terminals
    \begin{tabular}{|c|c|c|c|c|}
    \hline Cat. No. & Secondary Voltage & Secondary Current Amps. &  & Case Size \\
    \hline TF 1 & 2.5 (C.T.) & \%.5 & 1500 & CHLS0 \\
    \hline TF 2 & 2.5 (C.T.) & 10 & 1500 & C17\% \\
    \hline TF 3 & 2.5 (C.T.) & 5 & 7500 & DC213T \\
    \hline TF4 & 2.5 (C.T.) & 10 & 7500 & JCiAT \\
    \hline TF 5 & 5.0 (C.T.) & 4 & 1500 & (1150 \\
    \hline TF 6 & 5.0 (C.T.) & 6 & 1500 & CH 70 \\
    \hline TF 7 & 5.0 (C.T.) & 10 & 1500 & Cilso \\
    \hline TF 8 & 5.0 (C.T.) & 10 & 1500 v & \(\overline{\mathrm{F}} 10\) \\
    \hline TF9 & 5.0 (C.T.) & 20 & \(250 \overline{0}\) & Fibo \\
    \hline TF 10 & 5.0 (C.T.) & 20 & 10,000 & DCCAT \\
    \hline TFIl & 6.3 (C.T.) & 1.35 & 1500 & CII50 \\
    \hline TF 12 & 6.3 (C.T.) & 3 & 1500 & CH50 \\
    \hline TF 13 & 6.3 (C.T.) & 5 & 1500 & (TIF\% \\
    \hline TF 14 & 6.3 (C.T.) & 7 & 1500 & FV12 \\
    \hline TF 15 & 6.3 (C.T.) & 11 & 1500 & FV22 \\
    \hline TF 16 & 10 (C.T.) & 5 & 2500 & CIIRO \\
    \hline TF 17 & 10 (C.T.) & 5 & 2500 & F'V10 \\
    \hline \multirow[t]{2}{*}{TF18} & 10 (С.T.) & 12 & & \\
    \hline & \[
    11 \text { (C.T.) }
    \] & \[
    \begin{aligned}
    & \text { or } \\
    & 11
    \end{aligned}
    \] & 7500 & DC5CT \\
    \hline TF 19 & 12.6 (C.T.) & 2 & 1500 & CIIO \\
    \hline
    \end{tabular}
    

    CH

    For Freed Precision Laboratory Test Instruments see Section G, Pages G-106 to 116

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    }

    AUTOTRANSFORMERS
    

    CH
    

    HB

    To be used as a step－down transformer．Equipped with standard receptacle and line cord．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { CATALOG } \\
    & \text { NUMBER } \\
    & \hline
    \end{aligned}
    \]} & & VA & CASE & \multicolumn{6}{|c|}{CASE DIMENSIONS} \\
    \hline & TRANSFORMATION & RATING & IE & \multirow[b]{2}{*}{Case \＃} & \multirow[b]{2}{*}{Mtg．Cent．} & \multicolumn{3}{|l|}{} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Wgt. } \\
    & \text { (lbs.) }
    \end{aligned}
    \]} \\
    \hline SDT 1＊ & \[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \mathrm{c} . \mathrm{p} . \mathrm{s} .
    \end{aligned}
    \] & 25 & CII－60 & & & w & Dimensions & H & \\
    \hline SDT 2＊ & \[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \text { c.p.8. }
    \end{aligned}
    \] & \[
    50
    \] & CH．62 & CH60 & 218 & \(31 / 4\) & 2 & 2 & \(11 / 2\) \\
    \hline SDT 3 & \multirow[t]{2}{*}{\[
    \underset{50 / 60 \mathrm{c} . \mathrm{p.s} .}{230 / 115 \mathrm{~V} .}
    \]} & \multirow[t]{2}{*}{50} & TS－300 & CH62 & 218 & \(81 / 4\) & \(21 / 8\) & 2 & \(13 / 4\) \\
    \hline \multirow[t]{2}{*}{SDT 4} & & & \multirow[t]{2}{*}{VS－401} & HB718 & \(43 / 4 \times 3 / 4\) & \(63 / 8\) & \(81 / 2\) & \(61 / 4\) & 36 \\
    \hline & \begin{tabular}{l}
    \(230 / 115 \mathrm{~V}\) ． \\
    \(50 / 60\) c．p．s．
    \end{tabular} & 100 & & HB728 & \(43 / 4 \times 6\) & \(63 / 8\) & \(93 / 4\) & \(61 / 4\) & 45 \\
    \hline SDT 5 & \[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \text { c.p.8. }
    \end{aligned}
    \] & 200 & VS－501 & H8828 & \(5 \% / 857 / 8\) & 71／4 & \(97 / 8\) & 6 \％ & 54 \\
    \hline \multirow[t]{2}{*}{SDT 6} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \mathrm{c} . \mathrm{p.s.}
    \end{aligned}
    \]} & 300 & VS－601 & H8920 & \(53 / 8 \times 43 / 4\) & \(71 / 4\) & 8\％／4 & 10 & 75 \\
    \hline & & \multirow[t]{2}{*}{400} & \multirow[t]{2}{*}{VS． 604} & VS300 & 2 x 1 l d & 2 多 & \(2 \% /\) & \(3 \frac{8}{32}\) & \(23 / 4\) \\
    \hline SDT 7 & \[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \mathrm{c} . \mathrm{p} . \mathrm{s} .
    \end{aligned}
    \] & & & VS401 & \(21 / 4 \times 18 / 4\) & 23 39 & 3 & 3 35 & \(41 / 2\) \\
    \hline SDT 8 & \begin{tabular}{l}
    \(230 / 115 \mathrm{~V}\) ． \\
    50／60 c．p．s．
    \end{tabular} & 500 & VS－611 & VS501 & \(21 / 2 \times 2{ }^{16}\) & \(33_{3}^{3}\) & 3 甭 & 3 鯜 & \(61 / 4\) \\
    \hline SDT 9 & \[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \text { c.p.s. }
    \end{aligned}
    \] & 750 & VS－706 & VS503 & \(21 / 2 \times 2{ }^{18}\) & \(3{ }^{7}\) & \(3 \mathrm{t} / 8\) & 3 3 \({ }^{\text {2 }}\) & \(51 / 4\) \\
    \hline \multirow[t]{2}{*}{SDT 10} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \text { c.p.8. }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{1000} & \multirow[t]{2}{*}{VS． 718} & VS601 & \(3 \times 2{ }^{3} 8\) & 3 3 \({ }^{3}\) & \(3 \mathrm{~F} / 8\) & 4 程 & 71／4 \\
    \hline & & & & VS604 & \(3 \times 218\) & 3 新 & \(37 / 8\) & 4318 & \(73 / 8\) \\
    \hline SDT 11 & \[
    \begin{aligned}
    & \text { 230/115 V. } \\
    & 50 / 60 \text { c.p.s. }
    \end{aligned}
    \] & 1500 & VS． 728 & VS611 & 3 x 3 2d & 3 预 & \(47 / 8\) & 4 星 & 12 \\
    \hline SDT 12＊ & \[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \text { c.p.s. }
    \end{aligned}
    \] & 2000 & HB－718 & VS612 & \(3 \times 3\) 楼 & 3 歌 & 5 & 439 & \(\frac{121 / 2}{14}\) \\
    \hline \multirow[t]{2}{*}{SDT 13＊} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \mathrm{c} . \mathrm{p} . \mathrm{s} .
    \end{aligned}
    \]} & \multirow[t]{2}{*}{2500} & \multirow[t]{2}{*}{HB－728} & Vs700 & \(31 / 2 \times 3\) 年 & \(41 / 2\) & \(43 / 4\) & 5312 & 14 \\
    \hline & & & & VS706 & \(31 / 2 \times 318\) & \(41 / 2\) & \(51 / 4\) & 512 & 16 \\
    \hline SDT 24＊ & \[
    \begin{aligned}
    & 230 / 115 \mathrm{~V} . \\
    & 50 / 60 \mathrm{c} . \mathrm{p} . \mathrm{e} .
    \end{aligned}
    \] & 3000 & HB－828 & VS714 & \(31 / 2 \times 418\) & \(41 / 2\) & \(61 / 4\) & \(5 \frac{13}{3}\) & 25 \\
    \hline \multirow[t]{2}{*}{\begin{tabular}{l}
    SDT 15＊ \\
    ＊Supplied
    \end{tabular}} & \multirow[t]{2}{*}{\begin{tabular}{l}
    \[
    230 / 115 \mathrm{~V} .
    \]
    \[
    50 / 60 \text { c.p.s. }
    \] \\
    l leads without li
    \end{tabular}} & \[
    5000
    \] & \multirow[t]{2}{*}{HB－920} & VS718 &  & \(41 / 2\) & 6\％ & \(5 \frac{12}{4}\) & 29 \\
    \hline & & dand rec & & VS728 & \(31 / 2 \times 6\) 最 & \(41 / 2\) & 8 & 513 & 36 \\
    \hline
    \end{tabular}

    \section*{ISOLATION TRANSFORMERS}

    Electrostatic shield between primary and secondary．Equipped with standard receptacle and line cord．
    \begin{tabular}{|c|c|c|c|c|}
    \hline CATALOG NUMBER & PRIMARY VOLTAGE 50／60 c．p．s． & \[
    \begin{gathered}
    \text { SECONDARY } \\
    \text { VOLTAGE }
    \end{gathered}
    \] & VA RATING & \[
    \begin{aligned}
    & \text { CASE } \\
    & \text { SIZE } \\
    & \hline
    \end{aligned}
    \] \\
    \hline IT 1 & 115 & 115 & 50 & VS－401 \\
    \hline IT 2 & 115 & 115 & 100 & S－503 \\
    \hline IT 3 & 115 & 115 & 300 & VS－700 \\
    \hline IT 4 & 115 & 115 & 500 & VS－714 \\
    \hline IT 5＊ & 20n／440 & 110／220 & 250 & VS－612 \\
    \hline 1T 6＊ & 220／440 & 110／220 & 100 & VS． 114 \\
    \hline
    \end{tabular}
    ＊：Supplied with leats，without line cord and receptacle．

    \section*{LINEBOOSTERTRANSFORMERS}

    Operate from 90 to 110 volts input to provide \(10 \%\) step－up．
    \begin{tabular}{|cccc|}
    \hline CAT．No． & PRI．VOLTS & SEC．VOLTS & VARATING \\
    \hline LB－1 & \(90-110\) & \(1.1 \times \ln 104\) & CASE SIZE \\
    \hline LB－2 & 101110 & \(1.1 \times \ln 14 t\) & VS－30 \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Test Instruments see Section G，Pages G－106 to 116

    \section*{PRECISION \(\underset{\text { fret }}{\text { for }}\) TRANSFORMERS\} quALITY}
    

    REPLACEMENT GRADECHOKES
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat． No． & Inductance in Henries & Rated Current D．C．Ma， & D．C． Resistance & Dielectric Test Voltage & Case No． & Cat． No． & Inductance in Henries & Rated C＇urrent D．C．Ma． & \begin{tabular}{l}
    D.C. \\
    Resistance
    \end{tabular} & Dielectric Test Voltage & Case No． \\
    \hline RGC 17 & 40 & \(1 \%\) & 2000 & 1060 & （1）\({ }^{4}\) & RGC 9 & \(3 . \mathrm{F}\) & 150 & 11010 & 1500 & CH－fil \\
    \hline RGC 1 & 4 & 40 & 200 & 1000 & （＇10－40 & RGC 10 & 3.1 & 1.71 & 100 & 1500 & V̌－1001 \\
    \hline RGC 2 & 9 & 40 & 400 & 10100 & （ \(1 \mathrm{H}-411\) & RGC 20 & 1： & 1161 & 100 & 2500 & V－306 \\
    \hline RGC 3 & f & 511 & 400 & 1000 & （15－4＂ & RGC 11 & \(\because\) & 200 & （i） & 1500 & CH－fil \\
    \hline RGC 18 & \(\because 0\) & 50 & ＋2：－ & 150\％ & （ 1 l －．in＇ & RGC 12 & \(\because\) & 2011 & ； 0 & 1500 & 「－ 100 \\
    \hline RGC 4 & \(1 \%\) & 55 & 4011 & 1 万0） & （ \(11-\mathrm{Bl}\) & RGC 13 & 3.7 & 200 & （i．） & 1500 & （ \(\mathrm{H}-\mathrm{EO}\) \\
    \hline RGC 19 & 8 & 7.9 & 200 & 15いい & （ H－：\％ & RGC 21 & 7 & 200 & 100 & 2500 & VS－303 \\
    \hline RGC－5 & 11 & 7 & 250 & 1．1010 & （ H－6\％ & RGC 14 & 3.7 & 2011 & （i．） & 1500 & 1＊－800 \\
    \hline RGC 6 & 10 & 75 & \(2 \overline{3} 9\) & 1.50 & I－s－100 & RGC 15 & 2.0 & 3001 & （1i） & 1600 & （ \(\mathrm{H}-80\) \\
    \hline RGC 7 & 6 & \(1!0\) & 150 & \(15 \%\) & （ H －6id & RGC 16 & \(\because\), & 3010 & （i．） & 1500 & 15－300 \\
    \hline RGC 8 & \(1{ }^{\text {i }}\) & 100 & 1.90 & 1.500 & 「－100 & RGC 22 & I & 3111 & 16.7 & \(\underline{2} 500\) & \(1 \mathrm{~s}-30=\) \\
    \hline
    \end{tabular}

    For Freed Precision Laborafory Test Instruments see Section G，Pages G－106 to 116

    \title{
    
    }

    \section*{REPLACEMENT GRADE POWER TRANSFORMERS}

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline CASE \＃ & MTG．CENTERS & \multicolumn{3}{|l|}{\(w{ }_{\mathrm{D}}^{\text {DIMENSIONS }} \mathrm{H}\)} & \begin{tabular}{l}
    WGT． \\
    （Ibs．）
    \end{tabular} \\
    \hline VS．300 & \(2^{\prime \prime} \times 11^{\prime \prime}\) & \(213^{3} \underline{20}^{\prime \prime}\) & \(\underline{23 / 4}\) & \(3{ }^{3} 3_{3}{ }^{\prime \prime}\) & 23 \\
    \hline VS．303 & \(2^{\prime \prime} \times 11_{8 \prime \prime}\) & \(\underline{2939}\) & 3＂ & \(3{ }^{3 \frac{3}{3}}{ }^{\prime \prime}\) & 3112 \\
    \hline VS－306 & \(2^{\prime \prime} \times 2{ }^{\frac{8}{88}}\) & \(\underline{23} 3^{\prime \prime}\) & 3 \(3 / 8{ }^{\prime \prime}\) & \(3{ }^{3}{ }^{3} 11\) & \(41 / 2\) \\
    \hline VS－307 & \(\underline{2 \prime \prime}^{\prime \prime} \times \mathrm{I}^{7}{ }^{\prime \prime}\) & \(33^{3}\) & 38／4＂ & \(3 n^{2}{ }^{\prime \prime}\) & ＋34 \\
    \hline VS－503 & \(21 / 2^{\prime \prime} \times 2{ }_{81}{ }^{\prime \prime}\) & \(3{ }^{\text {3 }}\)＂ & 3\％＂ &  & \(51 / 4\) \\
    \hline VS－505 &  & \(3{ }^{\text {3 }}{ }^{\text {² }}\) & 3\％＂\({ }^{\prime \prime}\) & \(33{ }^{3}\) & 3 \\
    \hline VS－604 & \(3^{\prime \prime} \times 2{ }_{11}^{11}\) & \(3{ }^{\text {3 3 }}\)＂ & 378＂ & ＋ \(43^{\prime \prime}\) & 7：8 \\
    \hline VS－605 & \(3^{\prime \prime} \times 2{ }^{\prime \prime}\) & 3 \({ }^{\text {5 }}\) 2＂ & ＋1／3＂ & \(4{ }^{3}{ }^{\text {星 }}\) & 83 \\
    \hline VS－606 & \(3^{\prime \prime} \times 3{ }^{1 / \prime \prime}\) & 3 行畐＂ & \(4^{1 / 4 \prime}\) & ＋\({ }^{19}{ }^{\prime \prime}\) & 914 \\
    \hline VS－609 & \(3^{\prime \prime} \times 3\) 尓＂ & 3 颜＂ & 4．8＂ & ＋ \(43^{\prime \prime}\) & 11 \\
    \hline VS－611 & \(3^{\prime \prime} \times 311^{\prime \prime}\) & \(3{ }^{3} 3^{\prime \prime}\) & 4 \％ \(8^{\prime \prime}\) & ＋39＂ & 12 \\
    \hline VS－612 & \(3^{\prime \prime} \times 316^{\prime \prime}\) &  & 5 ＂ & \(4{ }_{3}{ }^{\prime \prime \prime}\) & 13 \\
    \hline VS－709 & \(31 \underline{1}^{\prime \prime} \mathrm{x}+48^{\prime \prime}{ }^{\prime \prime}\) & \(41 / 2{ }^{\prime \prime}\) & \(5 \%\)＂ & \(5!3\) & 19 \\
    \hline HS－300 & \(21 / 2^{\prime \prime} \times 2^{\prime \prime}\) & \(3^{\prime \prime}\) & 21／2＂ & －5／8＂ & 234 \\
    \hline HS－303 & 2 \％＂\(\times 2\) 2＂ & 3 3＂ & 21／2＂ & \(\underline{2} 81\) & \(31 /\) \\
    \hline HS－306 & －1年＂\(\times 2\)＂ & 3＂ & \(21 /{ }^{1}\) & 311＂ & 414 \\
    \hline HS－307 & \(2 y^{\prime \prime} \times 9^{\prime \prime}\) & 3 ＂ & 210 & \(3{ }^{3}{ }_{8} /\) & 431 \\
    \hline HS－503 & \(31 / 8 " \times 21 /{ }^{\prime \prime}\) & \(33 \%\) & \(31 / 81\) & \(33 / 8\) & 514 \\
    \hline
    \end{tabular}
    

    CASE DIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline CASE \＃ & MTG．CENTERS & \multicolumn{3}{|l|}{\(w\) DIMENSIONS} & \begin{tabular}{l}
    WGT \\
    （lbs．）
    \end{tabular} \\
    \hline HS－505 & \(31 / 8^{\prime \prime} \times 21_{2}^{\prime \prime}\) & \(3{ }^{3 \prime}\) & \(318^{\prime \prime}\) & \(35{ }^{\prime \prime}\) & 6 \\
    \hline HS－604 & \(33_{4}^{\prime \prime} \times 3^{\prime \prime}\) & \(412^{\prime \prime}\) & 3 \({ }_{4}\)＂ & 35\％ & \(7^{3 / 8}\) \\
    \hline HS－605 & \(33{ }^{3 \prime \prime} \times 3^{\prime \prime}\) & 41／2＂ & 33＊＂ & 3\％＂ & \(83 / 4\) \\
    \hline HS．606 & \(33_{1}^{\prime \prime} \times 3^{\prime \prime}\) & \(41 / 2^{\prime \prime}\) & \(33_{4}{ }^{\prime \prime}\) & 4 ＂ & 91／4 \\
    \hline HS－609 & \(33_{4}^{\prime \prime \prime} \times 9^{\prime \prime}\) & ＋1／2＂ & \(3^{3}{ }_{4}^{\prime \prime \prime}\) & \(43{ }^{\prime \prime}\) & 11 \\
    \hline HS－611 & \(3^{2}+1 \times 3^{\prime \prime}\) & 412＂ & \(33_{4}{ }^{\prime \prime}\) & \(45 / 8\)＂ & 12 \\
    \hline HS－612 & \(3{ }^{\prime \prime \prime} \times 3^{\prime \prime}\) & \(41 / 2{ }^{\prime \prime}\) & \(33{ }^{3 \prime \prime}\) & 4317 & 13 \\
    \hline HS－709 & ＋ 3 ＂\({ }^{\prime \prime} \times 31 \frac{1}{3 \prime}\) & \(51 /{ }^{\prime \prime}\) & \(43 / 3^{\prime \prime}\) & \(57 / 8\) & 19 \\
    \hline
    \end{tabular}
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat． No． & Py Va & Hi Volt & Choke Input
    D.C.V. D.C. Ma. & \[
    \begin{gathered}
    \text { Cond. Input } \\
    \text { D.C.V. D.C. Ma. }
    \end{gathered}
    \] & Bias Tap． & Rectifier & Fil．茾1 & Fil．\＃2 & Fil．\(\# 3\) & Case Number \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 1 \\
    & \text { RGP } 2
    \end{aligned}
    \] & 45 & \(500 \mathrm{V.CT}\) & & 270 & & \({ }^{13} \mathrm{X} 4.5 \mathrm{I}^{+3}\) & \(5 / 6.3\)（17 2.1 & 6．3＠2．1 & & \[
    \begin{aligned}
    & \text { VS300 } \\
    & \text { H\$300 }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 3 \\
    & \text { RGP } 4
    \end{aligned}
    \] & 57 & \[
    600 \mathrm{~V} . \mathrm{CT}
    \] & & 330 50 & & 6S4，5I3 & 5／6．3 2． & 9．3 2．5．1 & & \[
    \begin{array}{r}
    \text { VS303 } \\
    \mathrm{HS} 303 \\
    \hline
    \end{array}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 5 \\
    & \text { RGP } 6 \\
    & \hline
    \end{aligned}
    \] & \[
    64
    \] & \[
    650 \mathrm{~V} . \mathrm{Cl}^{\circ}
    \] & & 370 & & 654，5\％3 & 5／6．3＠2． & 6.3 （1） 3.1 & & \[
    \begin{aligned}
    & \text { VS303 } \\
    & \text { HS303 }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 7 \\
    & \text { RGP } 8
    \end{aligned}
    \] & \[
    73
    \] & \(600 \mathrm{~V} . \mathrm{CT}\) & & \(320 \quad 70\) & & （ixt， 513 & \(5 / 6.3\)（1） 2.1 & 6.3 ＠3．1 & & \[
    \begin{aligned}
    & 18306 \\
    & \operatorname{IS} 306
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 9 \\
    & \text { RGP } 10
    \end{aligned}
    \] & \[
    110
    \] & \[
    650 \mathrm{Y} . \mathrm{CT}
    \] & 225 140 & \(330 \quad 100\) & & \(5 \mathrm{M} 3,5 \mathrm{~L}^{4} 4\) & 5 5 3.1 & 6．3＠5A & & \[
    \begin{aligned}
    & \text { VS503 } \\
    & \text { IS503 }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 11 \\
    & \text { RGP } 12
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 76 \\
    & 3
    \end{aligned}
    \] & \[
    700 \mathrm{VCT}
    \] & \(260 \quad 100\) & \(385 \quad 70\) & & 5 Y 3 & 5 ＠ 2 A & 6.3 （9．5．1 & & \[
    \begin{array}{r}
    \text { VS307 } \\
    \text { HS307 } \\
    \hline
    \end{array}
    \] \\
    \hline \[
    \begin{array}{lll}
    \text { RGP } 13 \\
    \text { RGP } 14
    \end{array}
    \] & \[
    108
    \] & \[
    700 \mathrm{~V} . \mathrm{CT}
    \] & \(250 \quad 125\) & 37090 & & \(5 \mathrm{M} 3,5 \mathrm{C} 4\) & 5 （a） & 4．3＠5．1 & & \[
    \begin{aligned}
    & \text { VS503 } \\
    & \text { HS503 }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 15 \\
    & \text { RGP } 16
    \end{aligned}
    \] & \[
    127
    \] & \[
    700 \mathrm{~V} . \mathrm{CT}
    \] & \(260 \quad 170\) & \(350 \quad 120\) & & 5L4 & 5 ¢ 3.1 & 6．3＠5． & & \[
    \begin{aligned}
    & \text { VS505 } \\
    & \text { HS505 } \\
    & \hline
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 17 \\
    & \text { RGP } 18
    \end{aligned}
    \] & \[
    146
    \] & \[
    700 \mathrm{~V} . \mathrm{CT}
    \] & \(260-10\) & \(350-150\) & & 5 U 4 & 5 T1 3A & 6.3 ＠5A & 6.3 （1） & \[
    \begin{aligned}
    & \text { VSB04 } \\
    & \text { IISG04 }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 19 \\
    & \text { RGP } 20
    \end{aligned}
    \] & \[
    207
    \] & SOOV.CT & 295 2＜0 & 400200 & & 5U4，2－5「3 & 5 \％ 4 & 6.3 6 \({ }^{\text {a }}\) & & \[
    \begin{aligned}
    & \text { VSGOB } \\
    & \text { ISBO }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 21 \\
    & \text { RGP } 22
    \end{aligned}
    \] & \[
    225
    \] & \[
    800 \mathrm{~V} . \mathrm{CT}
    \] & 295 250 & 400200 & 80V＇ & 5L4， \(2-5 \mathrm{Y} 3\) & 5 ¢ 4. & 6.3 （11） 0.1 & 5／0．3（3）2A & \[
    \begin{aligned}
    & \text { VS606 } \\
    & \text { IS606 } \\
    & \hline
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 23 \\
    & \text { RGP } 24
    \end{aligned}
    \] & \[
    968
    \] & \[
    840 \mathrm{~V} . \mathrm{CT}
    \] & \(330 \quad 350\) & 450 & 80 V ． & 2.5174 & 5 \％ 6.1 & 6.3 ＠ 0. & 5／6．3＠2．1 & \[
    \begin{aligned}
    & \text { VNG12 } \\
    & \text { Hski2 } \\
    & \hline
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 25 \\
    & \text { RGP } 26
    \end{aligned}
    \] & \[
    320
    \] & \[
    900 \mathrm{Y} . \mathrm{CT}
    \] & 205 250 & 400200 & 809. & －－5L＇ & 5 \％ \(6 \pm\) & 6.3 （3） & 5／6．3 2－ & \[
    \begin{aligned}
    & \text { VS709 } \\
    & \text { IS } 709
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 27 \\
    & \text { RGP } 28
    \end{aligned}
    \] & \[
    127
    \] & \[
    900 \mathrm{~V} . \mathrm{CT}
    \] & \(360 \quad 150\) & & & 5 L 4 & 5 （a）3A & 6．3＠5A & & \[
    \begin{aligned}
    & \text { VS604 } \\
    & \text { HS604 }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 29 \\
    & \text { RGP } 30
    \end{aligned}
    \] & \[
    \begin{array}{r}
    150 \\
    \hline 10
    \end{array}
    \] & \[
    900 \mathrm{~V} . \mathrm{CT}
    \] & 350200 & & & 5L゙4 & 5 （1） 3 A & 6．3＠5．1 & & \[
    \begin{aligned}
    & \text { VS605 } \\
    & \text { HS605 } \\
    & \hline
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 31 \\
    & \text { RGP } 32
    \end{aligned}
    \] & \[
    \begin{array}{r}
    203 \\
    4
    \end{array}
    \] & \[
    1100 \mathrm{~V} . \mathrm{CT}
    \] & 400 250 & & & SR f GY & 5 \％ & 6.3 （1） 5.1 & & \[
    \begin{aligned}
    & \operatorname{Vs611} \\
    & \operatorname{Hs611} \\
    & \hline
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & \text { RGP } 33 \\
    & \text { RGP } 34
    \end{aligned}
    \] & \[
    \begin{array}{r}
    2+8 \\
    46
    \end{array}
    \] & \[
    1100 \mathrm{~V} . \mathrm{CT}
    \] & \(420 \quad 300\) & & & 2－5R＋GY & 5 （11） 4 & 6.3 ก 7 & & \[
    \begin{array}{|}
    V S 612 \\
    11 S 612 \\
    \hline
    \end{array}
    \] \\
    \hline \[
    \begin{array}{ll}
    \text { RGP } & 35 \\
    \text { RGP } & 36
    \end{array}
    \] & \[
    310
    \] & \[
    12 \mathrm{SOV} . \mathrm{CT}
    \] & \(450 \quad 350\) & & & －．5R4GY & \(5 a+A\) & 6.3 （ 7 A & & \[
    \begin{aligned}
    & \text { VS709 } \\
    & \text { IS } 709
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    For Freed Precision Laboratory Tesł Instruments see Section G，Pages G－106 to 116

    \title{
    netcion FREED TRANSFORMERS
    }
    HIGH FIDELITY
    COM.
    PONENTS
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|l|}{\begin{tabular}{l}
    Inpuł \\
    Transformers
    \end{tabular}} \\
    \hline Catalog & List \\
    \hline 0 NaH 1 & 28.00 \\
    \hline UG. 2 & 35.00 \\
    \hline (QGA 3 & 25.00 \\
    \hline 2GA 4 & 35.00 \\
    \hline QGA & 32.00 \\
    \hline QGA 6 & 37.00 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|l|}{Hybrid and Repeat Coils} \\
    \hline \[
    \begin{aligned}
    & \text { Catalog } \\
    & \text { No. }
    \end{aligned}
    \] & List Price \(\dagger\) \\
    \hline gGa i & . 25.00 \\
    \hline QGA 8 & 35.00 \\
    \hline yca 9 & 35.00 \\
    \hline (2CA 10 & 40.00 \\
    \hline (\%GA 11 & 30.00 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|l|}{Inferstage Transformers} \\
    \hline Catalog & List \\
    \hline No. & Pricet \\
    \hline 06.113 & 25.00 \\
    \hline (MiA 14 & 26.00 \\
    \hline CGA 15 & 32.00 \\
    \hline
    \end{tabular}
    
    \begin{tabular}{|c|c|}
    \hline Catalog & List \\
    \hline & Price \(\dagger\) \\
    \hline MCiA 22 & 50.00 \\
    \hline (10. 23 & 35.00 \\
    \hline (uGA 24 & 35.00 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{\multirow[b]{5}{*}{}} & \multicolumn{2}{|l|}{\multirow[t]{5}{*}{MILITARY FILAMENT TRANS. FORMERS}} & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{\begin{tabular}{l}
    Output and Mixing \\
    Transformers
    \end{tabular}}} \\
    \hline & & & & & \\
    \hline & & & & & \\
    \hline & & & & Catalog & st \\
    \hline & & & & No. & Price \(\dagger\) \\
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{High Level}} & Cat. & Li & PGA \({ }^{\text {P }}\) (id & 16.00
    17.00 \\
    \hline & & Mrif 1 & 14.75 & PrA 9 & 16.00 \\
    \hline \multicolumn{2}{|l|}{Transformers} & Nat \({ }^{\text {N }}\) & 23.50 & J'GA 10 & 16.00 \\
    \hline & & M19\% & 16.25 & \multicolumn{2}{|c|}{Driver} \\
    \hline Catalog & List & M184 McF & 25.50 & Tran & mers \\
    \hline (2CA 25 & 35.00 & MGF \({ }^{\text {\% }}\) & 21.50 & Catalog & List \\
    \hline UGA 26 & 35.00 & M6F - & 29.50 & No. & Pricet \\
    \hline 10, 27 & 35.00 & NCF: & 36.50 & P'A11 & 22.50 \\
    \hline 9CA 28 & 35.00 & MGF゙! & 27.50 & PGA 12 & 16.00 \\
    \hline 9GA 29 & 35.00 & MGF 10 & 35.00 & P(AA 13 & 22.50 \\
    \hline \begin{tabular}{l}
    ()GA 30 \\
    ()Gil 31
    \end{tabular} & 35.00
    45.00 & \multicolumn{2}{|l|}{} & \multicolumn{2}{|l|}{High Level} \\
    \hline (1) 32 & 45.00 & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{TRANS-}} & & \\
    \hline UGA 33 & 45.00 & & & \multicolumn{2}{|l|}{Transformers} \\
    \hline 1914 34 & 45.00 & \multicolumn{2}{|c|}{FORMERS} & Catalog & List \\
    \hline 90A 35 & 49.50 & Catalog & List & No. & ice \(\dagger\) \\
    \hline 9(A) 3i & - 49.50 & No. & Price & PG.114 & 22.50 \\
    \hline (GA 38 & 4 & TM. & 12.50 &  & 23.75* \\
    \hline (10.A 3\%) & . 35.00 & TMA & 16.00 &  & \(25.00{ }^{*}\) \\
    \hline 19:1.14 & 35.00 & TMA & 13.00 & P(iA 17 & 25.00* \\
    \hline (2) \(\times 1.1\) & 49.50 & TMA & 16.50 & PGA 19 & 25.00* \\
    \hline \((86.1\) & 49.50 & TM. & 16.50 & Pril \({ }^{\text {a }}\) & 25.00* \\
    \hline \multicolumn{2}{|l|}{\multirow[t]{3}{*}{HIGH \(\boldsymbol{Q}\) REACTORS}} & TMA & 13.50 & PG: 21 & 23.75* \\
    \hline & & TMA & 16.00 & 10.120 & 30.00* \\
    \hline & & TMA 9 & 13.00 & P(A) 23 & 30.00* \\
    \hline & & TMA 11 & 12.50 & PCil 24 & 22.50* \\
    \hline No. & Net & TM. 11 & 13.00 & P6, 20 & 50.00* \\
    \hline P(1) & 20.00 & TMA 19 & 16.50 & PGi- \({ }^{\text {P6 }}\) & 25.00** \\
    \hline Qric 2 & 20.00 & TMA 14 & 16.50 & po.as & 23.75 * \\
    \hline (19C) 3 & 20.00 & TM0 15 & 6.50 & PGA 2 ! & 27.50* \\
    \hline O14 \({ }^{\text {a }}\) & 20.00 & TMO 18 & 6.50 & P'(.1.30 & 40.00* \\
    \hline 9606 & 20.00
    20.00 & TMO 17 & - 5.50 & *5.00 of & ist price \\
    \hline Q4:C 7 & . 20.00 & TMA 19 & 6.50
    12.50 & suppliea & in ver- \\
    \hline
    \end{tabular}

    MIL PULSE TRANS-
    FORMERS
    \begin{tabular}{|c|c|}
    \hline Catalog No. & Net Price \\
    \hline M \({ }^{\text {PT- }} 1\) & 17.50 \\
    \hline M1T-2 & 15.00 \\
    \hline MPT•3 & 22.50 \\
    \hline MPT-4 & 20.00 \\
    \hline M1PT- & 17.50 \\
    \hline MPT-¢ & 15.00 \\
    \hline MPT- & 17.50 \\
    \hline MPT-8 & 15.00 \\
    \hline MPT-9 & 22.50 \\
    \hline MPT-10 & 20.00 \\
    \hline MPT-11 & 17.50 \\
    \hline M1'T-3 \({ }^{\text {a }}\) & 27.50 \\
    \hline
    \end{tabular}
    
    \begin{tabular}{|c|c|}
    \hline Catalog No. & Net Price \\
    \hline MG. 1 & 12.50 \\
    \hline M1A & 12.50 \\
    \hline MG. 3 & 12.50 \\
    \hline MGA 4 & 12.50 \\
    \hline MG. 5 & . 12.56 \\
    \hline MG. \({ }^{\text {a }}\) & 12.50 \\
    \hline MGA 7 & 12.50 \\
    \hline Mids & 12.50 \\
    \hline Mis & 12.50 \\
    \hline
    \end{tabular}

    \section*{MILITARY \\ POWER \\ TRANS.}

    FORMERS
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{2}{|l|}{Cat.
    No.} & List Price \\
    \hline M11P & 1 & 27.00 \\
    \hline Mid' & \(\because\) & . 28.00 \\
    \hline MGP & 3 & 32.50 \\
    \hline MiP & 4 & 38.00 \\
    \hline MiP & - & 49.00 \\
    \hline Mir & 1 & 32.50 \\
    \hline M(i) & 7 & 39.00 \\
    \hline MG1 & & 54.50 \\
    \hline
    \end{tabular}

    \section*{Low Level} Mixing
    Transformers

    \section*{High Lev
    Oułpuł}
    \begin{tabular}{|c|c|}
    \hline :1 & 37.50 \\
    \hline \multicolumn{2}{|l|}{\multirow[t]{3}{*}{FILAMENT TRANS. FORMERS}} \\
    \hline & \\
    \hline & \\
    \hline Catalog & List \\
    \hline No. & Pricet \\
    \hline TF 1 & 4.00 \\
    \hline TV\% & 4.50 \\
    \hline TF 3 & 15.00 \\
    \hline TF4 & 18.50 \\
    \hline Tr 5 & 4.00 \\
    \hline TF \({ }^{\text {a }}\) & 5.50 \\
    \hline TF \({ }^{\text {a }}\) & 6.00 \\
    \hline TF & 6.40 \\
    \hline TF: & 10.40 \\
    \hline TF 10 & 24.00 \\
    \hline TFP11 & 2.70 \\
    \hline TE12 & 4.00 \\
    \hline TF 13 & 5.50 \\
    \hline TF 14 & 6.60 \\
    \hline TF 15 & 6.95 \\
    \hline TF 1 \% & 6.00 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline Catalog No. & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline TF 17 & 6.40 \\
    \hline TF 18 & 24.00 \\
    \hline TF 1:1 & 4.50 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline F1:1 & 4.50 & No. & Pricet \\
    \hline \multicolumn{2}{|l|}{STEP.DOWN} & RGP 1 & 7.50 \\
    \hline \multicolumn{2}{|c|}{TRANS.} & Rap \({ }^{\text {a }}\) & 7.50 \\
    \hline \multicolumn{2}{|r|}{FORMERS} & RGIP 3 & 7.50 \\
    \hline Catalog & & RGP \({ }^{\text {a }}\) & 7.50 \\
    \hline Catalo & List & 1210 & 8.00 \\
    \hline \({ }_{\text {NoT }}\) & Pricet \({ }^{\text {a }}\) & RRiP \({ }^{\text {R }}\) & 8.00 \\
    \hline *1) \({ }^{\text {2 }}\) & 3.75 & RGP 8 & 9.00 \\
    \hline sDT 3 & 7.50 & RGP \({ }^{\text {a }}\) & 10.00 \\
    \hline sDT 4 & 10.20 & RGI' 10 & 10.00 \\
    \hline s1)T : & 11.55 & R(tP' 11 & 9.00 \\
    \hline silt \({ }^{\text {f }}\) & 14.70 & RGP 12 & 9.00 \\
    \hline SITT 7 & 18.40 & lR(PP 13 & 10.00 \\
    \hline sit s & 20.05 & RGP' 14 & . 10.00 \\
    \hline SIT ! & 26.75 & R(AP) 15 & . 11.00 \\
    \hline SDT 10 & 37.60 & RGP \({ }^{\text {dit }}\) & 11.00 \\
    \hline s1) 11 & 55.00 & RePr 17 & 13.50 \\
    \hline SIDT 12 & 66.00 & R(il) 18 & . 13.50 \\
    \hline SIDT 13 & 77.00 & RGP 19 & . 13.70 \\
    \hline s1)T 14 & 89.35 & R(1) 20 & . 13.70 \\
    \hline S1\% 1.5 & 140.00 & R(1) 21 & 18.50 \\
    \hline \multicolumn{2}{|l|}{ISOLATION} & RGP \({ }^{\text {RGP }}\) & . 18.50 \\
    \hline \multicolumn{2}{|c|}{TRANS.} & RGT \({ }^{\text {2 }}\) & . 25.00 \\
    \hline \multicolumn{2}{|c|}{FORMERS} & ROP 25 & . 30.00 \\
    \hline & & RGP 26 & 30.00 \\
    \hline Catalo
    No. & Pricet & 1R9P \({ }^{\text {a }}\) & . 11.00 \\
    \hline [ \({ }^{1} 1\) & 10.00 & RG1) & . 11.00 \\
    \hline 1T 2 & 14.30 & Reip O & . 13.50 \\
    \hline \(1{ }^{1}\) & 36.10 & Rgr \({ }^{\text {Raf }}\) & . 13.50 \\
    \hline 174 & 44.00 & RGPJ 31
    Red & . 20.00 \\
    \hline 175 & 36.10 & RG1) 3 3 & . 25.00 \\
    \hline 176 & 48.00 & Rap 34 & 25.00 \\
    \hline \multirow[t]{2}{*}{LINE} & STER & lRG1P 35 & 32.50 \\
    \hline & & RGP 36 & 32.50 \\
    \hline
    \end{tabular}

    \section*{TOROIDAL \\ INDUCTORS}

    Prices given are N.f for Ifermetically Sealed I'nits. Fur Commercial Casel from net. For Uncased units deduet \$1.50 from net Tolerances are ad. justed to within \(1 \%\) or \(2 \%\) de. pembins on the incluctance value.

    Type TI-1
    \(\left.\begin{array}{lr}\text { Catalog } \\ \text { No. }\end{array} \begin{array}{r}\text { Net } \\ \text { Price }\end{array}\right)\)

    \section*{mection FREED TRANSFORMERS outim}

    FREED TRANSFORMERS（CONT．）
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{Type TI－2s} & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{\[
    \begin{gathered}
    \text { Type TI } \\
    \begin{array}{c}
    \text { Catalog } \\
    \text { No. }
    \end{array} \underset{\text { Net }}{\text { Price }}
    \end{gathered}
    \]}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Type TI－8 and 8 s}} & \multirow[t]{2}{*}{Catalog No． F－1768} & \multirow[t]{2}{*}{} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & F-192 . \\
    & F-192 \\
    & F-1920
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 7.95 \\
    & 7.95 \\
    & 8.25
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \mathrm{F}-21+3 \\
    & \mathrm{~F}-2144 \\
    & \mathrm{~F}-2145
    \end{aligned}
    \]} & \[
    \begin{aligned}
    & 9.10 \\
    & 9.10
    \end{aligned}
    \] \\
    \hline talog & & & & & & & & & & & \\
    \hline No． & Price & & & Catalog & & F－1768 & ． 19.04 & F－1937 & 8.25 & F－214 & 9.10 \\
    \hline F－1800 & 14.95 & F－1701 & 6.00 & No． & Price
    9.10 & F－15\％ & 19．45 & F1928 & 8.35
    8.35 & F－2147 & 9.10 \\
    \hline F－1801 & 14.95 & F－1702 & 6.00 & F－1892 & 9.10 & F－171 & ． 19.45 & F－1929 & 8.35
    8.35 & F－214 & 9.10 \\
    \hline F－1802 & 14.95 & F－1703 & 6.50 & F－18．3 & 9.10 & F－157 & 20.00 & F－1930
    \(\mathrm{F}-1931\) & 8.85 & F－2150 & 9.10 \\
    \hline \(\mathrm{F} \cdot 1803\) & 14.95 & F． 1704 & 7.00 & F－1824 & 9.10 & F－173 & 20.50 & F－1932 & 9.20 & F－2151 & 9.20 \\
    \hline F－1804 & 14.95 & F－1705 & －． 7.25 & F－1425 & 9.10 & \(\mathrm{F}-1774\) & －21．00 & F－1933 & 9.20 & F－215 & 9.30 \\
    \hline F－1805 & 15.40 & F－1706 & －． 7.50 & F－1826 & 9.10 & F－175 & －21．50 & F－1934 & 9.50 & \(\mathrm{F}-2153\) & 9.50 \\
    \hline F－1806 & ． 15.40 & F－1707 & \(\begin{array}{r}7.75 \\ \hline 8.00\end{array}\) & F－1827 & 9.10 & F－1776
    \(\mathrm{F}-1777\) & 22.00
    .23 .00 & F－1935 & 9.75 & F－2154 & 9.50 \\
    \hline F－1807 & ． 15.40 & F． 1708 & ． 8.00 & F－1s28 & 9.10 & F－1778 & ． 24.00 & P－1936 & 10.25 & F－215 & 9.70 \\
    \hline F－1808 & 15.40 & F－1709 & －． 8.25 & F－1\％29 & 9.10 & \(\mathrm{F}-178\)
    \(\mathrm{~F}, 1779\) & 24.00
    25.00 & Type & & F－2150 & 10.00 \\
    \hline F－1809 & \[
    \begin{array}{r}
    15.40 \\
    15.40
    \end{array}
    \] & F－1710 & 8.50
    8.75 & F－1830 & 9.10 & \(\mathrm{F}-17 \%\)
    \(\mathrm{~F}-1 \mathrm{~B}\) & 25.00
    26.00 & Type & &  & 10.20 \\
    \hline \[
    \begin{aligned}
    & \because 1810 \\
    & \because 1811
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 15.40 \\
    & 15.70
    \end{aligned}
    \] &  & 8.75
    9.50 & F． 1831 & 9.10 & F－1780 & 26.00 & Catalog & Net & TYP & －19 \\
    \hline F－1812 & ． 15.70 & F－1713 & 10.10 & F－1832 & 9.20
    9.30 & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Type TI－ 12 and 12 s}} & F－18io & 7.65 & & \\
    \hline F－1813 & 15.70 & F－1714 & 10.30 & F－1834 & 9.50 & & & F－1871 & 7.65 & No． & Price \\
    \hline \(\mathfrak{F}-1814\) & ． 15.70 & F－175 & 10.80 & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { F-1835 } \\
    & \text { F. } 1830
    \end{aligned}
    \]} & 9.50 & & & F－185 & 7.65 & & \\
    \hline \multirow[t]{2}{*}{F．1815} & \multirow[t]{2}{*}{15.70} & F－1716 & 11.20 & & 9.50 & Catalog & Net & F－1853 & 7.65 & F－2180 & 8.30
    8.30 \\
    \hline & & F－1717 & 11.40 & F－1885 & 9.60 & No． & Price & F－1854 & 7.65 & F－21＊ & 8.30 \\
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Type TI－3s}} & \(\mathrm{F}-1718\)
    \(\mathrm{~F}-179\) & \[
    \begin{aligned}
    & 11.80 \\
    & 12.10
    \end{aligned}
    \] & F－1＊38 & \(\begin{array}{r}9.70 \\ \hline 1000\end{array}\) & F－1655 & ． 14.30 & F－185 & 7.65 & F－2183 & 8.30 \\
    \hline & & F1\％20 & 12.50 & \(\underset{\mathrm{F}-1830}{ }\) & 10.20 & F－1654 & 14.30 & F－185－ & 7.65 & F－E184 & 8.30 \\
    \hline \[
    \begin{aligned}
    & \text { Catalog } \\
    & \text { No. }
    \end{aligned}
    \] & Net Price & \multicolumn{2}{|l|}{Type TI－5s} & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{Type TI－9s}} & F－1657
    F .16 C & 14.30
    14.80 & F－185 & 7.65 & F－2185 & 8.30
    8.30 \\
    \hline 184. & 15.00 & Catalog & Net & & & F－1659 & 14.80 & \(\stackrel{\mathrm{F}-1879}{\mathrm{~F}-1880}\) & 7.65 & F－2185 & 8.30 \\
    \hline 181845 & 15.00 & No． & Price & Catalog & Net & F－1640 & 14.80 & F－1881 & 7.85 & F－2188 & 8.30 \\
    \hline \(\mathrm{F}-184 \%\) & 15.00 & F－1700 & 8.30 & No． & Price & \(\mathfrak{F}-1661\) & 15.40 & F1882 & 7.85 & F－2189 & 8.30 \\
    \hline F－1847 & 15.00 & \(\mathrm{F}-1701\) & 8.30
    8.30 & F－15it & 17.50 & F－1664 & 15.40 & F－18s3 & 8.05 & F－2190 & \\
    \hline F－1848 & 15.00 & F．1702 & 8.30
    8.30 & F－1555 & 17.70 & F－1663 & 15.90 & F－1884 & 8.05 & ドロ192 & 8.30 \\
    \hline F18．4 & 15.00 & F－194 & 8.30 & F－155t & 17.90 & F－166\％ & 14．50 & F－188\％ & 8.25 & F－2193 & 8.30 \\
    \hline F－1850 & 15.00 & F－1705 & 8.60 & F－1554 & 18.20 & P－16iti & 14.50 & \({ }_{\text {F．}}^{\text {F．188 }}\)－ & 8.45 & & \\
    \hline F－1851
    \(\mathrm{F}-1852\) & 15.00 & F－1\％0\％ & 8.70 & F－155 & 18.30 & F－16\％ & 14.90 & F－188 & 8.45
    8.45 & & \\
    \hline F－1853 & 15.00 & F－1707 & 9.05 & F155！ & 18.40 & F－1618 & 14.90 & F－188： & 8.85 & FRE & CY \\
    \hline \multirow[t]{3}{*}{F－1854} & 15.00 & F－1708 & 9.25 & F－1560 & 18.50 & F－166！ & 15.40 & & & TO & \\
    \hline & \multirow[t]{2}{*}{15.00} & \begin{tabular}{l}
    F－1709 \\
    F－1710
    \end{tabular} & \[
    \begin{aligned}
    & 9.35 \\
    & 9.50
    \end{aligned}
    \] & F－1562 & 19.00 & F－160 & 15．40 & & & INDU & ORS \\
    \hline & & F－1711 & 9.70 & F－15t3 & 19.25 & F－18920 & 15.90 & & & TYPE & －20 \\
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Type TI－3As}} & F－1712 & 9.80 & F－1564 & 19.50 & 1－1673 & ． 16.40 & TYPE & & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Uncased Units}} \\
    \hline & & F－1713 & 10.10 & F－1565 & 19.50 & F－1674 & 16.90 & TYPE & & & \\
    \hline Catalog No． & Net Price & F－1714 & \[
    \begin{aligned}
    & 10.30 \\
    & 8
    \end{aligned}
    \] & F－1566 & ． 20.50 &  & \[
    \begin{aligned}
    & 16.90 \\
    & 17
    \end{aligned}
    \] & Catalog No． & Net Price & Cat. & Net \\
    \hline F－1856 & 21.00 & F－1716 & 11.20 & F－1548 & 21.00 & F－167\％ & 17.40 & F－360 & 6.35 & F－2001 & Pre \\
    \hline F－185\％ & 21.50 & F－1717 & 11.40 & F－1569 & 21.50 & F－167 & 17.90 & F－2051 & 6.35 & ド2202 & 5.75 \\
    \hline F－1858 & 21.50 & F－1718 & 11.80 & F－157） & 22.50 & F－1679 & 17.90 & F－205 \({ }^{\text {a }}\) & 6.35 & F－2203 & 6.25 \\
    \hline F－1859 & 23.50 & F－1：19 & 12.10 & Type & 10 s & \(\mathrm{F}-1680\)
    \(\mathrm{~F}-1081\) & 18．40 & F－2053 & 6.15 & F－2304 & 6.25 \\
    \hline F－1860 & 24.00 & F－190 & 12.50 & \multicolumn{2}{|l|}{Catalog Net} & \(\stackrel{\mathrm{F}}{\mathrm{F}-1681}\) & ． 18.40 & F－205 & 6.15
    6.65 & F－2005 & 6.25 \\
    \hline F－1861 & 24.00 & \multicolumn{2}{|l|}{Type TI－6} & Catalog & Net & F－1683 & ． 18.90 & F－2056 & 7.15 & F－2206 & 6.50 \\
    \hline \multirow[t]{2}{*}{\(\mathrm{F}-186\)} & 24.50 & \multicolumn{2}{|r|}{and 6s} & No． & Price & F－1683
    \(\mathrm{F}-168.4\) & ． 18.90 & F－205： & 7.40 & \(\mathfrak{F}\) & \\
    \hline & 25.50 & Catalog & Net & F－15：9 & 14.90 & F－1685， & 18.90 & F－205\％ & 7.65 & F－2308 & 7.50 \\
    \hline & & No． & Price & F－15＊0 & 14.90 & F－1686 & 19.40 & F－2ด5！ & 7.90 & F－2019 & \\
    \hline \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Type TI－4}} & F－1726 & 8.60 & F－15s 1 & 15.10 & F－168 & 19.90 & F－ロ！0 & 8.15 & F－2 10 & 7.50 \\
    \hline & & F－1727 & 8.60 & F－1582 & 15.20 & F－1688 & 20.50 & F－206il & 8.40 & F－2011 & \\
    \hline \multicolumn{2}{|l|}{and 4s} & F－1728 & 8.60 & F－1583 & 15.30 & F－168！ & 21.00 & F－2062 & 8.65 & F－2212 & 7.50 \\
    \hline Catalog & Net & F－1729 & 8.60 & F－15x4 & 15.40 & F－1690 & 21.50 & F－2063 & 8.90 & F－2913 & 7.50 \\
    \hline No． & Price & F－1730 & 8.60 & F－1585 & 15.50 & F－1691 & 22.00 & F－2064 & 10.25 & & \\
    \hline 50 & 8.30 & F－1731 & 8.60 & F－158 & 15.60 & F－1692 & 22.50 & F－2065 & 11.35 & \multicolumn{2}{|l|}{TYPE TI－22} \\
    \hline F－851 & 8.30 & F－1732 & 8.90
    8.90 & F－158S & 15.80 & F－1693 & 23.00 & F－20667 & 11.95 & Cat． & Net \\
    \hline F－852 & 8.30 & F－1734 & 9.00 & F－1589 & 15.90 & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{Type TI－ 13}} & F－2068 & 12.25 & No． & Price \\
    \hline F．853 & 8.30 & F－1735 & 9.00 & F－1590 & 16.10 & & & F－2069 & 12.65 & F－2240 & 5.25 \\
    \hline F．854 & 8.30 & F－1736 & 9.00 & F－1591 & 16.20 & & & & & F－224 & 5.25 \\
    \hline F．855 & 8.30 & F－1737 & 9.50 & 19 & 16.40 & No． & Price & TYPE & 17 & \(1-2042\) & 5.25 \\
    \hline F．856 & 8.70 & F－138 & 10.50 & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Type TI－11s}} & F－162？ & 17.50 & No． & Price & F－2213 & 5.25 \\
    \hline F－857 & 9.05 & F－1\％ & 10.50 & & & F－1630 & 17.70 & F－2100 & 8.30 & F－2， & 5.25 \\
    \hline F－858 & 9.23 & F－1\％ & 10.50 & Catalog & Net & F－1631 & 17.90 & F－2101 & 8.30 & F－2et & 5.75 \\
    \hline F．859 & 9.35 & F－1742 & 11.00 & No． & Price & F－1632 & 18.20 & F－3102 & 8.30 & F－2． & 5.75 \\
    \hline F． 860 & 9.50 & F－1743 & 12.50 & F17\％ & 14.95 & F－1633 & 18.30 & F－2103 & 8.30 & F－2．248 & 5.75 \\
    \hline F－861 & 9.70 & \multicolumn{2}{|l|}{Type TI－7} & F－178 & 14.95 & \(\mathrm{F}-1634\)
    \(\mathrm{~F}-1635\) & 18.40 & F－2104 & 8.30
    8.30 & ド－2．49 & 5.75 \\
    \hline F－862 & 9.85 & Catalog & Net & F－1\％ & 14.95 & \(\stackrel{\text { F－163 }}{ }\) & 18.75 & F－2106 & 8.30 & \multicolumn{2}{|l|}{TYPE Tl－21} \\
    \hline F－863 & ． 10.00 & No． & Price & F－1\％ 51 & 14.95 & F． 1637 & 19.00 & F－2107 & 8.30 & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Cat．Net}} \\
    \hline F．864 & 10.30 & F－1781 & 8.30 & \multirow[t]{2}{*}{F－1752} & \multirow[t]{2}{*}{16.00} & F－1is3 & 19.25 & F－2118 & 8.30 & & \\
    \hline F． 865 & 10.80 & F－1782 & 8.30 & & & F－1639 & 19.50 & F－2109 & 8.30 & & \\
    \hline F－866 & 11.20 & F－1783 & 8.30 & \(\mathrm{P}-175\) & 16.00 & F－1640 & 19.50 & F－2110 & 8.30 & 1－22：0 & 5.25 \\
    \hline F－867 & 11.20 & F－174 & 8.30 & \(\mathfrak{F - 5 4}\) & 16.00 & F－1641 & 20.00 & F－2111 & 8.50 & F－29 & 5.25 \\
    \hline F－808 & ． 11.20 & F－1785 & －． 8.30 & F－175 & 16.00 & F－164？ & 20.50 & F－2112 & 8.50 & F－2973 & 5.25 \\
    \hline F．869 & ． 11.70 & F－1786 & 8.30
    8.50 & F－1756 & 16.00 & F－1643 & 21.50 & F－2114 & 8.70 & \(\mathrm{F}-2.4\) & 5.25 \\
    \hline F－8i0 & 11.70 & F－1788 & 8.50 & F－1\％\({ }^{\text {\％}}\) & 14.95 & F－1645 & 22.50 & F－211， & 9.10 & \(1-205\) & 5.25 \\
    \hline F－871 & 11.70 & F－1789 & 8.70 & F－175！ & 15.45 & & & F－2116 & 9.10 & \(\mathrm{F}-2.24\) & 5.75 \\
    \hline F－8T2 & 12.10 & F－1790 & 8.70 & P－170 & 15.45 & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Type TI－14s}} & \(\mathrm{F}^{2} 2117\) & 9.50 & \(\mathrm{F}-2.8\) & 5.75
    5 \\
    \hline F－873 & 12.10 & F－17！ & 8.90 & F－17til & 16.00 & & Net & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{TYPE TI． 18}} & & 5.75 \\
    \hline F－874 & 12.60 & F－1799 & 9.10 & F－17： & 16.50 & Catalog
    No． & Price & & & F－2980 & 6.50 \\
    \hline F－875 & ． 13.10 & F－1763 & 9.10 & \(\cdots\) & 17.00
    17.50 & & 7.95 & Catalog & Price & \(1 \mathrm{~F} 2 \times 2 \times 1\) & 6.50 \\
    \hline F． 876 & 13.60 & F－1794 & 9.10
    9.50 & \(\stackrel{+174}{ }\) & 17.50 & F－1021 & 7.95 & F－2140 & 9.10 & F－29x & 6.50 \\
    \hline F．887 & ． 14.10 & F－1596 & 9.75 & F－1仿 & 18.50 & F1922 & 7.95 & F－21＋1 & 9.10 & F－283 & 6.50 \\
    \hline F． 878 & ． 14.60 & F－1797 & 10.50 & F－176 & 18.75 & F－1923 & 7.95 & F－2142 & 9.10 & F－2－2t & \\
    \hline
    \end{tabular}

    \section*{Aldiust-A-9Ct VARIAELE TRANSFORMER}

    \section*{AUTO-TRANSFORMERS BENCH AND PANEL MOUNTINGS GANGED ASSEMBLIES}

    FOR CONTROL OF AC LINES POWER, HEAT, SPEED AND LIGHT SPECIFICATIONS FOR these MODELS ON OPPOSITE PAGE

    100BU
    

    300BU
    
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type & Input Voltage & Loatd Rating. Maximum & \multicolumn{2}{|l|}{\begin{tabular}{l}
    Output Voltaye \\
    Over-Voltaje \\
    Line Voltage
    \end{tabular}} & Output Current. Maximum & Driving Torque in. 02 \\
    \hline 1008 U & I20V & . 165 KVA & 0.132V & 0.120 V & 1.25 A & \(8-20\) \\
    \hline 3008 U & 115 V & 0.4 KVA & 0.135 V & 0.115 V & 3.0 A & 15-30 \\
    \hline 5008 U & 115 V & 1.0 KVA & 0.135 V & 0.115 V & 7.5A & 15.30 \\
    \hline
    \end{tabular}
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type & \[
    \begin{gathered}
    \text { luput } \\
    \text { Voltage }
    \end{gathered}
    \] & \[
    \begin{gathered}
    \text { Load } \\
    \text { Ratiill. }
    \end{gathered}
    \]
    Maximum & \multicolumn{2}{|c|}{Output Voltage} & Output Current, Maximum & Driving Torgue ill. 02 \\
    \hline 500BU & 115 V & 1.0 KVA & 0.135V & 0.115 V & 7.5A & 15-30 \\
    \hline 1500 B & 115 V & 2.0 KVA & 0.135 V & 0.115 V & 15.0A & 30-60 \\
    \hline 30008 & 115 V & 4.0 KVA & 0.135 V & 0.115 V & 30.0A & 55.110 \\
    \hline
    \end{tabular}

    \section*{3PF 1500B}
    

    \section*{ADJUST-A-VOLT FEATURES}
    - Smooth, continuous control
    - No Waveform distartion
    - High etticiency
    - Excellent regulation
    - 50/60 cycle operation
    - Standard mountings
    - Lores Commutator surface on all models
    
    ADJUST-A-VOLT spEcifications and application index
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline Input Volts & Volts & \begin{tabular}{l}
    outpuy \\
    Amp.
    Max.
    \end{tabular} & \[
    \begin{aligned}
    & \text { gry } \\
    & \text { Mor. }
    \end{aligned}
    \] & Type & Descciption & \[
    \begin{aligned}
    & \text { Code } \\
    & \text { Word }
    \end{aligned}
    \] & (e) \(\begin{gathered}\text { app } \\ \text { Wet } \\ \text { Nel }\end{gathered}\) & cow. & Net
    Prise \\
    \hline 120 & 0.115 & 1.25A & 165 & 100BU & Uncosed with terminol strip. & YOOBU & 2 & 3 & \$ 8.50 \\
    \hline 115 & \[
    \begin{aligned}
    & 0.115 \\
    & 0.135
    \end{aligned}
    \] & \[
    \begin{array}{r}
    3.0 \\
    3.0 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 0.34 \\
    & 0.40
    \end{aligned}
    \] & 3008 U & Uncosed with terminol strip. & TREED & 4 & 6 & \$ 12.50 \\
    \hline \[
    115
    \] & 0.115
    0.135 & 7.5 & \[
    \begin{aligned}
    & 0.86 \\
    & 1.0
    \end{aligned}
    \] & \begin{tabular}{l}
    5008 500 BU 3PF500B \\
    3TF500B
    \end{tabular} & \begin{tabular}{l}
    With cose, line cord-plug, inpur receprocie, iwith and fuse. Uncosed with leeminol bor. \\
    With cose, 3 prong plug-cord, output teceptocte, swith ond fure. \\
    With cose, 3 prong iwiss blade plugg:cord, oulpul receptacte ond fuse
    \end{tabular} & \[
    \begin{aligned}
    & \text { FEDEN } \\
    & \text { IVED } \\
    & \text { PLEAD } \\
    & \text { RELFE }
    \end{aligned}
    \] & \begin{tabular}{l}
    11 \\
    10 \\
    11 \\
    11 \\
    \hline
    \end{tabular} & 12
    11
    12
    12 & \[
    \begin{array}{r}
    53.00 \\
    18.00 \\
    30.00 \\
    30.00
    \end{array}
    \] \\
    \hline \[
    115
    \] & \[
    \begin{aligned}
    & 0.1155^{\circ} \\
    & 0.135
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 15.0 \\
    & 15.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.7 \\
    & 2.0
    \end{aligned}
    \] & 15008
    F15008
    2PF 15008
    3 PF1500B
    3 TF1500B & \begin{tabular}{l}
    With cose ond terminol boord. \\
    With cose, luse and terminal cover, \\
    With cose, 2 prong plug-line cord, output receptocle and fuse. \\
    With cose, 3 prong stroight slode plug-sord, oulput receptocie and fuse. \\
    With cose, 3 prong twist blode plug.cord, oufput receprocte and tust.
    \end{tabular} & \begin{tabular}{l}
    1000E \\
    FOODE \\
    POODE \\
    MOODE \\
    100DE
    \end{tabular} & \[
    \begin{aligned}
    & 21 \\
    & 21 \\
    & 22 \\
    & 22 \\
    & 22
    \end{aligned}
    \] & 25
    25
    26
    26
    28 & \[
    \begin{array}{r}
    \$ 46.00 \\
    50.00 \\
    56.00 \\
    56.00 \\
    56.00 \\
    \hline
    \end{array}
    \] \\
    \hline 115 & \[
    \begin{aligned}
    & 0.119^{\circ} \\
    & 0.135
    \end{aligned}
    \] & 30.0
    30.0 & 3.4
    4.0 & \[
    \begin{aligned}
    & 15008 \cdot 2 \\
    & 30008 \\
    & 300080 \\
    & \hline
    \end{aligned}
    \] & \begin{tabular}{l}
    2 -gong, Porallel (itrui). \\
    With case and rerminol cover. \\
    Without cose and lerminal covef.
    \end{tabular} & doube THIRT UTAHA & \[
    \begin{aligned}
    & 43 \\
    & 23 \\
    & 22 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 50 \\
    & 27 \\
    & 26 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 96.00 \\
    55.00 \\
    49.00 \\
    \hline
    \end{array}
    \] \\
    \hline 115 & \[
    \begin{aligned}
    & 0.115 \\
    & 0.155 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 60.0 \\
    & 60.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 6.9 \\
    & 8.0
    \end{aligned}
    \] & 30008.2 & 2-gong, Poroltel lircuit, requites poroliting Chote, Type 30t-1. & touse & 52 & 62 & \$126.00 \\
    \hline 115 & \[
    \begin{aligned}
    & 0.115 \\
    & 0.135
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 90.0 \\
    & 90.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 10.3 \\
    & 12.1
    \end{aligned}
    \] & 30008.3 & J-gong, Paratilel circuit, requires poratleling chokes, I eo., Types \(30 L-1\)
    and \(301-2\). & move & 79 & 83 & \$182.00 \\
    \hline \% \({ }^{230} 115\) & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.0 \\
    & 3.0 \\
    & 3.08
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 0.69 \\
    & 0.81 \\
    & 0.35
    \end{aligned}
    \] & 520B 520BU 3PF520B 3TF520B & \begin{tabular}{l}
    With case, line cord-plug, oulput receptocle, swith ond fuse. Uncosed with terminal Dor. \\
    With case, 3 prong stroighi blode plug.cord, output receplacie and luse. \\
    With eose, 3 prong twist blode plug-cord, output receptorte ond fuse.
    \end{tabular} & \[
    \begin{aligned}
    & \text { CRANY } \\
    & \text { BRANY } \\
    & \text { PANNY } \\
    & \text { TANNN }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 11 \\
    & 10 \\
    & 11 \\
    & 11 \\
    & \hline
    \end{aligned}
    \] & 12
    11
    12
    12 & \[
    \begin{array}{r}
    26.00 \\
    20.00 \\
    33.00 \\
    33.00 \\
    \hline
    \end{array}
    \] \\
    \hline 1230 & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 7.5 \\
    & 7.5 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{array}{r}
    1.7 \\
    2.0 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 500 \mathrm{~B} \cdot 2 \\
    & 500 \mathrm{BU} .2
    \end{aligned}
    \] & \begin{tabular}{l}
    2-gang, jelies Circuit, cosed. \\
    2-gong. Series (itecuit, uncosed.
    \end{tabular} & DEBEN
    UBEEN & \[
    \begin{aligned}
    & 22 \\
    & 21 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 25 \\
    & 25
    \end{aligned}
    \] & \begin{tabular}{l}
    \(\$ 49.00\) \\
    44.00 \\
    \hline
    \end{tabular} \\
    \hline  & \[
    \begin{array}{|c|}
    \hline 0.230^{\circ} \\
    0.270 \\
    0.270
    \end{array}
    \] & \[
    \begin{aligned}
    & 9.0 \\
    & 9.0 \\
    & 9.08
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.1 \\
    & 2.4 \\
    & 1.05
    \end{aligned}
    \] & 15208
    F1520B
    2PF15208
    3PF15208
    3 PF15208 & \begin{tabular}{l}
    With rose ord ierminot boord. \\
    With cose, luse ond letminal cover. \\
    With cose, 2 prong plug-line cord, outpot receprocle and fuse-No swith. \\
    With cose, 3 prong straigbl blade plug-cord, output teeseplecte and fuse -No swith. \\
    With cose, 3 prong iwist blode plug.cord, output receptocle ond fuseNo swith.
    \end{tabular} & \begin{tabular}{l}
    DANNY \\
    FANNY \\
    MANNY CANNY \\
    JANNY
    \end{tabular} & \[
    \begin{aligned}
    & 21 \\
    & 21 \\
    & 21 \\
    & 21 \\
    & 21
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 25 \\
    & 25 \\
    & 25 \\
    & 25 \\
    & 25
    \end{aligned}
    \] & \[
    \begin{array}{r}
    46.00 \\
    50.00 \\
    56.00 \\
    56.00 \\
    56.00
    \end{array}
    \] \\
    \hline 2230 & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 15.0 \\
    & 15.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.4 \\
    & 4.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1500 \mathrm{~B} \cdot 2 \\
    & \text { f15008.2 }
    \end{aligned}
    \] & \begin{tabular}{l}
    2-gang, Series (ircuit. \\
    2-gang, Series firsuit, fused oulpul.
    \end{tabular} & DOUBE JOODE & 43 & \[
    \begin{aligned}
    & 50 \\
    & 50 \\
    & \hline
    \end{aligned}
    \] & \(\begin{array}{r}5 \\ \\ 104.00 \\ \hline 8.000\end{array}\) \\
    \hline (1) \begin{tabular}{l}
    230 \\
    115
    \end{tabular} & \[
    \begin{aligned}
    & 0.230^{\circ} \\
    & 0.270 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 18.0 \\
    & 18.0 \\
    & 18.01
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.1 \\
    & 4.8 \\
    & 2.1 \\
    & \hline
    \end{aligned}
    \] & 15208.2 & 2-gong, Porollel (irruit. & IWODE & 43 & 50 & \$ 96.00 \\
    \hline \[
    \begin{array}{r}
    230 \\
    \quad 115 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 12.0 \\
    & 12.0 \\
    & 12.08
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.8 \\
    & 3.2 \\
    & 1.4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3020 \mathrm{~B} \\
    & 3020 \mathrm{~B}
    \end{aligned}
    \] & With case ond terminal cover. Withoul cose and terminal cover. & RANNY VOLTA & 23 & \[
    \begin{aligned}
    & 26 \\
    & 26
    \end{aligned}
    \] & \(\$ 55.00\)
    49.00 \\
    \hline \[
    \begin{array}{r}
    230 \\
    115
    \end{array}
    \] & \[
    \begin{aligned}
    & 0.230 \\
    & 0.770 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 24.0 \\
    & 24.0 \\
    & 24.08 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5.5 \\
    & 6.5 \\
    & 2.8
    \end{aligned}
    \] & 30208. 2 & 2.gong, Poroltel (iscuit, requites one porolleling thoke, Type 3ct.3. & 100AD & 50 & 61 & \$126.00 \\
    \hline \[
    \begin{array}{r}
    230 \\
    115 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 36.0 \\
    & 36.0 \\
    & 36.08 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.8 \\
    & 8.3 \\
    & 9.7 \\
    & 4.2
    \end{aligned}
    \] & 30208. 3 & 3.gong, Porolitel Girvuit, requires porolleling Chokes, 1 vo., Types 301.1 ond 301-2. & 2008A & 75 & 88 & \$182.00 \\
    \hline \[
    \begin{array}{r}
    460 \\
    230 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 0.460 \\
    & 0.540 \\
    & 0.540
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.0 \\
    & 3.0 \\
    & 3.01
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.4 \\
    & 1.6 \\
    & 0.7
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 520 \mathrm{~B} \cdot 2 \\
    & 520 \mathrm{BU} \cdot 2
    \end{aligned}
    \] & 2-gong. Series (irsuit. 2.gong, Series (itevil. & ZANNY VANNY & 22 & \[
    \begin{aligned}
    & 25 \\
    & 25
    \end{aligned}
    \] & \(\$ 53.50\)
    48.50 \\
    \hline \[
    \begin{array}{r}
    460 \\
    230 . \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 0.460^{\circ} \\
    & 0.540 \\
    & 0.540
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 9.0 \\
    & 9.0 \\
    & 9.0 \pm
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.1 \\
    & 4.9 \\
    & 2.1
    \end{aligned}
    \] & 15208.2 & 2.gong, Series cirsuit. & twode & 43 & 50 & \$ 96.00 \\
    \hline \[
    \begin{array}{r}
    460 \\
    -\quad 230 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & 0.460 \\
    & 0.540 \\
    & 0.540 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 12.0 \\
    & 12.0 \\
    & 12.01
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5.5 \\
    & 6.5 \\
    & 2.8
    \end{aligned}
    \] & 30208. 2 & 2.gong. Series ticwit. & zOOAD & 50 & 61 & \$126.00 \\
    \hline 115 & \[
    \begin{aligned}
    & 0.115 \\
    & 0.135
    \end{aligned}
    \] & 3.0
    3.0 & 0.6
    0.7 & 3008 c .2 & 2.gong, Open Delto Circuil, uncosed. & Wreed & 10 & 14 & \$ 36.50 \\
    \hline 115 & \[
    \begin{aligned}
    & 0.115 \\
    & 0.135 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 7.5 \\
    & 7.5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.5 \\
    & 1.8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5008.2 \\
    & 500 \mathrm{Bu} .2
    \end{aligned}
    \] & 2.gong, Open Delta Cirevit، cosed. 2.gang, Open Della (irevit, uncosed. & \[
    \begin{aligned}
    & \text { DEBEN } \\
    & \text { UBEEN }
    \end{aligned}
    \] & 22 & \[
    \begin{aligned}
    & 25 \\
    & 25 \\
    & \hline
    \end{aligned}
    \] & S 49.00
    44.00 \\
    \hline 115 & \[
    \begin{aligned}
    & 0.115^{\circ} \\
    & 0.135
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 15.0 \\
    & 15.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.0 \\
    & 3.5
    \end{aligned}
    \] & 15008-2 & 2.gong, Open Delio cirsuit. & doube & 43 & 50 & \$ 96.00 \\
    \hline 115 & \[
    \begin{aligned}
    & 0.115 \\
    & 0.135
    \end{aligned}
    \] & \[
    \begin{array}{r}
    30.0 \\
    30.0
    \end{array}
    \] & \[
    \begin{aligned}
    & 6.0 \\
    & 7.0
    \end{aligned}
    \] & 30008. 2 & 2.gong, Open Delto Cliruvit. & toube & 50 & 61 & \$126.00 \\
    \hline 230 & \(0.230^{+}\) & 3.0 & 1. & \(3008 \mathrm{~B} \cdot 3\) & 3-gong, Wye Circurt, uncosed. & MEADE & 14 & 20 & \$ 58.75 \\
    \hline 48 & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.0 \\
    & 3.0 \\
    & 3.0{ }^{2}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.2 \\
    & 1.4 \\
    & 0.6
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5208.2 \\
    & 5208 \mathrm{U} .2
    \end{aligned}
    \] & \begin{tabular}{l}
    2-gang, Open Delto (irsuit, cored. \\
    2-gong, Open Delto (irevit, uncosed.
    \end{tabular} & ZANNY VANNY & \[
    \begin{aligned}
    & 22 \\
    & 21
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 25 \\
    & 25
    \end{aligned}
    \] & \(\$ 53.50\)
    48.50 \\
    \hline 4 & \[
    \begin{gathered}
    0.230 \\
    0.270^{+}
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 7.5 \\
    & 7.5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.0 \\
    & 3.5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5008 \cdot 3 \\
    & 5008 \mathrm{~B} \cdot \mathrm{3}
    \end{aligned}
    \] & 3-gong, Wye (itruit, cosed. 3-gong. Wre Citcuit, uncoied. & \[
    \begin{aligned}
    & \text { MEBEN } \\
    & \text { ZUBEN }
    \end{aligned}
    \] & 35
    34 & 45 & \(\begin{array}{r}\$ 67.25 \\ 60.75 \\ \hline\end{array}\) \\
    \hline \% 230 & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 9.0 \\
    & 9.0 \\
    & 9.0 \pm
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.6 \\
    & 4.2 \\
    & 18
    \end{aligned}
    \] & 15208.2 & 2-gong, Open Delto Cietuit. & TWODE & 43 & 50 & \$ 96.00 \\
    \hline M \({ }^{\text {M }}\) & \[
    \begin{aligned}
    & 0.230^{\circ} \\
    & 0.270^{+}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 15.0 \\
    & 15.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 0.0 \\
    & 7.0
    \end{aligned}
    \] & 15008.3 & 3.gong, wre ciresit. & DOODE & 65 & 75 & \$147.00 \\
    \hline \[
    \begin{aligned}
    & 230 \\
    & 115 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270 \\
    & 0.270
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 12.0 \\
    & 12.0 \\
    & 12.01
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.8 \\
    & 5.6 \\
    & 2.4
    \end{aligned}
    \] & 30208.2 & 2-geng. Open Dello cirsuil. & 200AD & 50 & 81 & \$126.00 \\
    \hline 230 & \[
    \begin{aligned}
    & 0.230 \\
    & 0.270^{+}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 30.0 \\
    & 300 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 12.0 \\
    & 140
    \end{aligned}
    \] & 30008-3 & 3.gang, Wre Cirsuil. & moves & 50 & 61 & \$182.00 \\
    \hline 460
    230 & \[
    \begin{aligned}
    & 0.480 \\
    & 0.540^{+} \\
    & 0.540^{+}
    \end{aligned}
    \] & \[
    \begin{gathered}
    3.0 \\
    3.0 \\
    3.0:
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 2.4 \\
    & 2.8 \\
    & 1.2
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5208 \cdot 3 \\
    & 5208 u \cdot 3
    \end{aligned}
    \] & 3-gong, Wye Circuil, cesed 3-gong, wye (irevit, uncosed. & \[
    \begin{aligned}
    & \text { IURNE } \\
    & \text { YURNE }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 35 \\
    & 34
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 45 \\
    & 45
    \end{aligned}
    \] & \(\$ 75.25\)
    68.25 \\
    \hline 460
    230 & \[
    \begin{aligned}
    & 0.408 \\
    & 0.540^{4} \\
    & 0.540^{+}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 9.0 \\
    & 9.0 \\
    & 9.0 \%
    \end{aligned}
    \] & 7.2
    8.4
    3.8 & 15208.3 & 3-gang, Wre Cirsuit. & morke & 65 & 75 & \$147.00 \\
    \hline  & \[
    \left[\begin{array}{l}
    0.460 \\
    0.540^{+} \\
    0.540^{+}
    \end{array}\right.
    \] & \[
    \begin{aligned}
    & 12.0 \\
    & 12.0 \\
    & 12.01
    \end{aligned}
    \] & \[
    \begin{array}{r}
    9.8 \\
    11.2 \\
    \hline .48 \\
    \hline
    \end{array}
    \] & 30208.3 & 3-gong, Wye cirsuit. & 2OOBA & 70 & 82 & \$182.00 \\
    \hline
    \end{tabular}

    Over-volloge connection 10 to \(17 \%\) obove line vollogel or line volloge con. tGonged unity of these types when connected for over-valtoge operate from
    nection is ovailoble to the user by the type of connections mode, however. \(\delta 0\) cyele seavice only.
    line volloge connection on Iypes 1500 B ond 1520 B must be specified. \(\quad\) Oulput current reduces to opprox. \(44 \%\) of full valtoge.
    

    STEP-DOWN AUTOTRANSFORMERS
    Input 220-240 V. 60 cy. Output 115 V. Pri. Cord and Plug Sec. Receptacle
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Cat. No.} & \multirow[b]{2}{*}{Code} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Mount \\
    Fig. No.
    \end{tabular}} & \multirow[b]{2}{*}{Cap. in Watts} & \multirow[b]{2}{*}{Input. Volts} & \multirow[b]{2}{*}{Output, Yolts} & \multirow[b]{2}{*}{Cycles} & \multicolumn{3}{|l|}{Dimensions in Inches} & \multirow[b]{2}{*}{Net \(\mathrm{Nr}_{\mathrm{t}}\). in Lbs.} & \multirow[b]{2}{*}{Net Price} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Cat. } \\
    & \text { No. }
    \end{aligned}
    \]} \\
    \hline & & & & & & & H. & W. & D. & & & \\
    \hline SB-0075 & STEBA & 1 & i5 & 200,240 & 115 & 50,60 & \(31 / 8^{\prime \prime}\) & 25/8" & \(334^{\prime \prime}\) & 31/2 & \$ 5.40 & SB-0075 \\
    \hline SB-0150 & STECA & 1 & 150 & 200, 240 & 115 & 50,60 & \(37 / 8^{\prime \prime}\) & \(31 / 4{ }^{\prime \prime}\) & \(3{ }^{5 / 81}\) & 43/2 & 7.35 & SB-0150 \\
    \hline SB-0250 & STEDA & 1 & 250 & \(200 / 240^{*}\) & 115 & 50,60 & \(43 / 41\) & \(37 / 8^{\prime \prime}\) & \(43 / 8{ }^{\prime \prime}\) & 83/2 & 9.60 & S13-0250 \\
    \hline SB-0500 & STEFA & 1 & 500 & 200,240* & 11.5 & 5060 & \(13,4{ }^{\prime \prime}\) & \(37 / 8^{\prime \prime}\) & \(61 / 8^{\prime \prime}\) & 123. 2 & 15.60 & SB-0500 \\
    \hline SB-1000 & STEGA & 3 & 1000 & \(200240^{*}\) & 115 & 50/60 & \(47 / 8{ }^{\prime \prime}\) & 71/" & 9 " & 223.2 & 28.50 & SB-1000 \\
    \hline SB-2000 & STELA & 5 & 2000 & \(200 \div 40^{*}\) & 115 & \(50 \% 0\) & \(514^{\prime \prime}\) & \(85 / 8^{\prime \prime}\) & 1114" & 401/4 & 47.40 & SB-2000 \\
    \hline
    \end{tabular}
    *These models have primary taps of \(200-220-240\) Volts. Sinoply remove cover plate (sec Figure 2) and conuect to refuired taps.

    \section*{TELEVISION LINE CORRECTION STEP-UP AUTOTRANSFORMERS}

    Models su 100/105Volt. Input. Models RU 200/210 Volt Input
    All SU Models Boost Input 10 Volts. All RU Models Boost Input 20 Volts
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline sticol00 & N゙BaT & 1 & 100 & 100/110 & 110,120 & 50/60 & 31/8" & 25/8" & 27/8" & \(2^{3 / 4}\) & \$ 5.15 & St.0100 \\
    \hline SL-0250 & SLCAT & 1 & 250 & \(100 \cdot 110\) & 110, 120 & 50/60 & \(31{ }^{\prime \prime \prime}\) & 23/8" & 33/n & \(31 / 2\) & 7.35 & SC-0250 \\
    \hline St'-0500 & SLDAT & 1 & 500 & \(100 / 110\) & 110, 120 & 50/60 & \(37 / 8^{\prime \prime}\) & 31/4" & 31/4" & \(41 / 2\) & 8.85 & SL-0500 \\
    \hline SC-1000 & SLFAT & 1 & 1000 & 100, 110 & 110120 & 5060 & \(43 / 8{ }^{\prime \prime}\) & \(37 / 8^{\prime \prime}\) & \(41 / 8^{\prime \prime}\) & 81/2 & 17.65 & SC-1000 \\
    \hline SU-2000 & SIGGat & 1 & 2000 & 100/110 & 110/120 & 50/60 & \(45 / 8^{\prime \prime}\) & \(37 / 8^{\prime \prime}\) & 5 \({ }^{\text {/ }} 8^{\prime \prime}\) & 141/2 & 35.40 & Sti-2000 \\
    \hline RU-0100 & SIREBA & 1 & 100 & 200/210 & 220, 230 & 5060 & 31/8" & 258" & 27/8" & 23/4 & 5.15 & RU-0100 \\
    \hline RU-0250 & SRECA & 1 & 250 & 200/210 & 220230 & 50,60 & 31/8' & 25/8" & \(33 / 4{ }^{4}\) & \(31 / 2\) & 7.35 & RU-0250 \\
    \hline Itc-0500 & SREDA & 1 & 500 & 200/210 & 220/230 & 50/60 & \(37 / 8^{\prime \prime}\) & \(31 / 4{ }^{\prime \prime}\) & \(31 / 4 \prime \prime\) & 43/2 & 8.85 & RU-0500 \\
    \hline IRU-1000 & SREFA & 1 & 1000 & 200'210 & 220230 & 50/60 & 45/8/ & \(37 / 8\) " & 41/8" & 81/2 & 17.85 & RC-1000 \\
    \hline RU-2000 & SREGA & 1 & 2000 & 200/210 & 220230 & 50,60 & \(45 / 8^{\prime \prime}\) & 37/8" & \(55 / 8^{\prime \prime}\) & 141/2 & 35.40 & HT- 2000 \\
    \hline
    \end{tabular}

    \section*{RADIO - ISOLATION TRANSFORMERS - TELEVISION \\ All Models 115 V. Input. 115 V. Output. Electrostatically Shielded.}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline SI-050 & SICAR & 1 & 50 & 115 & 115 & 50/60 & \(3{ }^{11} \mathrm{~s}^{17}\) & \(27 /{ }^{\prime \prime}\) & \(3^{\prime \prime}\) & 41/2 & \$ 6.00 & SI-050) \\
    \hline SI-100 & SICER & 1 & 100 & 115 & 115 & 5060 & \(3{ }^{39} \mathbf{9}^{\text {in }}\) & 35\%" & 35/8" & 71/4 & 11.70 & S1-100 \\
    \hline SI-250 & SICOR & 1 & 250 & 115 & 115 & 5060 & \(434^{\prime \prime}\) & \(37 /{ }^{7}\) & \(51 / 8^{\prime \prime}\) & 141/3 & 21.00 & SI-230 \\
    \hline
    \end{tabular}

    TELEVISION LINE VOLTAGE ADJUSTORS, METERED
    8 Position Rotary Switch Corrects Low or High Line to 115 V. from 85-95-105-115-125-135 V-AUTOTRANSFORMER
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline LC-150 & LABAD & 4 & 150 & 85-135 & 115 & 50,60 & 61/2" & 43/8" & \(5^{\prime \prime}\) & 73/4 & \$17.40 & LC-150 \\
    \hline LC-350 & Lafal) & 4 & 350 & 85-135 & 115 & \(50 / 60\) & 61/2" & \(43 \%^{\prime \prime}\) & 5" & 103/4 & 21.00 & LC-350 \\
    \hline LC- 500 & Lajal) & 4 & 500 & 85_135 & 115 & 5060 & 61/2" & 43/8" & 5 " & 111/2 & 25.50 & LC-500 \\
    \hline
    \end{tabular}

    \footnotetext{
    STACO Transformers are compact and modern in design. Only the highest quality silicon lamination steel is used which assures cool operating transformers. Each coil is layer wound with the best quality enameled wires, each layer is insulated with heavy insulating material, each coil is varnished impregnated and high temperature baked. High Voltage Breakdown Test is performed on each coil and transformer in accordance with existing RMA Specs. This combination of high quality materials plus the finest workmanship is assurance of better and lasting performance at highest operating efficiency, yet costs no more than average.
    Finishes: Mount type \#1, Black baked enamel, Mount type \#2, Black baked enamel, Mount type \#3, Natural Buffed Aluminum, Mount type \#4, Black Wrinkle baked enamel.
    }

    \section*{FERRANT|transformers}

    This group of transformers are hermetically sealed in standard Mil-T-27 case sizes, and are designed to meet the full requirements of the Mil-T-27 specification. They provide the highest standard of quality necessary for professional and military requirements.

    The range includes the specific types stan-
    dardized by the Armed Services Electro Standards Agency for universal military use, as well as a group of standard types for 400 cycle power supplies.

    Use of these standard high quality components in experimental equipment will avoid the necessity for redesign for production

    Military Standard Filament Transformers Input 105/115/125 Volts 50/60 Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Cat. No. & MIL Type & Standard \# & Sec. Volts & Sec. Amps & Test Volts & Net Price & Case \\
    \hline FMF 20 & TFIAOIEB002 & MS90016 & 2.5 & 3 & 2500 & \$ 6.80 & EB \\
    \hline FMF 21 & TFIA01GB003 & MS90017 & 2.5 & 10 & 2500 & 8.70 & GB \\
    \hline FMF 22 & TFIA01FB004 & M590018 & 5.0 & 3 & 2500 & 7.80 & FB \\
    \hline FMF 23 & TF1A01HB005 & M 590019 & 5.0 & 10 & 2500 & 9.80 & H8 \\
    \hline FMF 24 & TF1A01FB006 & M 990020 & 6.3 & 2 & 2500 & 7.80 & FB \\
    \hline FMF 25 & TFIA01GB007 & M 590021 & 6.3 & 5 & 2500 & B.70 & GE \\
    \hline FMF 26 & TFIAOIJB008 & M 590022 & 6.3 & 10 & 2500 & 12.50 & JB \\
    \hline FMF 27 & TFIAOIKB009 & MS90023 & 6.3 & 20 & 2500 & 16.50 & KB \\
    \hline FMF 28 & TFIAOIJBO12 & MS90024 & 2.5 & 10 & 10,000 & 14.50 & JB \\
    \hline FMF 29 & [FIAOIKBOI 3 & M590025 & 5.0 & 10 & 10,000 & 19.50 & KB \\
    \hline
    \end{tabular}

    Military Standard Plate and Filament Transformers Input \(105 / 115 / 125\) Volts \(50 / 60\) Cycles
    Standard Plate and Filament Transformers Choke Input Filter
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Cat. No. & MIL Type & Military Standard\# & FIL 1 & FIL 2 & Plate (RMS) & Current & Net Price & Case \\
    \hline FMP 30 & TF1A03HA001 & MS90026 & \(6.3 / 5 \mathrm{r} 2 \mathrm{a}\) & 6.3 y 3 a & 200-100-0-100-200 & .07A.DC & \$13.50 & HA \\
    \hline FMP 31 & TF1A03JB002 & MS90027 & 6.3/5v 2 a & 6.3 v 4 a & 325-0.325 & .07A.DC & 16.80 & JB \\
    \hline FMP 32 & IFIA03KB006 & MS90028 & 5 r 3 a & 6.3 v 5 a - & 325-0.325 & 150A.DC & 19.80 & KB \\
    \hline FMP 33 & TFIA03LB003 & M590029 & 5 r 3 a & 6.3 v 8 o & 400.0.400 & 175A.DC & 22.50 & 18 \\
    \hline FMP 34 & TFIA03MB004 & M590030 & 5 r 3 a & 6.3 v 8 a & 450.0.450 & 250A.DC & 24.80 & MB \\
    \hline FMP 35 & TFIA02KB001 & M590031 & & & 350-0.350 & 250A.DC & 18.50 & KB \\
    \hline FMP 36 & TF1A02LB002 & MS80032 & & & 550.0.550 & 250A.DC & 20.80 & LB \\
    \hline FMP 37 & TF1A02NB003 & M590036 & & & 800.0.800 & 250A.DC & 31.50 & NB \\
    \hline
    \end{tabular}

    \section*{400 Cycle Transformers}

    Filament Transformers
    Input 115 Volts 380-1200 Cycles

    Plate and Filament Transformers
    Input 115 Volts 380-1200 Cycles. Choke Input Filter
    \begin{tabular}{|llllll|}
    \hline Cof. No. & \begin{tabular}{c} 
    Soc. \\
    Volts
    \end{tabular} & \begin{tabular}{c} 
    Sec. \\
    Amps.
    \end{tabular} & \begin{tabular}{c} 
    Test \\
    Volts
    \end{tabular} & Case & \begin{tabular}{c} 
    Net \\
    Price
    \end{tabular} \\
    \hline FF 40 & 6.3 ct & 2 & 1500 & AJ & \(\$ 8.20\) \\
    FF 41 & 6.3 ct & 5 & 1500 & EA & 10.80 \\
    FF 42 & 6.3 ct & 5 & 2500 & FA & 12.25 \\
    & 6.3 & 5 & 2500 & & \\
    FF 43 & \(5 / 6.3\) & 3 & 2500 & EB & 10.50 \\
    FF 44 & 5 ct & 6 & 2500 & EA & 10.90 \\
    FF 4S & 2.5 ct & 10 & 7500 & HB & 13.80 \\
    \hline
    \end{tabular}

    \section*{FERRANTI ELECTRIC,INC.}

    \section*{FERRANT| TRANSFORMERS}

    \section*{Standard Audio Transformers}

    All units are hermetically sealed in Mil-T-27 case size AJ and are designed to meet the full requirements of the Mil-T-27 specification.

    Use of these standard units in equipment at the experimuntal stage will avoid the necessity of redesign for production.

    See dimension chart for AJ case details.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cat. No. & Function & Type Designation & Primary & dance Leve (in ohms) Secondary & Ratio & \begin{tabular}{l}
    Max. \\
    Power \\
    Level \\
    V.U.
    \end{tabular} & \[
    \begin{gathered}
    \text { Pri. } \\
    \text { D.C. } \\
    \text { Per Side } \\
    \text { in MA }
    \end{gathered}
    \] & Max. D.C. Unbalance & Frequency Response & Net Price \\
    \hline FMA 10 & Interstoge, Single or P.P plotes to single or P.P. grids & tFIAISAJO & \[
    \begin{gathered}
    10,000 \\
    C T
    \end{gathered}
    \] & 90,000 split ond CT & 1:3 overoll & +15 & 10 & 10 & \[
    \frac{ \pm 1 \mathrm{DB}}{300-10,000}
    \] & \$11.80 \\
    \hline FMA 11 & Motching, 800 ohm line to vaice coil & TFIAIGAJO & \[
    \begin{aligned}
    & 600 \\
    & \text { split }
    \end{aligned}
    \] & 4,8,16 & \[
    6,12: 1
    \]
    overoll & \(+33\) & 0 & 0 & \[
    \begin{aligned}
    & \pm 1 \mathrm{DB} \\
    & 300-10,000
    \end{aligned}
    \] & 11.80 \\
    \hline FMA 12 & Input, 600 ohin line to single or P.P grids & tfialoajo & \[
    \begin{aligned}
    & 600 \\
    & \text { split }
    \end{aligned}
    \] & \[
    \begin{gathered}
    135,000 \\
    \text { CT }
    \end{gathered}
    \] & 1:15 & \(+15\) & 0 & 0 & \[
    \begin{aligned}
    & \pm 2 \mathrm{DB} \\
    & 300-10,000
    \end{aligned}
    \] & 11.80 \\
    \hline FMA 13 & Matching 600 ahm line to 600 ohm line & TFIAIGAJO & \[
    \begin{aligned}
    & 800 \\
    & \text { split }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 600 \\
    & \text { split }
    \end{aligned}
    \] & 1:1 & \(+15\) & 0 & 0 & \[
    \begin{aligned}
    & \pm 1 \mathrm{DB} \\
    & 300-10,000
    \end{aligned}
    \] & 11.80 \\
    \hline FMA 14 & Output, single plote 7600 ahm or 4800 ohm to 600 ohm line & TFIAI3AJO & \[
    \begin{aligned}
    & 7600 \\
    & \text { top } \\
    & 4800
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 600 \\
    & \text { split }
    \end{aligned}
    \] & 3,56:1 & +33 & 40 & 40 & \[
    \frac{ \pm 2 \text { DB }}{300 \cdot 10,000}
    \] & 11.80 \\
    \hline FMA 15 & Output, single plote 7600 ohm or 4800 ohm to voice coil & TFIAIJAJO & \[
    \begin{aligned}
    & 7600 \\
    & \text { top © }
    \end{aligned}
    \]
    \[
    4800
    \] & 4,8,16 & 21.8:1 & \(+33\) & 40 & 40 & \[
    \begin{aligned}
    & \pm 2 \mathrm{DB} \\
    & 300 \cdot 10,000
    \end{aligned}
    \] & 11.80 \\
    \hline FMA 16 & Output, single or P.P. plotes to 600 ohm line & TFIAI3AJO & \[
    \begin{gathered}
    15,000 \\
    C T
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 600 \\
    & \text { split }
    \end{aligned}
    \] & 5:1 & \(+33\) & 10 & 10 & \[
    \begin{aligned}
    & \pm 1 \text { DB } \\
    & 300 \cdot 10,000
    \end{aligned}
    \] & 11.80 \\
    \hline FMA 17 & Output, P.P. plotes to 600 ohm line & TFIAISAJO & \[
    \begin{gathered}
    24,000 \\
    C T
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 600 \\
    & \text { split }
    \end{aligned}
    \] & 6.32:1 & \(+30\) & 10 & 1 & \[
    \begin{aligned}
    & \pm 1 \mathrm{DB} \\
    & 300 \cdot 10,000
    \end{aligned}
    \] & 11.80 \\
    \hline FMA 18 & Output, P.P. plates to 600 ohm line & tfializajo & \[
    \begin{gathered}
    60,000 \\
    C T
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 600 \\
    & \text { split }
    \end{aligned}
    \] & 10:1 & \(+27\) & 10 & 1 & \[
    \frac{ \pm 2 \mathrm{DB}}{300 \cdot 10,000}
    \] & 11.80 \\
    \hline
    \end{tabular}

    \section*{FERRANTI ELECTRIC,INC.}

    \section*{FERRANT|Transformers}

    \section*{Filter Reactors}

    To match the power and audio transformers, these reactors are of the same high quality in design and construction, and are hermetically sealed in standard Mil-T- 27 cases. Types particularly suitable for 400 cycle power supplies are included.

    For 50-60 Cycle Power Supplies
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Cat. No. & DC Amps & Inductance Menries & Resistance Ohms & Test Volts & Case & Net Price \\
    \hline FC 10 & . 020 & 30 & 930 & 1500 & AJ & \$ 6.50 \\
    \hline FC 11 & . 070 & 15 & 260 & 2500 & GB & 7.40 \\
    \hline FC 12 & . 150 & 10 & 110 & 2500 & J8 & 8.20 \\
    \hline FC 13 & . 200 & 8 & 90 & 2500 & K8 & 11.50 \\
    \hline FC 14 & . 300 & 10 & 95 & 2500 & 18 & 15.40 \\
    \hline
    \end{tabular}

    For 400-Cycle Power Supplies
    \begin{tabular}{|ccccccc|}
    \hline Cat. No. & DC Amps & \begin{tabular}{c} 
    Inductance \\
    Henries
    \end{tabular} & \begin{tabular}{c} 
    Resistance \\
    Ohms
    \end{tabular} & Test Volts & Case & Net Price \\
    \hline FC 40 & .070 & 3 & 225 & 1500 & AJ & \(\$ 6.50\) \\
    FC 41 & .120 & 3 & 145 & 2000 & EB & 7.20 \\
    FC 42 & .200 & 3 & 115 & 2000 & FB & 8.70 \\
    FC 43 & .250 & 3 & 65 & 2000 & G8 & 9.20 \\
    \hline
    \end{tabular}

    Mil-T-27 Case and Mounting Dimensions
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline & Case & A & B & c & D & E & F \\
    \hline + 0 & AJ & 1\% & 1\%8 & 23\% & Sce Pr & Page & 6.32 \\
    \hline - & EA & 1多6 & 13100 & 23/4 & 13/8 & 11/4 & 6.32 \\
    \hline ? & EB & 1916 & 1316 & 2\%/6 & \(13 / 8\) & \(11 / 4\) & 6.32 \\
    \hline - & FA & 23.6 & 21\% & 31/8 & \(111 \%\) & 1\%60 & 6.32 \\
    \hline & FB & 2\%\% & 21/6 & \(21 / 2\) & 111/6 & 1760 & 6.32 \\
    \hline & GB & 23/4 & \(2{ }^{3} 8\) & 213/6 & 21/8 & 13/4 & 6.32 \\
    \hline c & HA & 31/6 & 2\% & 41/4 & \(21 \% 4\) & 15\%/4 & 8.32 \\
    \hline & HB & 31/6 & 2\%/8 & 3\% & 21\%4 & 15564 & 8.32 \\
    \hline & JB & 3\% & 31/6 & 31/8 & 2\% & 21/8 & 8.32 \\
    \hline & KB & 3'1/6 & 3\%8 & 45/16 & 3 & 27/6 & 10.32 \\
    \hline & L8 & 4/66 & 31160 & 41/2 & 35/6 & 21/6 & 10.32 \\
    \hline & MB & 411/6 & 4 & 4\%\%6 & 3116 & 3 & 1/4-20 \\
    \hline \(\longrightarrow\) & NB & 5\%6 & 45/6 & \(51 / 2\) & 4/16 & 33/16 & 1/4-20 \\
    \hline
    \end{tabular}

    \section*{FERRANTI ELECTRIC,INC.}

    \section*{REPLACEMENT TRANSFORMERS}

    \section*{OUTPUT TRANSFORMERS Receiver Replocement Type}

    To couple the plate or plates of the ontput stage to the speaker voice coil. Ser. impedance- 3.5 ohms.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & & \multirow[b]{2}{*}{Tube} & \multirow[b]{2}{*}{Class} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Pri. \\
    Impedance
    \end{tabular}} & \multirow[b]{2}{*}{\[
    \begin{gathered}
    \text { I'ri. } \\
    \text { M..A. }
    \end{gathered}
    \]} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Max. \\
    Watts
    \end{tabular}} & \multirow[b]{2}{*}{Mtg. Centers} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mtg.} \\
    \hline & Price & & & & & & & H. & W. & 1. & \\
    \hline A-3025 & \$1.65 & 7А5, 35A5, 35C5, 50C5, 32L7, 351, 6,50135 & A & 2500 & 50 & 3 & 1\% & 13,16 & \(2^{1}\) /18 & 7/8 & A \\
    \hline A-3026 & 1.65 & \[
    \begin{gathered}
    6 \mathrm{~V}_{3}, 7 \mathrm{C} 5,25 \mathrm{AC5}, 35 \mathrm{~A}, 35 \mathrm{~B} 5 \text {, } \\
    35 \mathrm{~L}, 6
    \end{gathered}
    \] & A & 5000 & 40 & 3 & 1\%/4 & 13,16 & 21伯 & 7/8 & A \\
    \hline A.2927 & 1.75 & Single 1Ci-G, 1Gis-G, 1G5, 1St, \(3\left(24,3 \mathrm{~B}^{5} .3 \mathrm{~S} 4,6 \mathrm{~A} 4\right.\) & A & 8000 & 20 & 3 & 11/2 & \(13 / 8\) & \(17 / 8\) & 1 & B \\
    \hline A-2928 & 1.90 & Single \(2 A 3,6 \pm 3,6 B 4,6 Y 6\), \(25 . \mathrm{C} 5,25 \mathrm{~B} 6,25 \mathrm{~N} 6,25 \mathrm{~L} 6\), \(3 \overline{\mathrm{~s}} \overline{5}^{2}, 351.6,501.6,48,50 \mathrm{~B} \overline{5}\), 35135, 50A5 & A & 2000 & 60 & 5 & 2 & \(18 / 8\) & 2\%/3 & \(11 / 4\) & A \\
    \hline A-3018 & 3.00 & Single 6A3, 6L6, 6Y6, 7A5, \(12 \mathrm{~A} 5,25 \mathrm{AB}, 25136,25 \mathrm{C} 6,25 \mathrm{~L} 6\), \(50,50 \mathrm{~A} 5,50 \mathrm{~B} 5,50 \mathrm{C} 5,50 \mathrm{~L} 6\) & 1 & 3500 & 60 & 8 & 23/8 & 18/8 & \(2^{13} 16\) & 11/2 & A \\
    \hline A-2930 & 2.00 & Single \(6 \mathrm{~V} 6,7 \mathrm{C}, 5,12 \mathrm{~A}, 12.45\), \(25 \mathrm{~A} 6.25 .17,35 А 5,3516,31\), 4.). 50, 59 & 1 & 5000 & 10 & 5 & \(2^{2}\) & 18 & 286 & \(11 / 4\) & A \\
    \hline A-3019 & 3.00 & Single 6L6, 6V6, 6AQ5, 6AS5, 7C5, 25A6, 35A5, 35L6, 50 & A & 5000 & 50 & 8 & 28/8 & 18/8 & \(2^{13} / 16\) & 11/2 & A \\
    \hline A-2935 & 3.75 & PP6i, & A & 5000 c.t. & 150 & 18 & \(2^{213} 14\) & & \(31 / 4\) & \(15 / 8\) & A \\
    \hline A-2931 & 2.00 & Single \(2 A 5,6,1 C 5,6 B 5,6 F 6\), \(6 \mathrm{~K} 6,6.16,7135,20,31,42\), 47.50 .6 V & A & 7600 & 30 & 5 & 2 & \(18 / 3\) & \(23 / 8\) & \(11 / 4\) & A \\
    \hline A-3020 & 3.00 & Single 2A5, 6AC5, 6AD7, 6AR5, \(6135,6 \mathrm{Fb}, 6 \mathrm{~K} 6,6 \mathrm{Nb}, 6 \mathrm{Y} 7,7 \mathrm{B5}\), 12A6, 14: 5, 41, 47 & A & 7000 & 40 & 8 & 23/3 & 15/8 & \(2^{13} 16\) & 11/2 & A \\
    \hline A-2932 & 2.00 & Single 1Cis, 1Q5, 3C5, 6At, 6Gti, 6.⒎ 6R7, 12A, 38, 41, \(4 \%, 3 \mathrm{~N}_{4}\) & A & 10000 & 30 & 5 & 2 & \(13 / 8\) & 2818 & \(11 / 4\) & A \\
    \hline A-2938 & 2.75 & \[
    \begin{aligned}
    & \text { Single } 19,1 \mathrm{G} 6,1 \mathrm{J6} \\
    & \text { PI'IIIt, } 30,49
    \end{aligned}
    \] & 13 & 10000 c.t. & 40 & 5 & 2 & \(18 / 3\) & \(23 / 8\) & \(11 / 4\) & A \\
    \hline A-2936 & 3.00 & \begin{tabular}{l}
    PP 6AC5 \\
    PP fiv6, 7C5
    \end{tabular} & B \(A B_{1}\) & 10000 c.t. & & & & & & & \\
    \hline A-2933 & 2.20 & Single 11) \(8,7 \mathrm{Bj}, 6 \mathrm{~F} 6,6 \mathrm{G6}\) & \(A^{-1}\) & \({ }_{10000}^{12000}\) c.t. & 75
    10 & 10 & \(23 / 3\) & 13/8 & \({ }^{213} 8\) & \(11 / 2\) & A \\
    \hline A-3021 & 3.60 & \begin{tabular}{l}
    PP2A5, 61:6, 6k6 \\
    PP(iAJ)7, 47, 49 \\
    Single 6Y7, 6Z7, 79
    \end{tabular} & A
    B
    B
    B & \(14000 \mathrm{ct}\). & 35 & 12 & 213/16 & \(2^{1 / 8}\) & 31/4 & \(15 / 8\) & A \\
    \hline A. 2934 & 2.00 & *ingle 11)s, 1F4, 1F\%, 1J5, 1T5, \(617,12.17 .85\) & A & 15000 & 10 & 5 & 2 & \(13 / 8\) & \(23 / 8\) & \(11 / 4\) & A \\
    \hline A-2937 & 2.50 & Ningle 1 A5. \(1 . \mathrm{N}_{6} 6,677,85\)
    \[
    \text { P1 } 1 \mathrm{E} 7,1.55,6 \mathrm{Gf}, 3 \mathrm{~A} \%, 3 \mathrm{~V} 4
    \] & A & \(2 \mathrm{5} 000 \mathrm{c.t}\). & 10 & 5 & 2 & \(13 / 8\) & 23 & 11/4 & A \\
    \hline A-3017 & 2.75 & PP1.15. IAC5, IN6, 11.44 & A & S0000 c.t. & 10 & 5 & 2 & 134 & 236 & \(11 / 4\) & A \\
    \hline
    \end{tabular}

    FILTER TAPPED OUTPUT TRANSFORMERS Pri. has \(3 \%\) and \(6 \%\) Humbucking Tops Sec. Impedonce 3-4 ahms
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow{2}{*}{'rube} & \multirow{2}{*}{Class} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Pri. \\
    Impedanee
    \end{tabular}} & \multirow[b]{2}{*}{l'ri.} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Max. \\
    Watts
    \end{tabular}} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Mtg. \\
    Centers
    \end{tabular}} & \multicolumn{3}{|c|}{1)imensions} & \multirow[b]{2}{*}{Mtg.} \\
    \hline & & & & & & & & 1. & W. 1 & \(1)\). & \\
    \hline A-3031 & \$2.40 & Single 2A3, 6 13, 7A5, 251.6. \(3 \overline{\mathrm{j}} \mathrm{A} \overline{5}, 35135,3516,4 \overline{5}, 50 \mathrm{~B} 5\), 5016 & 1 & 3000 & . 0 & 5 & 2 & \(13 / 8\) & \(23 / 8\) & \(11 / 4\) & A \\
    \hline A-3032 & 2.40 & Single 6V6, 6B5, 7Cō, 6F6 & A & 6000 & 40 & 5 & 2 & \(13 / 3\) & \(23 / 8\) & \(11 / 4\) & A \\
    \hline
    \end{tabular}

    To Couple Push Pull Plotes to Line or Voice Cail Sec. Impedonce 2-4-8-15 SPECIAL OUTPUT TRANSFORMERS \(250-500\) ohms
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Tube} & \multirow[b]{2}{*}{Class} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Pri. \\
    Impedance
    \end{tabular}} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Pri. M.A. } \\
    & \text { per side }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Max. Wats} & \multirow[b]{2}{*}{\[
    \begin{gathered}
    \text { Mig. } \\
    \text { Centers }
    \end{gathered}
    \]} & \multicolumn{3}{|c|}{Dimernsions} & \multirow[b]{2}{*}{Mtg.} \\
    \hline & & & & & & & & H. & W & I. & \\
    \hline A-3027 & \$6.60 &  P1'1IIG. 1.I6, 6AC5, 49 & A
    \(A\)
    13 & 10000 c.t. & 45 & 15) & \(2{ }^{13}\) /15 & 2 & \(31 / 4\) & \(13 / 4\) & F \\
    \hline A-3028 & 7.50 & \[
    \begin{aligned}
    & \text { Prtid, } \\
    & \text { PP } 2 \mathrm{~A} 3
    \end{aligned}
    \] &  & :000 c.t. & 70 & 20 & \(31 / 3\) & \(2^{3}{ }_{16}\) & 31116 & 2 & F \\
    \hline
    \end{tabular}

    All prices subject to trade discount, and change without notice.
    

    \section*{(indransformers}

    \section*{VERTICAL OUTPUT TRANSFORMER}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Turns Ratio l'rimary to Necondary} & \multirow[b]{2}{*}{MItg. Centers} & \multicolumn{3}{|c|}{1)imensions} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Mty. \\
    Type
    \end{tabular}} \\
    \hline & & & & H. & W. & 1). & \\
    \hline & \$6.25 & 10:1 & 119 & 31/8 & 21196 & \(21 / 2\) & I:V \\
    \hline \[
    +A-3036
    \] & 4.25 & 10:1 & \(2^{15}{ }_{16}\) & \({ }^{2}\) & 31/4 & \(\cdots\) & A \\
    \hline & 4.25 & 11.4:1* & & 2 & \(31 / 4\) & 15/8 & A \\
    \hline + \({ }^{+} \mathbf{A} \mathbf{3} \mathbf{3 8}\) & 5.50 & 10:1 & \(31 / 8\) & 21/4 & 314 & \(21 / 4\) & A \\
    \hline + \({ }^{+} \mathbf{4 0 3 9}\) & 5.50 & & \(31 / 8\) & \[
    21 / 4
    \] & \(3{ }^{311 / 6}\) & 21/4 & \({ }_{\text {A }}{ }^{\text {a }}\) \\
    \hline \(\star A-3080\)
    \(\star\) A-3081 & 6.00
    6.50 & \(25: 1,50: 1\)
    \(30: 1,50: 1\) & & 31/4 & \({ }_{3}^{31146}\) & 21/4 & \begin{tabular}{l} 
    A \\
    \hline
    \end{tabular} \\
    \hline
    \end{tabular}
    *Indicates TV Replacements.
    *Auto Transformer.
    For Use with AC-DC Battery Portable Receivers-Sec. Impedance DUAL PRIMARY OUTPUT TRANSFORMERS \(3-4\) ohms
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Tube} & \multirow[b]{2}{*}{C'lass} & \multirow[b]{2}{*}{\begin{tabular}{l}
    I'ri. \\
    Impedance
    \end{tabular}} & \multirow[b]{2}{*}{\[
    \underset{\text { Mri. }}{\text { Mri. }}
    \]} & \multirow[b]{2}{*}{Max. Watts} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Mitg. } \\
    & \text { Centers }
    \end{aligned}
    \]} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mitg.} \\
    \hline & & & & & & & & 11. & W. & D. & \\
    \hline A-3029 & \$2.40 &  & . & \[
    \begin{gathered}
    2000 \\
    \text { or }
    \end{gathered}
    \] & \[
    60
    \] & 5 & 2 & \(18 / 8\) & \(23 / 8\) & \(11 / 4\) & . 1 \\
    \hline & & Single 1St, 125, 3Q \(4,3 \mathrm{Q} 5,3 \mathrm{~V} 4\) & 1 & & & & & & & & \\
    \hline A-3030 & 2.40 &  & 1 & \[
    \begin{gathered}
    2000 \\
    \text { or } \\
    10000
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 60 \\
    & \text { or } \\
    & 10
    \end{aligned}
    \] & 5 & 2 & 1/8 & 28 & 11/4 & \(\lambda\) \\
    \hline
    \end{tabular}

    To Provide Correct Caupling Between a Variety of Output Tubes and
    UNIVERSAL OUTPUT TRANSFORMERS Any Speaker Voice Coil
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Tube} & \multirow[b]{2}{*}{Ohms Impedance} & \multirow[b]{2}{*}{Sec.} & \multirow[b]{2}{*}{\[
    \begin{gathered}
    \text { Pri. } \\
    \text { M. }
    \end{gathered}
    \]} & \multirow[b]{2}{*}{Max. Watts} & \multirow[b]{2}{*}{\[
    \left\lvert\, \begin{gathered}
    \mathrm{Mtg} \\
    \text { Centers }
    \end{gathered}\right.
    \]} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mtg.} \\
    \hline & & & & & & & & H. & W. & \(1)\). & \\
    \hline A-2900 & \$2.75 & Single or Pusn-pull & 4000-7000-8000-10000-1-1000 c.t. & . 17 to 32 & 35 & 4 & & 13/6 & \(23 / 8\) & 11/4 & \\
    \hline A-2901 & 3.00 & Single or Push-pull & 4000-7000-8000-10000-14000 r.t. & . 17 to 32 & 40 & 8 & \(23 / 8\) & 13/8 & 21316 & \(1^{112}\) & \\
    \hline A-2902 & 3.00 & Single & 15001-2000-4000-5000-7000-10000 & . \(1 \quad\) to 40 & 55 & 10 & \(23 / 8\) & 15 & \(22^{13}{ }^{16}\) & \(11^{2}\) & F \\
    \hline A-2903 & 2.60 & Single & 2000-4500-7000-10000 & 3.2 & 30 & 4 & & 18 & \(23 / 8\) & \(11 / 1\) & \(\stackrel{F}{\text { F }}\) \\
    \hline A-2904 & 4.00 & Single or Push-pull & 4000-7000-8000-10000-14000 c.t. & . 17 to 39 & 40 & 18 & \({ }^{2} 818\) & \(211 /\) & \({ }^{2711}\) & \(1 \%\) & \(\stackrel{\text { G }}{\text { F }}\) \\
    \hline A-2905 & 5.50
    2.50 & Single or Push-pull & \(3000-5000-7000-8000-10000 ~ c . t . ~\)
    \(3500-5000-7000-10000\) & .17 to 32 & \[
    \begin{aligned}
    & 70 \\
    & 35
    \end{aligned}
    \] & 24
    3 & \(31 / 8\)
    \(13 / 4\) & 211/8 & 31116
    \(21 / 8\) & 21/8 & \(\stackrel{\mathrm{F}}{\mathrm{F}}\) \\
    \hline A-2998
    A-2999 & - 2.50 & \(\underset{\text { Single }}{\substack{\text { Single }}}\) & \(3500-5000-7000-10000\)
    \(12000-15000-18000-25000\) & \begin{tabular}{l}
    3.2 \\
    3.2 \\
    \hline
    \end{tabular} & \[
    \begin{aligned}
    & 35 \\
    & 10
    \end{aligned}
    \] & 3
    3 & 13 1394 & \(11 / 8\)
    118 & 21/8 & 11/8 & \(\stackrel{\text { F }}{ }\) \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Tube} & \multirow[b]{2}{*}{Class} & \multirow[b]{2}{*}{\begin{tabular}{l}
    \(\because\) Pri. \\
    Impedance
    \end{tabular}} & \multirow[b]{2}{*}{Pri, M.A. per Side} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Max. } \\
    & \text { Watts }
    \end{aligned}
    \]} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mitg.} \\
    \hline & & & & & & & H. & W. & D. & \\
    \hline A-3127 & \$6.50 & Single 6I.6. 2A3, 6.A3, 6Y6 & A & 2500 & 80 & 8 & \(31 / 8\) & & & \(1)\) \\
    \hline A-3128 & 10.50 & P'6V6, 6F6 & \(A B_{1}\) & 8000 c.t.** & 50 & 11 & \(3{ }^{3 / 2}\) & \(2^{1515}\) & \(31 / 8\) & 1 \\
    \hline A-3129 & 10.50 &  & \(\mathrm{AB}_{1}\) & \({ }^{4} 300\) c.t.** & 95 & 25 & \(31 / 2\) & \({ }^{215} 16\) & \(31 / 8\) & I) \\
    \hline A-3130 & 10.50 &  & \(\mathrm{AB}_{1}\) & 6600 c.t.* & 80 & 34 & 37/8 & \(3^{3} 16\) & 3 3/8 & I) \\
    \hline A-3131 & 8.75 & \(\left\{6 \mathrm{~A} 3,6 \mathrm{~B} 4,45, \mathrm{PI} \mathrm{l}^{\prime} \mathrm{N} 7\right.\), & AB & \(5000 \mathrm{c} . \mathrm{t}\). & 80 & 30 & \(31 / 2\) & \(2^{13} 1{ }^{\text {自 }}\) & \(31 / 8\) & 1) \\
    \hline & & & & & & & & & & \\
    \hline A-3132 & 8.75 & \(\left\{\begin{array}{l}\text { P1'6F6, 2A5, 7C5, } \\ \text { Sincle 6N7, 6.46 }\end{array}\right.\) & \({ }_{\text {AB }}{ }^{\text {a }}\) & \} 10000 e.t. & 40 & 25 & \(31 / 2\) & \(2^{15} /{ }^{6}\) & \(31 / 8\) & D \\
    \hline A-3133 & 13.75 & P'P'. Par. Glab. P.P. 807 & \(\cdots B_{1}\) & 3300 e.t. & 240 & 5.5 & 4368 & \(3{ }^{13} 16\) & 4 & D \(\dagger\) \\
    \hline
    \end{tabular}
    * \(10 \%\) Feedback Winding. \(\dagger\) Mtg. Centers \(3 \times 2^{18} / 6\),
    

    \title{
    ThAISFDAmens
    }

    UNIVERSAL LINE TRANSFORMERS to Couple Various Line Impedanceśs to a Voice Coil
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow{2}{*}{Type No．} & \multirow{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{Ohmis Inmedtam} & \multirow[b]{2}{*}{W： 11} & \multirow{2}{*}{\[
    \underset{\text { Cinter }}{\text { Mig }}
    \]} & \multicolumn{3}{|c|}{13mension：} & \multirow{2}{*}{M！} \\
    \hline & & Pri． & Sec． & & & 11. & W & i）． & \\
    \hline A－2810 & \＄4．00 & － \(610-1006-1-00-2010\) & \(3.2 .1 \times 16,9\) & 10 & \({ }^{23}\) & \(15 \%\) & \(2^{18}{ }^{\text {6 }}\) & \(11 \leq\) & 1 \\
    \hline A－2811 & 4.50 & \(5100-1000-1.5016-2000\) & 3．2．4．6． 6 & 12 & 23： & 215 & \(2{ }^{18}{ }^{16}\) & 158 & 13 \\
    \hline A－2812 & 5.00 & 560－1000－1．501－2000 & 3．2．4－6， & \％ & \(2^{1318}\) & \({ }^{2} 8\) & \(3^{35}\) & \(1{ }^{1}\) & \({ }^{3}\) \\
    \hline A－2813
    A－2814 & 3.25
    4.25 &  & 4 A，in， 8 & 20 & 28 & \(1{ }^{18}\) & \(2^{2} 1^{3}\) & \(13 \times\) & \({ }_{1}\) \\
    \hline A－2906 & 3.25 &  & 3．2．6－8 & 10 & 23.8 & \({ }^{1} 5\) & \(2^{19}\) & 1112 & F \\
    \hline A－2907 & 5.25 & （100－1000－1－501－20060 & 3．2，6－8 & 15 & 238 & 214 & \(27 / 8\) & \(1{ }^{18}\) & G \\
    \hline A－2908 & 5.50 & ． \(000-1680-1.501-2000\) & （i－8， 16 & \(\because 1\) & \(3{ }^{\circ}\) & \(\underline{21}\) & 311 16 & \(21 \%\) & F \\
    \hline A－2909 & 3.00 & 1\％－\％ & 3．2， 68 & ， & \(\cdots\) & \(1{ }^{15}\) & 219 & 112 & G \\
    \hline A－3005 & 2.25 & 500 & 3．2， \(0-8\) & i & 2 & \(1{ }^{3} 4\) & 238 & \(11_{4}\) & 1 \\
    \hline
    \end{tabular}

    CONSTANT VOLTAGE LINE TRANSFORMERS
    For Use With Constant 70．7V．Line as Recommended by the RMA．Rated Power is Furnished on Lowest Tap．Other Tops Provide Reduction in Power in Steps of 3DB．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline A－3013 & \＄3．25 &  & 3.3 .7 & i & 2 & \(1{ }^{1} 1\). & \(23 \%\) & 11. & F \\
    \hline A－3014 & 4.00 & \(500-100010-20(0)-1000-80000\) & ＋－S－16 & 10 & 23／8 & 13. & \(2{ }^{10 \text { 浬 }}\) & 11. & \(F\) \\
    \hline A－3015 & 5.75 &  & 1－S－16 & 1， & 238 & \(\underline{-1} 1\) & 2 立 & 178 & C \\
    \hline A－3016 & 6.25 &  & 1－x－16 & 21 & 3＇3 & 21 & \(3{ }^{11} 1{ }^{\text {m }}\) & \(2^{\prime \prime}\) & F \\
    \hline
    \end{tabular}

    For Use With Constant 70.7 V．Line．Full Power Furnished on Lowest Tap．Other Taps Provide Reduction in Steps of One Watt．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline A－2800 & \＄3．25 &  & \(3.2,9\) & 1－9 & 2 & \(1^{13}=\) & \(\because 3\) & \(1^{3}\) & A \\
    \hline A－2801 & 3.50 &  & 3．2， & （i－10） & 23 & \(15 \%\) & 218 & 112 & A \\
    \hline A－2802 & 4.00 & 33：3－35\％－3以1－117－15\％ & － 16 & 11－1．］ & 21． & \(\underline{2}\) & 314 & 15 & 1 \\
    \hline A－2803 & 4.25 & \(2.50-2633-270-31+-312\) & －． 110 & 11i－20 & 23 & \(\underline{21}\) & \(2{ }^{13} 10\) & 27 & 13 \\
    \hline A－2804 & 4.50 & \(2(1)-200-217-2 \cdot 93030\) & \(\bigcirc 16\) & －1－2－5 & \(2^{3}\) & \(\underline{3}\) & 3； & \(1 \%\) & 13 \\
    \hline
    \end{tabular}

    TUBE TO LINE TRANSFORMERS for Coupling Single or Push－Pull Plates to Line or Mixer
    

    INTERSTAGE TRANSFORMERS To Couple a Single Plate to a Single Grid
    

    \title{
    TRAIISFORMERE
    }

    REPLACEMENT TYPE FILTER CHOKES Inductance Ratings are at 10 V． 60 ey．with Rated Current Flowing as Recommended by the R．M．A．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No．} & \multirow[t]{2}{*}{List Price} & \multirow[t]{2}{*}{Inductance
    Henries} & \multirow[t]{2}{*}{Current Rating M．A．} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { DC } \\
    & \text { IRes. } \\
    & \text { Ohms }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Volts Insul} & \multirow[b]{2}{*}{Mtg． Centers} & \multicolumn{3}{|c|}{［hueusions} & \multirow[t]{2}{*}{Mtg．} \\
    \hline & & & & & & & 11. & W． & 1. & \\
    \hline \(\stackrel{\text { C－2973 }}{ }\) & \＄1．75 & 1.5 & 10 & \(90^{\circ}\) & 1500 & 18 & 13 何 & \({ }^{17 / 6}\) & 1 & A \\
    \hline ＊ \(\mathrm{C}-2994\) & 2.25
    3.85 & 1.5 & 200 & 90 & 1500 & \(2 \%\) & \(18 / 8\) & \(2^{13 / 16}\) & 15／8 & A \\
    \hline C－2974 & 3.85
    2.20 & 2.0 & 200
    50 & 201 200 & 1500
    1500 & \(2{ }^{23} 5\) & \(2{ }^{15 / 8}\) & 31／4 & 15 & A \\
    \hline C－2975 & 2.00 & 5．． & 50 & 330 & 1500
    1500 & \(2^{2 / 8}\) & 15／8 & 28\％ & 11 & A \\
    \hline C－2976 & 2.00 & 8 & 40 & 500 & 1500 & 2 & \(18 / 8\) & \(2 \%\) & \(11 /\) & A \\
    \hline \(\star\) C－2995 & 3.00 & 8.0 & 100 & 375 & 1500 & \(2^{18} 16\) & 2 & 314 & 1\％ & A \\
    \hline C－2981 & 2.20 & 8.5 & 50 & 400 & 1500 & 2\％ & 15 & \(2^{13} 10\) & \(11 / 2\) & A \\
    \hline C－2985 & 2.20
    2.50 & 20 & 15 & 900 & 1500 & \(23 / 8\) & \(15 / 8\) & \({ }_{3}^{213} 16\) & \(11 /\) & A \\
    \hline C－2990 & 3.30 & \(1:\) & 75 & 450 & 1500 & 2130 & \(\stackrel{2}{2}\) & 31／4 & \(18 / 8\) & A \\
    \hline ＊C－2991 & 4.40 & 2 & 250 & 53 & 2000 & \(3^{5 / 8}\) & \(2^{3}\) ， 16 & \({ }^{31116}\) & 2 & A \\
    \hline C－2993 & 4.40 & 10.7 & 110 & 220 & 1500 & \(3{ }^{9}\) & 29 \％ & & 21／4 & A \\
    \hline \(\star\) C－2996 & 3.50 & 1.0 & 300 & 60 & 1500 & 3188 & \(21 / 4\) & 311 伯 & 2 & A \\
    \hline
    \end{tabular}
    \(\star\) Indicates TV＇replacenchets．

    POWER TRANSFORMERS \({ }^{1}\) Receiver Replacement Type－Primary for 115 V．， 60 Cy．Leads R．M．A．Color Coded－Mig．Fig．C
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No．} & \multirow[t]{2}{*}{List Price} & \multicolumn{2}{|l|}{11．V．Necondary} & \multicolumn{2}{|l|}{Rectifier} & \multicolumn{2}{|c|}{Fil．Widge．} & \multirow[t]{2}{*}{Mtg． Centers} & \multicolumn{3}{|c|}{Dimeraions} \\
    \hline & & Folts & I．C．M．A． & Foles & Amp． & Volts & Amp． & & II． & W． & 1）． \\
    \hline ＊P－3045＊ & \＄5．00 & 120 & 50 & & & ti．3 & & 31／8 & 23.16 & 25／8 & \\
    \hline \％P－3046 \({ }^{\text {a }}\) & 3.25 & 150 & 25 & & & fi．3 c．t． & － 5 & \({ }^{3}\) & \％ & \(21 / 2\) & \[
    13 / 4
    \] \\
    \hline P－3047 & 5.75 & 210－240 & 50 & & & 6．3\％ & 2.5 & \％\(\times 21 / 2\) & \(21 / 2\) & \(3^{3}\) & 2 \\
    \hline P－3048
    P－2949 & 7.75
    6.50 & \(260-260\)
    \(240-240\) & 40
    40 & & & 13.3 & 4.7 & \(3 \times 81 / 0\) & \(21 / 2\) & 3 & 3 \({ }^{16}\) \\
    \hline P－2958 & 6.50
    6.50 & 240－240 & 50 & 5 & 2 &  & \(\stackrel{2}{2} 6\) & \(3 \times 21 / 2\) & \(21 / 2\) & 3 & 21／2 \\
    \hline P－3051 & 8.00 & 260－260 & 70 & 5 & 2 & 8． 6.3 & 2.6
    3 & \(\frac{2}{2} \times 2.10\) & \(21 / 2\)
    \(21 / 2\) & 3 & 3
    3
    3 \\
    \hline P－3052 & 9.00 & 280－280 & （7） & 5 & 2 & 6.3 & 5 & \(214 \times 213 / 10\) & \(2{ }^{2} 1_{6}\) & 38 & \(31 / 2\) \\
    \hline P－2957 & 7.25 & \(33.3-3.50\) & 6 & 5 & 2 & 16.3 c．t． & 2.6 & \(214 \times 2136\) & 213，16 & 38 & \(3^{3}\) \\
    \hline P－2966 \(\dagger\) & 8.50 & \(350-350\) & 70 & 5 & 3 & 2．5 r．t． & 9 & \(234 \times 2{ }^{18}\) & \(213 / 15\) & 38／8 & \(35 / 8\) \\
    \hline P－2967 & 10.75 & 350－350 & （1） & & 3 & y．5ct & 3.5
    12.5 & & & & 416 \\
    \hline P－2968 & 13.00 & \(400-400\) & 110 & 5 & 3
    3 & 2．5c．t． & 12.5 & \(21 / 2 \times 31 / 8\)
    3 & 31／8 & \(33 / 4\)
    \(41 / 2\) & 41釈 \\
    \hline & & & & & & 2.5 c．t． & 3.5 & & & & \\
    \hline P－2950 & 6.75 & 32．7－32\％ & 40 & 5 & 2 & 6．3 c．t． & 2 & \(2 \times 21 / 2\) & 21／2 & 3 & \(27 / 8\) \\
    \hline P－2951 & 7.75 & 320－320 & 70 & 5 & 3 & ti．3 c．t． & 3.5 & \(2{ }^{2} \times 21 / 2\) & \(21 / 2\) & & \(31 \%\) \\
    \hline P－2952 & 8.50 & \(3 \mathrm{~S} 1-350\) & 90 & 5 & 3 & ti．3 c．t． & 3.5 & & \(2^{13} / 16\) & 3818 & \(33 / 4\) \\
    \hline P－2953 & 9.75 & 3500350 & 120 & 5 & 3 & 6.3 c．t． & 4.7 & \(21 / 2 \pm 31 / 6\) & 31／8 & 33\％ & 3150 \\
    \hline P－2954 & 12.50 & 375－375 & 150 & 5 & 3 & 6i．3 r．t． & 5 & 21／2 \(\times 131 / 8\) & 31／8 & ： 38.4 & 45，16 \\
    \hline P－2955 & 14.00 & \(4(1)-100\) & 200 & 5 & 3 & 6．3．3 c．t． & 5 & \(3{ }^{3 / 2} \times 33 / 4\) & 33 & \(41 / 2\) & \(41 \%\) \\
    \hline P－2956 & 17.50 & \(\frac{435-135}{}\) & 250 & 5 & 3 & （ 0.3 c．t． & 3 3 & \(3 \times 33 / 4\) & \(33 / 4\) & \(41 / 2\) & \(43 / 8\) \\
    \hline & & （80－roll 13ine 「ap） & & 2.5 & 10 & 6.3 or 5 & \(\left.3{ }_{9}\right\}\) & & ， & & \\
    \hline & & & & & & 6．8．3 & 1 & & & & \\
    \hline \[
    \star P-3071 \ddagger
    \] & 22.50 & 300－300 & 180 & 5 & 3 & 10.3 & 9 & & & & \\
    \hline ＊P－3072 & 21.25 & \(360-360\) & 180 & 5 & 3 & 1．3 & 4 & 23行 5 316 & \(3 \%\) & \(41 / 8\) & 45 ， 16 \\
    \hline －P－3069 & 22.50 & \(350-350\) & 225 & 5 & 3 & （ 1.3 .3 & 10 & \(3 \times 331\) & 33／4 & \(41 \%\) & 41／4 \\
    \hline \(\pm \mathbf{P}-3070\) & 21.25 & \(350-350\) & & & & 6.3
    6.3 & \({ }_{10}^{2.7}\) & & & & \\
    \hline ＊P－3070 & 21.25 & \(3.0-350\) & 225 & 5 & 3 & 6．3） & 10.7 & \(3 \times 33 / 4\) & \(33 / 4\) & 41／2 & 4 \\
    \hline \＆P－3059 & 25.00 & 360－360 & 250 & 5 & 9 & 6． 3 & 2.7 & \(3 \times 33 / 4\) & \(33 / 4\) & 41／2 & 51／8 \\
    \hline & & & & 5 & 3 & 6.3 & 9 & & & ， 2 & 53 \\
    \hline \(\star\)－ 3063 & 22.50 & 360－360 & 250 & 5 & 3 & 6.3 & & 33／16 \(\times 41 / 16\) & 315／5 & 45\％ & 51／2 \\
    \hline & & & & & & 6.3 & 1.2 & & & & \\
    \hline & & & & & & 5 & 2 & & & & \\
    \hline & & & & & & 6.13 & 1.5 & & & & \\
    \hline & & & & & & 6.8 or 5 & 2.7 & & & & \\
    \hline ＊P－3061 & 27.50 & 362－362 & \(20 \%\) & 5 & ¢ & 12.6 c．t． & 5 & 33 伯 \(\times 416\) & \(3^{13 / 16}\) & 48／8 & 65\％ \\
    \hline
    \end{tabular}
    （This listing continued next page）
    ＊For use with Half－W゙ave Rectifier．\(\dagger\) Heplaces P2960．
    \(\ddagger\) Nocket Pype．Siee Figure CS．o
    All TV Fowers are Fully Flux and static Shielded．
    Thpe A MItg．
    Shielded to meet Underwriters approval for pre－amp use．．Mtg I．
    \(\begin{array}{lcccc} & \text { P－306i } & \text { P－3067 } & \text { P－3073 } & \text { P－3076 } \\ \text { Hax．MA High Map Only } & 320 & 300 & 220 & 435 \\ \text { Max Mi Low Iap Only } & 340 & 310 & 325 & 500 \\ \text {＊Can lue used in series for } 12.6 \mathrm{~V} . & & & \end{array}\)
    \(\qquad\)
    

    \title{
    TRAISFORMERS
    }

    POWER TRANSFORMERS＇Recriver Replacement Type—Primory for 115 V．， 60 Cy．Leods R．M．A．Color Coded—Mig．Fig．C （Continued）
    
    －WER TRANSFORMERS Receiver Repiacement Trpe－Primary lor 115 V．a 60 Cy．Leads R．M．A．Color Coded Fully Shielded Upright Mounting Trpe－Mig．Fig．D
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No．} & \multirow[b]{2}{*}{List Price} & \multicolumn{2}{|l|}{11．V．Ěecondary} & \multicolumn{2}{|r|}{Rectifier} & \multicolumn{2}{|r|}{l－ih．W＇dge．} & \multirow[t]{2}{*}{Mtg． Centers} & \multicolumn{3}{|c|}{Dinmensions} \\
    \hline & & Vole & 1）．C．M．1． & Volte & Anup． & Volts & Ampr． & & 11. & W． & D． \\
    \hline P－3147 & \＄6．00 & 211）－240 & il） & & & 13．3 & 2.7 & \(2 \times 19\) & 31\％ & \(2 \frac{5}{8} 8\) & 219 \\
    \hline P－3148 & 7.00 & 26i0－260 & ！ 11 & & & \(1 . .3\) & 4.7 & \({ }_{0}^{2} \times 22^{3} 10\) & \(31 / 8\) & 2 \({ }^{5} 8\) & 314 \\
    \hline P－3149 & 6.50 & \(2+10-2+4\) & 111 & \(\bigcirc\) & \({ }_{3}\) & 4i．3 e．t． & 2 & \({ }_{2}^{2} \times 111,16\) & \(31 / 8\) & \(28 / 8\) & 2816 \\
    \hline P－3150 & 6.75 & 32，－30\％ & 4） & 5 & \(\frac{3}{2}\) & \({ }_{4}^{4.3} 4.3\) e．t． & 2.6 &  & 23\％ & 45／8 & \(31 / 8\) \\
    \hline P－3154 & 8.75
    7.50 & 350－350 & int & 5 & 2 & ti．3 c．t． & 2.6 & \(21 / 4 \times 17 / 8\) & \(3{ }^{12}\) & \(2{ }^{15} 16\) & 316 \\
    \hline P－3160 & 7.50
    7.75 & \(350-390\) & 30） & 5 & 3 & ti． 3 c．t． & 3.5 & \(21.2 \times 1516\) & 37／8 & \(3^{3}\) \％ & \(3^{3}{ }^{15}\) \\
    \hline P－3151 & 7.75
    8.50 & 350－370 & （1） & 5 & 3 & 4.3 c．t． & 3.5 & \(23 / 4 \times 2{ }^{6} 16\) & 21.3 & 46／8 & 3：\％ \\
    \hline P－3153 & 9.75 & \(3.50-3,30\) & 110 & ． & 3 & 1.3 .3 c．t． & 4.5 & \(3 \times 21 / 4\) & 48 & \(33^{15}{ }^{6} 6\) & \(3{ }^{3} 16\) \\
    \hline P－3173 & 11.75 & \(3.30-35\) & 150 & 5 & 3 & 6.3 & 6.5 & 21／2 \(\times 23 / 8\) & 378 & 314 & 418 \\
    \hline P－3155 & 14.00 & 400－100 & 200 & 5 & 3 & ti．3 c．t． & 5 & \(3 \times 3516\) & 48 & \({ }_{3}{ }^{13} 16\) & \(4{ }^{11}\) \\
    \hline P－3156 & 17.50 & \(135-135\) & \(\because 50\) & ． 3 & 3 & \(\left\{\begin{array}{l}6.3 \text { c．t．} \\ \text { ti }\end{array}\right.\) & \(\left.\begin{array}{l}3 \\ 3\end{array}\right\}\) & \(3 \times 3{ }^{13} 16\) & 4 \％ & \(3^{3} / 15\) & 418 \\
    \hline & 18.75 & （S0－volt 13is lap） & 200 & 2.5 & 10
    2 & \(\} \begin{aligned} & 1.3 \text { or } 5 \\ & 6.3\end{aligned}\) & \({ }^{3} .6\) & \(3 \times 3 \%\) & 458 & 3\％4 & 5 \\
    \hline ＊P－3165 & 18.75 & 300－350 & － & 5 & 3 & \｛ 6.3 & 7 & & & & \\
    \hline ＊P－3169 & 27.00 & \％\(\{390\)－390 \(\}\) & 16） & 5 & 3 & B．3 & 8 & \(3 \times 35\) & 488 & \(3^{13} 16\) & 14 \\
    \hline & & ［325－325\} & 130 & ．） & 3 & \({ }^{1.3}\) & 4 & & & & \\
    \hline ＊P－3166 & 31.50 & 400－100 & 300 & 0 & 3 & 12.6 c．t． & 10 & 31／2841／4 & 516 & 488 & \(5^{3}\) \\
    \hline & & & & 5 & 6
    3 & & & \(36 / 8 \times 378\) & \(5^{15}\) ，í6 & 47 176 & ご白 \\
    \hline ＊P－3174 & 40.00 &  & 240 & 5 & 3 & 6.3
    6.3 & \(t\) & 3／8 \(\times 3 / 8\) & 5， 16 & －16 & \\
    \hline & & & & 5 & 3 & 4.3 & 2.6 & & & & \(27 /\) \\
    \hline ＊P－3170 & 11.00 & 1750 & 2 & 2.5 & 2 & \(\left\{\begin{array}{l}0.3\end{array}\right.\) & .\(^{9}\) & \(2 \times 1510\) & 318 & 258 & 2／1 \\
    \hline ＋P－3171 & 14.50 & 2500 & － & 2.5 & 2 & ， \(\mathrm{or}^{2}{ }^{2.5}\) & 3 &  & 37鿬 & \(3 \%\) & \(3^{5} 8\) \\
    \hline & & & & & & ）or 2.0 & 3 & & & & \\
    \hline \multicolumn{7}{|l|}{\multirow[t]{2}{*}{\({ }^{\text {A All }}\)＇V Powere are loully l＇lux ant statie shielded．}} & \multicolumn{5}{|l|}{\multirow[t]{2}{*}{\begin{tabular}{l}
    tMax．M．A．High Tap Ouly P－3169： 270 P－3174： 400 \\
    Max．M．A．Low Tap Only P－3169： 290 P－3174： 430
    \end{tabular}}} \\
    \hline & & & & & & & & & & & \\
    \hline
    \end{tabular}

    TV ISOLATION FIL AMENT TRANSFORMER lsolates damper tube from other filaments．Secondary insulated for 5000 V ．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No．} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Pri. } \\
    & \text { Volts }
    \end{aligned}
    \]} & \multicolumn{2}{|c|}{Sec．} & \multirow[b]{2}{*}{Mtg． Centers} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mig．} \\
    \hline & & & Volts & Ampe． & & H & W & D & \\
    \hline P－3097 & \＄3．70 & 6.3 & \[
    \begin{gathered}
    12.63 \\
    u r t i 3 \\
    \hline
    \end{gathered}
    \] & \({ }_{1.2}^{1}\) & \(2^{13}\) 后 & 178 & 314 & 2 & A \\
    \hline
    \end{tabular}

    C

    FILAMENT TRANSFORMERS For Amplifier, Amateur, Industrial Use. Pri:: 115 Volts, so Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Sore. Volts} & \multirow[b]{2}{*}{Ser. Amp.} & \multirow[t]{2}{*}{Insulation Solts} & \multicolumn{3}{|c|}{1 Mtuelsious} & \multirow[b]{2}{*}{Mig.} \\
    \hline & & & & & 11. & W. & \(1)\). & \\
    \hline P-2939 & \$ \(\$ .00\) & 2.5 c.t. & 5 & 2.301 & \(\because\) & \(\mathrm{BH}_{4}\) & 1.8 & A \\
    \hline P-2940 & 6.00 & 2.is cet. & 10 & 7.000 & \% & \(8{ }_{3}^{85}\) & 918 & H \\
    \hline P-3042 & 6.50 & 2.5 c.t. & 10 & 10100 & \(2^{7}\) & \(3{ }^{3}\) & 23. & E1I \\
    \hline P-3040 & 4.50 & 5 c.t. & 3 & 2.00 & & 314 & \(2{ }^{18}\) & \(\wedge\) \\
    \hline P-2941 & 5.25 & \% ct. & 18 & canly & \({ }^{1 /}\) & \(3^{111} .18\) & 17/8 & A. \\
    \hline P-2942 & 12.00 & - -1. & 1.7 & 1041051 & 41.2 & \(3{ }^{3}\) & \(3 \cdot\) & E1 \\
    \hline \(\stackrel{\mathrm{P}}{\mathrm{P}-2943}\) & 12.00
    3.00 & \(5{ }_{6} \mathrm{c}\) c.t. & 30 & 2.310 & \(3{ }^{3}\) & 313 & 3 & [)1. \\
    \hline *P-3074 & 3.75 & \(6.3{ }^{4.3}\) & 1.2 & -10) & \(1_{2}{ }^{5}\) & 314 & \({ }_{2}{ }^{1}\) & A \\
    \hline P-2945 & 3.60 & 6.3 c.t. & 2 & 2 200 & \(\stackrel{2}{2}\) & 31/4 & 15 & A \\
    \hline P-2946 & 4.50 & 6.3 c.t. & 3 & 2.310 & \(\because\) & \(31 / 4\) & 1洛 & \(\wedge\) \\
    \hline P-2947 & 5.75 & 6.3 c.t. & \({ }^{6}\) & 2-0010 & 3 & \(\stackrel{3}{35}\) & 213 & P \\
    \hline P-2948 & 7.50 & 6.3 e.t. & 10 & 2.010 & \(3^{3}{ }^{14}\) & & & TV \\
    \hline \(\stackrel{\mathrm{P}}{\mathrm{P}-2960}\) & 5.50
    7.15 & 7.5 e.t. & 4 & 2000 & \(2{ }^{515}\) & 38 & \(1^{17}\) & 13 \\
    \hline P-2961 & 7.15 & 6.3
    6.3
    c.t.t. & 3
    3 & 2.010 & & \(3 \cdot 6\) & 2.4 & [ \\
    \hline P-3041 & 7.15 & \({ }_{6}^{5} 3\) c.t. & \({ }_{3}^{3.6}\) & 2.00 & 21. & 4 & 2! \({ }^{\text {\% }}\) & \(\wedge\) \\
    \hline P-3143 & 9.00 & 7.5 e.t. & 8 & 2-50 & \(8{ }^{1}\) & & & \\
    \hline P-3145 & 9.00 & \(10 \mathrm{c} . \mathrm{t}\). & 5 & \(\underline{9} 94\) & 31 & \(\cdots{ }^{1 / 15}\) & 3 & 1) \\
    \hline P-3146 & 10.50 & \(10 \mathrm{cm}\). & 10 & SOM & \(33^{7}\) & \(8{ }^{3}\) & \(80^{8}\) & 1) \\
    \hline
    \end{tabular}

    \section*{TV CONVERSION-REPLACEMENT-IMPROVEMENT KIT}

    KIT No. 1000

    POWER APPLICATIONS for Selenium Rectifiers, Pri. 115 Volts, 60 Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No.} & \multirow[t]{2}{*}{List Price} & \multirow[b]{2}{*}{Ser. Volts} & \multirow[b]{2}{*}{Sec. Ampr} & \multirow[t]{2}{*}{Insulation lolis} & \multicolumn{3}{|c|}{Dinmensions} & \multirow[b]{2}{*}{Mtg.} \\
    \hline & & & & & 11. & W. & 1. & \\
    \hline P-2959 & \$ 4.75 & \(12.45 \mathrm{c.t}\) & \(\because\) & 9.500 & 2 & 81 & 178 & A \\
    \hline P-2962 & 4.75 & 25.2 & 1 & 300 & 2 & \(\because 1\) & 178 & A \\
    \hline P-2963 & 10.50 & 12.ti & 7 & 2.000 & :3.9 & 238 & 31. & \\
    \hline & & 25.2 & :1.5 & & & & & \\
    \hline P-3085 & 7.00 & 26 V. ret. & :\% & 2000 & \(2^{1 *}{ }^{16}\) & 338 & \(2^{3 / 3}\) & FII \\
    \hline P-3086 & 20.00 & 1015 C.t. & \(\because\) & 2000 & \(4{ }^{3}\) & \(51 / 4\) & 41 & 1.11 \\
    \hline P-3087 & 38.00 & \begin{tabular}{l}
    78 : thpped \\
    
    \end{tabular} & 6 & 2000 & . \(111 /\) & 6\% & \(57 \%\) & E11 \\
    \hline P-3088 & 12.00 & 13i\% & 12 & 2000 & 27/10 & 416 & .314 & F.11 \\
    \hline P-3089 & 42.00 & 10-4 \%. e.t. & \% & - 0001 & \(5{ }^{11 / 46}\) & \({ }^{6} 18\) & \(6{ }^{6}\) & Fill \\
    \hline P-3090 & 40.00 & liof tupped & 3 & 2000 & 51110 & (i) 1 & \(5{ }^{518}\) & 1:11 \\
    \hline P-3091 & 120.00 & 130 \. tapped at 101 !. & 12 & 2000 & 710 & 6173 & \(71 / 2\) & FII \\
    \hline P-3092 & 70.00 & 15, 1 \%. & f & 2000 & 614 & 7110 & 7 & Fll \\
    \hline *P-3093 & 27.00 & 331 Y, c.t. & 10 & ?0100 & \(4{ }^{3}\) & 5.4 & 43 & Fll \\
    \hline *P-3094 & 50.00 & \(7: 1 . c\) & 10 & 20101 & (it) & \(71 \%\) & 5,3/4 & \(1 \div 11\) \\
    \hline
    \end{tabular}
    *Matches Seleniun Rertifiera in liederal's ". Nl Purnose" Assembly Nit.

    VIBRATOR TRANSFORMERS For Operation From 6 V. Battery and Vibrator
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[t]{2}{*}{Sec. I)C Volts in Filter} & \multirow[b]{2}{*}{Sec. M.A.} & \multicolumn{3}{|c|}{Dithersions} & \multirow[b]{2}{*}{Mta.} \\
    \hline & & & & 11. & W. & [). & \\
    \hline P-2969 & \$5.25 & 150 & 40 & \(\because{ }^{3}\) & ! \(7 / 8\) & \(13 / 4\) & 13 \\
    \hline P-2970 & 6.00 & 22.5 & 40 & 253 & 316 & 21/3 & 13 \\
    \hline P-2971 & 6.50 & 250 & 50 & 25.8 & 34/8 & 21 & 13 \\
    \hline P-2972 & 7.00 & 260 & 6i0 & \% & 358 & \(\because 8\) & \(1 \cdot\) \\
    \hline P-3068 & 5.00 & 260 & 60 & \(2{ }^{\circ}\) & \(25 / 8\) & 17 & C \\
    \hline P-4071 & 7.75 & 2.0) & 50 & 3 & 28 & 29 & JT \\
    \hline +P-4076 & 7.50 & 26.5 & 5.5 & \(: 1 / 4\) & 28 & \(23 / 8\) & JC: \\
    \hline +P-4077 & 8.00 & \(2 \times 0\) & 6.5 & 37\% & \(23 / 4\) & \(2^{8}\) & JT' \\
    \hline P-4078 & 7.25 & 270 & 60 & -2,8 & \(2{ }^{8} 6\) & \(2^{3}{ }^{3}\) & \(\mathrm{J}^{\text {J }} \mathrm{T}^{\text {a }}\) \\
    \hline P-4079 & 8.25 & 270 & 75 & :16 & \(28 / 6\) & \(21 / 2\) & \(\mathrm{J}^{\prime}{ }^{\text {²}}\) \\
    \hline
    \end{tabular}
    *Indicatea TV lieplacement. HAas Built-in Hash Filter.
    All prices subject to trade discount, and change without notice.
    

    VIBRATOR TRANSFORMERS For Operation From 12 V Battery and Vibrator
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No．} & \multirow[b]{2}{*}{List Price} & \multirow[t]{2}{*}{Ner．DC Volts． to Filter} & \multirow[b]{2}{*}{sec．M．．t．} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mtg．} \\
    \hline & & & & 11. & W゙． & \(1)\). & \\
    \hline P－2978 & \＄5．00 & 240 & （i） & 23.16 & \(22_{5}^{5} \mathrm{~s}\) & 15 & （ \({ }^{\circ}\) \\
    \hline ＋P－4051 & 7.00 & 21.5 & 5.3 & 31 & 25. & 25.6 & it \\
    \hline ＋P－4052 & 7.50 & \(2 \times 0\) & （i5） & \(37 / 10\) & \(21 / 4\) & 23年 & \\
    \hline \multicolumn{2}{|l|}{\(\dagger\) Huilt－in hash filter．} & & & & & & \\
    \hline
    \end{tabular}

    BLOCKING OSCILLATOR TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Type No．} & \multirow[t]{2}{*}{List Price} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Tums Rata \\
    l＇rimary to sirembars
    \end{tabular}} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { Mir. } \\
    \text { Cinturs }
    \end{gathered}
    \]} & \multicolumn{3}{|c|}{Dimensions} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { Mtg } \\
    \text { lypo }
    \end{gathered}
    \]} \\
    \hline & & & & 11. & W． & D． & \\
    \hline ＊A－3000 Vertical & \＄2．65 & 1．4．2 & \(\frac{2}{1}\) & \(13 / 8\) & 23／6， & & \\
    \hline ＊A－3001 Vertical & 4.00 & 1.41 & 11： & \(13 / 8\) & \(22^{13} \cdot 16\) & 11／2 & i \\
    \hline ＊A－4000 Vertical & 3.25 & 1：4： 2 & \(]^{1 / 36}\) & \(1_{13}^{3}+\) & 25价 & \(11 / 2\) & J \\
    \hline ＊A－3002 Horizontal & 3.00 & －1 & \(\stackrel{3}{73}\) & 13 & \(23 / 4\)
    \(21 / 8\) & \(11 / 4\) & A \\
    \hline ＋A－3003 Vertical & 2.50
    2.75 & 1．1\％ & \(13 / 4\) & \(13 / 4\) & \(2_{2}^{21 / 8}\) & l／8 & A \\
    \hline ＋A－3004 Vertical & 2.75
    3.75 & 1：17 & \(1{ }^{14}\) & \({ }^{13 / 4}\) & \({ }_{2}^{2}\) & \(11 / 2\) & ．\({ }^{\text {d }}\) \\
    \hline ＋A－4003 Vertical & 3.25 & 1：42 & \(1{ }^{3}\) 后 & 1916 & 13 任 & 13 if & ． H ． \\
    \hline
    \end{tabular}
    † 1＇ri．／sce．1－1：2．08，］’ri．／sec．2－1：1．
    HORIZONTAL SCAN CHOKE
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline & \multirow[t]{2}{*}{List Price} & \multirow[b]{2}{*}{Deseription} & \multirow[t]{2}{*}{Mar.} & \multicolumn{3}{|c|}{Dinmensions} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 110 \\
    & \text { Wype }
    \end{aligned}
    \]} \\
    \hline No． & & & & 11. & W & D． & \\
    \hline ＊C－2980 & \＄3．50 & 1：xate kepl． Sylvania \(2+1-0002\) & \(1{ }^{25 \%}\) & \({ }^{111} 16\) & \(\because\) & 11／4 & 13 \\
    \hline
    \end{tabular}

    \section*{TV COMPONENTS}

    HORIZONTAL OUTPUT AND HI－VOLTAGE TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No． & List Price & Dicture Tubs & Finivalent Txum & Mty．Type \\
    \hline ＊HVO－3 & \＄ 8.00 & 71）194－10 1319 lita． & 1301 211 T －21103 & \(\cdots\) \\
    \hline HVO－5 & 10.00 & 16 APd Pro． & MC： \(211 \%\) M & M \\
    \hline ＊HVO－X7＊（V＇niv．Mitg．） & 15.00
    12.00 &  &  & N \\
    \hline ＊HVO－7VCniv．Mtg．） & 12.50 & 10＂ \(10^{\prime \prime}\) & lir corr & N \\
    \hline ＊HVO－9 & 10.00 & \(17^{\prime \prime \prime}\) 10 \(0^{\prime \prime}{ }^{\prime \prime}\) &  & Exact Implar． \\
    \hline ＊HVO－10 & 10.00 & \(10^{\prime \prime}\) to \(21^{\prime \prime}\) & 1\％i－t retrace plus A（：C－AFC & \\
    \hline ＊HVO－11 & 9.00 & \(10^{\prime \prime}\) to \(19^{\prime \prime}\) Rnd． & Komith under chassis & Fxact Ranlar． \\
    \hline ＊HVO－12 & 10.00 &  & Meiturola Replarement &  \\
    \hline ＊HVO－13 & 8.25
    13.50 &  &  &  \\
    \hline ＊HVO－16 & 13.50 & 10＂ \(0^{\prime \prime}\) to 16is & 16xart Plileo Replac． & Exact Replat． \\
    \hline ＊HVO－17 & 13.50 & \(10^{\prime \prime}\) to \(1 i^{\prime \prime}\) & Exact Plilco Replac． & Exact laplar． \\
    \hline ＊HVO－18 & 12.50 & \(10^{\prime \prime}\) to \(166^{\prime \prime}\) & Fant Philro Rembe． & Exart Raphe． \\
    \hline ＊HVO－19 & 10.50 & \(1 i^{\prime \prime \prime}\) to \({ }^{\text {a }}\) & Fxant Pliko Replac． & Wxat Replar． \\
    \hline ＊HVO－20 & 11.25 & 1ti＂to do \(^{\prime \prime}\) & Pxat Phino Replac． & Fxart Replac． \\
    \hline ＋HVO－ 21
    ＋ \(\mathrm{HVO}-22\) & 10.75
    10.50 &  & 1：xat Phice Replat． & Fxart Rernac． \\
    \hline ＊HVO－23 & 10.50
    10.50 & \(16^{\prime \prime}\) to \({ }^{\text {cos }}\) & Fxat dimiral Relac． & Fant krobac： \\
    \hline ＊HVO－24 & 10.50 &  & Exat Almiral Replar． & Fixat Moplars． \\
    \hline ＊ \(\mathrm{HVO}-25\) & 10.50 &  & 1：xat Emursom liphac． & Exallet Raplac． \\
    \hline ＊HVO－26 & 10.50 &  &  & Fxact Rambe \\
    \hline ＊HVO－27 & 10.50 &  & Fxal Crisecolumbia Roplac． & Exact Roplar． \\
    \hline ＋ \(\mathrm{HVO}-28\) & 13.25
    13.25 &  & Fxan Motorula lephac． & Exatet Raplas． \\
    \hline ＋HVO－29 & 13.25
    13.25 &  & axat Moturnar replac． & Foxart Roplas． \\
    \hline ＊HVO－31 & 10.50 & 16i＂ \(1102{ }^{\prime \prime}\) &  &  \\
    \hline ＊HVO－32 & 11.00 &  & Fxater Muntz Rophate． & 16xart Replat． \\
    \hline ＊HVO－33 & 6.50 &  &  & Fxat Rroplar． \\
    \hline ＋ \(\mathrm{HVO-34}\) & 6.75
    10.50 &  &  & Wxamt Replat． \\
    \hline ＊HVO－35 & 10.50 & \(1+i^{\prime \prime}+10 \leq 1\) &  & Rxant Rerlat． \\
    \hline
    \end{tabular}
    ＊ludicates TY Replacemont．
    All prices subject to change without notice．
    

    \section*{TRAISFORMERS}

    \section*{WIDTH OR LINEARITY COILS}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Range & IResistarnowh htur. & Equivalent Trype & Mig. Type \\
    \hline * M WC-1 \({ }^{+}\) & \$2.25 & 4-29 M. H . & \(25.3-29.1\) & None & \(\bigcirc\) \\
    \hline *MWC-2 & 1.10 & .2-4.0 M.H. & &  & \(\bigcirc\) \\
    \hline *MWC-3 & 1.90
    1.25 & \({ }_{0}^{20-60-3.11 .1 . ~}\) & 47.7 & \begin{tabular}{l}
    Sone \\
    IPC. \(1 \cdot 01 \mathrm{R}=\)
    \end{tabular} & 0 \\
    \hline *MWC-4 \(\dagger\) & 1.25
    1.25 & 0.2-5 M. 1.11 & \begin{tabular}{l}
    7.1: (3hta \\
    f1)
    \end{tabular} & \begin{tabular}{l}
    R(C'A 201 R. \(=\) \\
    RC:A 207R1, 200011
    \end{tabular} & \(\bigcirc\) \\
    \hline \(\star\) M WC-6 & 1.25 & 1.5-10 М1. 11. & \(\checkmark\) Ohtu, &  & O \\
    \hline
    \end{tabular}
    secondary provided for A(aC-AFC
    \(\dagger\) Tapper.
    \(\star\) Ludicates TV Replacement. *siplit secondary. *Cosine-Ferrite cure.

    \section*{FOCUS COILS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Tube size & Dimensions-Depth & 1.ativatent 19per & II.A. & D) C. Res. Ohms & Mty Type \\
    \hline *MF-1* & \$8.25 & \(10^{\prime \prime}-12^{\prime \prime}\) & \(1^{\prime \prime}-15{ }^{15}\) & 2001 & 100 & 247 & 8 \\
    \hline \& M F-2 & 11.00 & & \(1^{\prime \prime}-3 / 11^{5}\) & 20200 & \(1(10)\) & 470 & S \\
    \hline \(\star\) MF-3* & 8.25 & \(10^{\prime \prime}-12^{\prime \prime}\) & \(1{ }^{\prime \prime}-15{ }^{\text {c/ }}\) & & 109 & 360 & 8 \\
    \hline *MF-4 & 11.00 & \(14^{\prime \prime}\)-20)" & 1"-8 \(0_{6}^{\prime \prime \prime}\) & & \% & 1000 & 8 \\
    \hline ¢MF-5 & 11.00 & \(14^{\prime \prime}-20^{\prime \prime}\) & \(\mathrm{I}^{\prime \prime}-36_{6}{ }^{\text {\% }}\) & & 7.7 & 1009 & 8 \\
    \hline
    \end{tabular}
    - Equinued with luga moneh ade and univeraal mte. plate.

    DEFLECTION YOKES (With Network and Leas) Fig. R.
    

    LINE VOLTAGE REGULATORS with voltmeter, line cord and plug, outpul receplaelg, varigble, swirch, and indicator light. Equipded
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[t]{2}{*}{Watt*} & \multicolumn{4}{|c|}{Wimention-} \\
    \hline & & & 11 & W & D) & Mtg \\
    \hline \[
    \begin{array}{r}
    \star P-3138 \\
    \star P-3139 \\
    \hline
    \end{array}
    \] & \[
    \begin{array}{r}
    \$ 25.00 \\
    45.00
    \end{array}
    \] & \[
    \begin{array}{r}
    350 \\
    750
    \end{array}
    \] & : & \[
    \begin{aligned}
    & 3 \\
    & 10 \\
    & 10
    \end{aligned}
    \] & 53/4 & \[
    \begin{aligned}
    & \mathrm{D} \\
    & \mathrm{D}
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    TV AUTOTRANSFORMER Provides TV pielure fube booster vollage.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{\[
    \underset{\substack{\text { Input } \\ \text { Volts }}}{ }
    \]} & \multicolumn{2}{|l|}{Output} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & .31 \mathrm{tg} \\
    & \text { Center. }
    \end{aligned}
    \]} & \multicolumn{3}{|c|}{1)imensious} & \multirow[b]{2}{*}{Mtg} \\
    \hline & & & Volts & Ampa. & & H & W & D & \\
    \hline P-3098 & \$2.75 & 6.3 & 12.fi taps at 9.45-f. 3 & 1 & \(23 \times\) & 15/3 & 215 伯 & \(11 / 4\) & A \\
    \hline
    \end{tabular}

    \section*{INDUSTRIAL-AMATEUR}

    To Couple Various Line Impedances to a Voice Coil

    To Couple Various line imp
    Universal Mounting Bracket
    OUTDOOR TYPE UNIVERSAL LINE TRANSFORMER
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multicolumn{2}{|c|}{Ohtus Impedancu-} & \multirow[b]{2}{*}{Watts} & \multirow[t]{2}{*}{Mty. Center (:14e} & \multicolumn{3}{|c|}{Jimensions} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Mtg } \\
    & \text { Type }
    \end{aligned}
    \]} \\
    \hline & & Primary & Sec. & & & H. & W. & I). & \\
    \hline A-4040 & \$11.00 & 2:50-500-1000-1500-2001) & 4-8-16 & + & \(\underline{3} 5 \times 37 / 4\) &  & 476 & 33 in & Jo \\
    \hline A-4041 & 11.75 & 250-500-1000-1500-2000 & 4-8-16 & 12 & 23 \({ }^{3} \times 378\) & 41 & 47 is & 33) \({ }^{16}\) & Jo \\
    \hline A-4042 & 16.25 & 250-500-1000-1500-2000 & 4-8-16 & 25 & \(23 \times 37\) & 415 & 47.6 & \(3^{31 / 10}\) & I) \\
    \hline A-4043 & 11.75 & 4.5-50 & 4-8 & 12 & \(23 \times 3\) 3/6 & \(4!1\) & \(4^{7}\) & 3\% 16 & JO \\
    \hline
    \end{tabular}

    INDUSTRIAL－AMATEUR（Cont．）
    DRIVER TRANSFORMERS To Couple Driver Plate ta Amplifier Grids
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{\[
    \begin{gathered}
    \hline \text { Type } \\
    \text { No. } \\
    \hline
    \end{gathered}
    \]} & \multirow[t]{2}{*}{List
    Price} & \multirow[b]{2}{*}{1）river} & \multirow[b]{2}{*}{} & & & Pri． & M12． & \multicolumn{3}{|c|}{1 ）imeustons} & \multirow[b]{2}{*}{Mtr} \\
    \hline & & & & I＇ri．to \(1 / 2\) ser． & （ \({ }^{\text {atis，}}\) & M．1． & Centurs & H． & II & D． & \\
    \hline A－2920 & \＄3．15 & 6C5， 1111,30 ， & Simgle JJi，14，Iusho & 2．in：1 & 1 I & 10 & \(23 / 8\) & \(1 \frac{3}{8}\) & \(2{ }^{21 \%}\) & \(1!2\) & d \\
    \hline A－2921 & 4.40
    5.25 &  & P1mFin， &  & \({ }_{13}^{113}\) & 35
    20 & \[
    \begin{gathered}
    218 \\
    213 \\
    2136
    \end{gathered}
    \] & \(\stackrel{2}{2}\) & \[
    \begin{aligned}
    & 31 / 1 / 4 \\
    & 31 / 4
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 15 / 8 \\
    & 18 / 8
    \end{aligned}
    \] & A \\
    \hline A－2922 & 5.25 & \(6.16,6 \mathrm{C} 5\) & Nimple tillo，6：N：Push－ ［mall \(1 /\) & ． \(3: 1,4: 1,3: 1,2.5: 1\) & 13 & &  & \({ }^{2}\) & & & \({ }^{\text {A }}\) \\
    \hline A－3120 & 13.50 & 500 ohm line & Class 14 Cirids \(15 W_{\text {att }}\) Capacity & & H & & 23368 & 33 化 & 28／8 & 33／6 & DI． \\
    \hline A－3121 & 15.25 & 500 ohm line & Class B （irids 30 Wats Capacity & \[
    \begin{aligned}
    & 1: .7,1:, 85,1: 1,1: 1.25, \\
    & 11,0,1: 1.75,1: 2, \\
    & 1: 2.20,1: 2.5, \\
    & 1: 2.75,1: 3
    \end{aligned}
    \] & B & & 21／4 \(\times 21 / 4\) & 39\％ & 3 & 336 & DL \\
    \hline A－3123 & 6.50 & \[
    \left\{\begin{array}{l}
    \text { PP6A6, } 53 . \\
    \text { PP6C5, }
    \end{array}\right.
    \] &  & 5：1＊ & \(\left\{\begin{array}{c}13 \\ A H_{2}\end{array}\right.\) & 15 & \(2 \times 11116\) & \(31 / 8\) & 2 5／8 & 23／8 & D \\
    \hline A－3124 & 6.50 & \[
    6 \mathrm{Fb}, 46,59
    \] & P1946，59，1PP61．6， 807 & 2．2：1 & \(\left\{\begin{array}{c}\text { B } \\ \mathrm{H}_{2}\end{array}\right.\) & 30 & \(2 \times 1118\) & \(31 / 8\) & 23／8 & 23／8 & D \\
    \hline A－3125 & 9.25 & 6F6．2．45．47．42 & P196．6 & 1．4：1＊ & \(\mathrm{AH}_{2}\) & 40 & \(21 / 4 \times 2\) & \(31 / 2\) & \(2^{15} / 6\) & \(31 / 8\) & D \\
    \hline A－3126 & 7.50 & \[
    \left\{\begin{array}{l}
    P^{2} 2 A 3,616 \\
    45,6 \mathrm{~V}, 6 \mathrm{~F} 6
    \end{array}\right.
    \] & \begin{tabular}{l}
    8．Rバう8，T20 \\
    838 \＆ 153.807 .809 ．
    \end{tabular} & 2：1 & B & 40 & \(2 \times 1116\) & \(31 / 8\) & 25／8 & 23／8 & D \\
    \hline
    \end{tabular}
    ＊Indicates TV Replacement．＊Split secondary．－Cosine－Ferrite core．
    MODULATION TRANSFORMERS For Specific Applications
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No．} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Output Tubes} & \multicolumn{2}{|l|}{Whms Imjedance} & \multicolumn{2}{|l|}{Mtax M．A．} & \multirow[b]{2}{*}{Watts} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mtg ．} \\
    \hline & & & Pri． & sec． & Pri． & Sec． & & H． & W． & D． & \\
    \hline A－3008 & \＄4．00 & PP6AQ5，6V6，6F6，Single 6A6，6N7， 53 & 10000 c．t． & \[
    \left\{\begin{array}{l}
    4000-5000 \\
    7500-10000
    \end{array}\right.
    \] & 70 & 60 & 10 & \(21 / 4\) & 276 & \(21 / 8\) & B \\
    \hline A－3109 & 9.00 &  & \[
    \begin{aligned}
    & 6000 \text { c.t. } \\
    & 3800 \text { c.c. }
    \end{aligned}
    \]
    \[
    3000 \text { c.t. }
    \] & \[
    \left\{\begin{array}{l}
    12000 \\
    5000-8000 \\
    10000
    \end{array}\right.
    \] & 80 & 100 & 25 & \(31 / 8\) & 23／8 & 23／6 & D \\
    \hline A－3110 & 15.00 & PPGI．6，807．RK41，HY゙56． HI6I，H K2 4 & 660953800 c．t． & \[
    \left\{\begin{array}{l}
    1000-5000 \\
    4500-10000 \\
    12000
    \end{array}\right.
    \] & 175 & 150 & 60 & 41／4 & \(31 / 2\) & 33／4 & D \\
    \hline A－3113 & 23.00 &  & 15000－6900c．t． & \[
    \begin{aligned}
    & 3000-4000 \\
    & 5000-6000
    \end{aligned}
    \] & 250 & 300 & 175 & 48／8 & 313行 & 5 3／8 & D \\
    \hline
    \end{tabular}

    UNIVERSAL MODULATION TRANSFORMERS Tapped Series－Parallel Coils Provide a Wide Range of Modu－ lation Ratios
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Pri．
    Impedance} & \multirow[b]{2}{*}{\[
    \text { Pri. M. } 1
    \]
    per side} & \multirow[b]{2}{*}{Sec． Impedance} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { Max. } \\
    \text { Sec. } \\
    \text { M. } \ddagger,
    \end{gathered}
    \]} & \multirow[b]{2}{*}{Watts} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{Mtg．} \\
    \hline & & & & & & & H． & W． & I）． & \\
    \hline A－3104 & \＄11．50 & \(2000-20000\) & 80 & \(2000-200000\) & 50／100 & 15 & \(3{ }^{3} 16\) & \(23 / 8\) & \(23 / 4\) & \\
    \hline A－3105
    A－3106 & 16.75
    22.50 & \(2000-20000\)
    \(20001-20000\) & 150
    2.20 & \(2000-20000\)
    \(2000-200000\) & \(150 / 300\)
    \(220 / 440\) & 60
    125 & \(37 / 8\)
    \(43 / 8\) & \({ }_{3}{ }^{1 / 8}\) & 4 4 4\％8 & D1． \\
    \hline
    \end{tabular}
    \(\ddagger\) Series／Parallel
    PLATE TRANSFORMERS For Small Transmitters．DC Voltage Ratings are Approx．Values Obtained at Output of a 2 Section Choke Input Filter Using Mercury Vapor Recifier Tubes．Pri．is for 115 V .60 cy ．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No．} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Sec．12ms． \\
    Volts
    \end{tabular}} & \multirow[b]{2}{*}{Sec．I）C Volts} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { IDC } \\
    & \text { ser. M.A. }
    \end{aligned}
    \]} & \multicolumn{3}{|c|}{Dimensions} & \multirow[b]{2}{*}{M1g．} \\
    \hline & & & & & 1. & W． & I）． & \\
    \hline P－3175 & \＄10．50 & 5．50－550 & 400 & 150 & \(3^{9}{ }^{166}\) & 3 & \(3 \%\) & D \\
    \hline P－3157 & 14.50 & \[
    \left\{\begin{array}{l}
    6+(1)-6 i f) \\
    5.50-050
    \end{array}\right\}
    \] & \(\left\{\begin{array}{l}500 \\ 1000\end{array}\right\}\) & 250 & \(43 / 8\) & \(3{ }^{13} 10\) & 43／6 & 1） \\
    \hline P－3158 & 18.00 & \｛1080－1080 \({ }^{5004}\) & \(\left.\{1000){ }^{1000}\right\}^{\ddagger}\) & 12.5 & \(48 / 8\) & 3\％价 & \％ & D \\
    \hline P－3159 & 17.25 & ［ \(4010-4160\}\) & \｛ 5.50\(\}\) & 225 & \(43 / 8\) & 31＂伯 & \(51 / 3\) & D \\
    \hline P－3167 & 43.00 & \(\left\{\begin{array}{l}\text { 800 } 0 \text {－800 } \\ 14501-1450\end{array}\right.\) & \(\begin{array}{r}1600 \\ 11200 \\ \hline\end{array}\) & 300 & 53／4 & 61／8 & 5 & EII \\
    \hline & & \｛117n－117．5\} & \(1000\}\) & & & & & \\
    \hline P－3168 & 55.00 & \(\left\{\begin{array}{l}2100-2100 \\ 180010100\end{array}\right.\) & \(\left\{\begin{array}{l}1750 \\ 1.5010\end{array}\right\}\) & 300 & \(53 / 4\) & （1） \(1 / 8\) & 6 & EH \\
    \hline P－4062 & 80.00 &  & ｜ 2 2000 & 300 & \(81 / 2\) & （1）\({ }^{1}\) & （1） 16 & 11 \\
    \hline
    \end{tabular}
    \＃For dual operation with simultaneous use of both sec．rittings．flias 40－tolt bias tap．
    All prices subject to trade discount，and change without notice．
    

    INDUSTRIAL—AMATEUR (Cont.)
    FILTER CHOKES Far Small Transmitter and Amplifier Applicatians
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow{2}{*}{List Price} & \multirow{2}{*}{Inductance Llenries} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Cimrent \\
    Rating M.A
    \end{tabular}} & \multirow[b]{2}{*}{HC Res. Ohths} & \multirow[b]{2}{*}{Volts Insul.} & \multicolumn{3}{|c|}{Dimensions} & \multirow{2}{*}{Mt.} \\
    \hline & & & & & & H. & W. & 1). & \\
    \hline C-3192 & \$5.00 & 15 & 8.7 & 32.7 & \(1: 00\) & \(31 / 8\) & - \(23 / 8\) & \(23 / 8\) & I) \\
    \hline C-3193 & 5.00 & 10 & 110 & 200 & 1.301 & \(311 / 8\) & 23/8 & 238 & 1 \\
    \hline C-3194 & 6.00 & 12 & 1.50 & 2301 & 1500 & 315 & & \(31 /\) & I) \\
    \hline C-3195 & 8.75 & 13 & 150 & 180 & 2000 & 378 & \(3^{33} 36\) & 33/8 & I' \\
    \hline C-3196 & 7.00 & . & 200 & 80 & 1500 & 312 & \(2{ }^{15150}\) & \(311 / 8\) & I) \\
    \hline
    \end{tabular}

    FILTER SMOOTHING CHOKES For Transmitter Power Supplies
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline C-3180 & \$6.50 & 111 & 150 & 210 & 3000 & 311 & .15/8 & 23 & 1) \\
    \hline C-3181 & 8.00 & 111 & 200 & 1+1) & 31000 & 31 & \(2{ }^{215} 16\) & \(3{ }^{14}\) & 1) \\
    \hline C-3182 & 11.00 & 10 & 250 & 12.5 & 30000 & 37/8 & 3 3 & 33.4 & 11 \\
    \hline C-3183 & 11.50 & 8 & 300 & 80 & 3600 & \(37 / 8\) & \(33^{315}\) & \(3{ }^{3}+\) & D) \\
    \hline
    \end{tabular}

    FILTER INPUT OR SWINGING CHOKES
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline C-3187 & \$6.50 & 4-16i & 150 & 210 & :3000 & \(311 / 8\) & \(23 / 8\) & 23 & 1) \\
    \hline C-3188 & 8.00 & 4-11; & 200 & 1.111 & 3000 & 31, & \(2{ }^{215}\) & 318 & 1) \\
    \hline C-3189 & 11.00 & 4-11; & \(\underline{930}\) & 12\% & 3000 & 318 & \(3^{3} 16\) & \(3{ }^{3 / 4}\) & 1) \\
    \hline C-3190 & 11.50 & 3-14 & 300 & 810) & \(30(1)\) & 3\% & \(3^{3} 16\) & \(33_{4}\) & 1) \\
    \hline
    \end{tabular}

    AC-DC VIBRATOR TRANSFORMER Far Operation from 6 V . Battery and Vibrator or 115 V . 60 cy . Line
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multicolumn{2}{|c|}{11.V. Secomdars} & \multicolumn{2}{|c|}{Filantent} & \multicolumn{3}{|c|}{limensions} & \multirow[b]{2}{*}{Mtr.} \\
    \hline & & UC Volts & M. & Volts & Amps & 11. & W. & \(1)\). & \\
    \hline P-3176
    P-3075 & \$15.00
    10.00 & 300
    3301 & 160
    100 & \[
    \begin{aligned}
    & 4.3 \text { or } .3 \\
    & 6 i .3 \\
    & 6.3 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \\
    & 4.5 \\
    & 4
    \end{aligned}
    \] & \[
    \begin{array}{r}
    43 / 8 \\
    37 / 8 \\
    \hline
    \end{array}
    \] & \(318 / 16\)
    33
    3 & \[
    \begin{aligned}
    & 41 / 4 \\
    & 356 \\
    & \hline
    \end{aligned}
    \] & 1) \\
    \hline
    \end{tabular}

    PHOTO-FLASH POWER TRANSFORMER \(\begin{aligned} & \text { Primary far } 117 \\ & \text { Charger Winding) }\end{aligned} \mathbf{V} \mathbf{C y}\). Line or 4 V. Battery Vibrator (or
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multicolumn{2}{|c|}{secondary} & \multirow[b]{2}{*}{\[
    \underset{\text { Miten }}{\text { Menters }}
    \]} & \multicolumn{3}{|c|}{Dituensions} & \multirow[b]{2}{*}{Mtg.} \\
    \hline & & AC Volts & DC M.A. & & II. & W. & I). & \\
    \hline P-3065 & \$8.00 & 1100 & 1.) &  & 23/6 & \(31 / 8\) & 2 & H \\
    \hline
    \end{tabular}

    Input 220-250 V. 60 cy . Output 110-125 V. Pri. Card and Plug. Sec. Receptacle.
    

    ISOLATION TRANSFORMERS So Provide Isalation Between Line and Assaciated Circuits. Primary far 50-60 Cy.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { J’rimary } \\
    & \text { Volts }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Secondary Volts} & \multirow[b]{2}{*}{Watts} & \multicolumn{3}{|c|}{limensions} & \multirow[b]{2}{*}{Meg.} \\
    \hline & & & & & H. & W. & D. & \\
    \hline \[
    \begin{aligned}
    & \text { P-3096 } \\
    & \text { P-3197 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \$ 7.25 \\
    & 10.00
    \end{aligned}
    \] & 117 & \[
    \begin{aligned}
    & 117 \\
    & 117
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 40 \\
    & 80
    \end{aligned}
    \] & \(311 / 8\) & \(25 / 8\)
    \(3^{85} 19\) & 23/8 & \[
    \begin{gathered}
    \text { B } \\
    \text { I }
    \end{gathered}
    \] \\
    \hline
    \end{tabular}

    ISOLATION TRANSFORMERS Equipped with Line Card and Standard Receptical
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{Primary
    Voles} & \multirow[b]{2}{*}{Secondary Volts} & \multirow[b]{2}{*}{Watts} & \multicolumn{3}{|c|}{Dituensions} & \multirow[b]{2}{*}{Mtg} \\
    \hline & & & & & H. & W. & D. & \\
    \hline \[
    \begin{aligned}
    & \text { P- } 3172 \\
    & \text { P- } 3198 \\
    & \text { P-3199 } \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 50.00 \\
    18.75 \\
    35.00
    \end{array}
    \] & 117
    117
    117 & 117
    117
    117 & 500
    100
    250 & 58
    4
    4
    4
    4 & \[
    \begin{aligned}
    & 45 / 8 \\
    & 30,16 \\
    & 313
    \end{aligned}
    \] & \(61 / 2\)
    \(3 \%\)
    \(4 / 8\) & D
    1)
    D \\
    \hline
    \end{tabular}

    \footnotetext{
    All prices subject to trade discount, and change without notice.
    }

    \section*{IF－RFCOILS}
    \(\star\) TELEVISION UNITS—IF Transformers－Permeability Tuned
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type
    No & List Price & Function & Mira. & \[
    \begin{aligned}
    & \text { Mlte. } \\
    & \text { Centers }
    \end{aligned}
    \] & 1）imensions & Mte． \\
    \hline TV－100 & \＄2．75 & 1st Jix Amp． & 25．3 & 7／4 & \(7 / 18 x^{7} / 8 \times 21 / 8\) & A \\
    \hline TV－101 & 2.10 & ？ad l＇ix Amp． & 20．3 & \(7 \%\) Hold &  & \(\stackrel{\text { A }}{\text { B }}\) \\
    \hline TV－102 & ． 80 & 3ril Pix Amp．（1）atator） & 2， & \({ }_{7} 161106\) & \(15 \times 1\) & B \\
    \hline TV－103 & .80
    .20 &  & 23.28 & 76． 100 &  & A \\
    \hline TV－105 & 2.20 & 2uls Emand（ Amplifer） & 21：2 & & \(7 \times 8 \times 214\) & A \\
    \hline TV－106 & 2.60 & E（ombd Discrint． & 21.25 & 11 & 16x11／6x \({ }^{1 / 2}\) & A \\
    \hline TV－107 & 2.75 & Conwerter & 21.8 & \％ &  & A \\
    \hline TV－108 & 2.75 & 1pput Amp， & 4.5 & & \(11 / 8 \times 11 / 8 \times 21 / 8\) & A \\
    \hline TV－109 & 3.00
    3.30 & Sound Dise & 4.5 & & \(11 / 8 \times 11 / 6 \times 21 / 8\) & \({ }_{\text {A }}\) \\
    \hline TV－110 & 3.30
    3.30 & Eomm Ratio Det． & 21．2． & \(11 / 8\) & 1 \(10 \times 118 \times 1 / 8\) & A \\
    \hline TV－112 & 1.00 & Tunabl Choke & 21－25 116 & & \(12 \times 112\) & R \\
    \hline TV－113 & 2.75 & Found Amp． & 4.5 & （li， & \(3 / 4 \times 3.48{ }^{3}\) & 1 \\
    \hline TV－114 & 3.30 & Eaund Disio． & 45 & Clip &  & K \\
    \hline TV－115 & 3.30 & Eonnd Ratio Deq． & 21－25．5 \({ }^{4.5}\) & \({ }^{\text {Cob }}\) &  & R \\
    \hline TV－116 & 1.75
    2.40 & Vilcas 1F（Transformer） & 21－25 \({ }_{4}\) & \({ }^{\text {cilin }}\) & \({ }_{3}^{1 / 2 \times 11 / 2} \times 2\) & R \\
    \hline TV－126 & 2.20 & Villeos 1F Choke & 44 & Clip & \(3 / 4 \times 34 \times 2\) & 1 \\
    \hline TV－127 & 2.75 & Video 1F Trams．WT at 1.25 MC & 42.5 & Clip & \(34 \times 3 \times 2\) & 1 \\
    \hline TV－128 & 2.75 & Video if Trans．W／T at 47.25 MC & 45.85 & （lip） & \(3_{3}{ }^{4} \times 34 x^{2}\) & 1 \\
    \hline TV－129 & 2.75 & Yideo IF Choke WT T at 47．2．5 MC & 45.75 & （ \({ }^{\text {Sip）}}\) & \(3 \mathrm{4} \times 8.8\) & 1 \\
    \hline TV－130 & 1.30 & Tunable Vidmo TF Transformer & ＋1－48i 118
    \(41-46\) & \({ }^{3} \mathrm{Hmol}\) & \(1 / 2 \times 11 / 4\) & R
    1
    1 \\
    \hline TV－131
    TV－132 & 1.20
    2.50 & Tunabio Video IF Chok＂ & 41－46．318 & 3t Holl & \(11 / 2 \times 11 / 4\) & \(\stackrel{1}{8}\) \\
    \hline TV－133 & 2.50 & videro IF Choke W Th at 3if：Mc． & 42.2 & \({ }_{5}{ }_{16} \mathrm{H}\) H01 & \(1 / 2 \times 2\) & \({ }_{8}\) \\
    \hline TV－134 & 2.50 &  & 4.9 .9 & ＂\({ }_{10}\) H／als & 1／2x2 & B \\
    \hline
    \end{tabular}

    TRAPS－Permeability Tuned
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Function & \[
    \begin{aligned}
    & \text { Freq. } \\
    & \text { MC. }
    \end{aligned}
    \] & Mitg．
    Centers & Dimensions & Mtg． \\
    \hline TV－150 & \＄2．00 & Cathode Trap＊ & 21.25 & \({ }^{2}\) ，in Hole & 1／2 O．D．\(\times 11 / 2\) & 13 \\
    \hline TV－151 & 1.00 & Sonnd Trap & 4.5 & \％itirole & 1／20． \(1 . \times 11 / 2\) & 13 \\
    \hline TV－152 & 1.75 & Adj．Chanmel Trap & \(39.781{ }^{\circ}\) & \({ }_{5} 16\) Hhls－ & & \(\stackrel{3}{13}\) \\
    \hline TV－153 & 1.75 & Adi．（＇hamel＇Trap（Tammed） & 47．2－1 M \({ }^{\text {M }}\) & \({ }^{5}\) at Holu． & 12x11／4 & B \\
    \hline
    \end{tabular}
    ＊Tocludee Condenser．
    HORIZONTAL＂SYNC．＂TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No． & List Price & System & Mig．Centers & Dimensions & Mtg． \\
    \hline \[
    \begin{aligned}
    & \text { TV-160 } \\
    & \text { TV-161 } \\
    & \text { TV-162 } \\
    & \text { TV-163 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 2.75 \\
    2.00 \\
    2.50 \\
    2.00 \\
    \hline
    \end{array}
    \] & ＂Nync．＂Lock
    ＂Sync．＂Guide
    ＂Yyne．＂Freq．and Phase
    Ringing Coil &  &  & C
    C
    C
    B \\
    \hline
    \end{tabular}

    ANTENNA COUPLING TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No． & List Price & Inypedance Ratio & Mty． & Dimensions & Mta． \\
    \hline \[
    \begin{aligned}
    & \text { TV-170 } \\
    & \text { TV-171 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 2.75 \\
    2.75
    \end{array}
    \] & \[
    \begin{aligned}
    & 52 / 300 \text { or } 300 / 52 \\
    & 72 / 300 \text { or } 300 / 72 \\
    & \hline
    \end{aligned}
    \] & \begin{tabular}{l}
    1．＂Bracket \\
    l．＂Bracket
    \end{tabular} & \[
    \begin{aligned}
    & 3 / 4 \times 3 / 4 \times 18 / 4 \\
    & 3 / 4 \times 3 / 4 \times 13 / 4
    \end{aligned}
    \] & \(\stackrel{\mathrm{F}}{\mathrm{F}}\) \\
    \hline
    \end{tabular}

    PEAKING COILS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No． & List Price & Iuductance Microbenries & Color Code & Shunt Resistur & Mtg． \\
    \hline \begin{tabular}{l}
    TV－180 \\
    TV－181 \\
    TV－182 \\
    TV－183 \\
    TV－184 \\
    TV－185 \\
    TV－189 \\
    TV－186 \\
    TV－187 \\
    TV－188 \\
    TV－190 \\
    TV－191
    \end{tabular} & \(\$ 0.45\)
    .45
    .45
    .45
    .50
    .50
    .50
    .50
    .50
    .50
    .60 & \[
    \begin{gathered}
    36 \\
    93 \\
    120 \\
    180 \\
    180 \\
    8150 \\
    7.8 \\
    73 \\
    250 \\
    500 \\
    350 \\
    350 \\
    \hline
    \end{gathered}
    \] & 13lack Red Blue White Yellow Green Orange
    \(\qquad\) & \[
    \begin{aligned}
    & \text { 二 } \\
    & 22 \mathrm{~K} \\
    & 39 \mathrm{~K} \\
    & \bar{Z} \\
    & 10 \text { meq. } \\
    & 22 \mathrm{~K} \\
    & 10 \mathrm{meg} . \\
    & 100 \mathrm{~K} \\
    & \hline
    \end{aligned}
    \] & \begin{tabular}{l}
    \(\underset{\mathbf{E}}{\mathbf{E}}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{1}\) \\
    \(\mathbf{E}\) \\
    \(\mathbf{E}\) \\
    \hline
    \end{tabular} \\
    \hline \multicolumn{6}{|l|}{Products of Merit} \\
    \hline
    \end{tabular}

    \section*{IF-RFCOILS}

    HIGH-PASS FLLTERS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Line Impedance & Mirs. Center & Dimensions & Mtg. \\
    \hline \[
    \begin{aligned}
    & \text { TV-210 } \\
    & \text { TV-211 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 5.50 \\
    5.50
    \end{array}
    \] & \[
    \begin{array}{r}
    72 \\
    300 \mathrm{Ohm} \\
    30 \mathrm{Ohm}
    \end{array}
    \] & \[
    \begin{aligned}
    & \frac{2}{2} 1 / 16 \\
    & 2!/ 06
    \end{aligned}
    \] &  & D \\
    \hline
    \end{tabular}

    WAVE TRAPS TV-FM
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Freq. Range & Mtg. Centers & Dimensions & \Itg. \\
    \hline TV-220 & \$4.40 & 150-250 MC. & 17 自 & \(21 / 18\) & \\
    \hline TV-221 & 4.40 & \(75-150 \mathrm{MC}\). & \(17 / 6\) & 2116 & D \\
    \hline TV-222 & 4.40 & 40-80 MC. & \(17 / 16\) & 21110 & I) \\
    \hline TV-223 & 4.40 & 20-40 MC. & 1716 & 21/16 & D \\
    \hline
    \end{tabular}

    HI-VOLT OSCILLATOR TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Output Volts & Mta. Centera & Dimensions & Mtg. \\
    \hline \[
    \begin{aligned}
    & \text { TV-230 } \\
    & \text { TV-231 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 8.25 \\
    13.75
    \end{array}
    \] & \begin{tabular}{l}
    To 4000 \\
    To 30000
    \end{tabular} & \[
    \begin{aligned}
    & 11 / 1 \\
    & 21 / 4 \\
    & \hline
    \end{aligned}
    \] &  & II \\
    \hline
    \end{tabular}

    FM
    IF TRANSFORMERS (Permeability Tuned)
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Descrıption & Freq. & Mtg. Centers & Dimensions & Mtg. \\
    \hline FM-250 & \$3.30 & Discriminator & 10.7 MC . & 11/16 & 11/8×11/8×21/6 & A \\
    \hline FM-251 & 2.20 & Amp. Interstage & 10.7 MC . & \(11 / 6\) & 11/8x148 \(\times 2\) \% & A \\
    \hline FM-252 & 2.20
    2.75 & Ratio Detect.
    Disc.-Min. & 10.7 MC . & \({ }^{11 / 1 / 4}\) & \(1 \frac{16 \times 11 / 8 \times 27 / 8}{}\) & A \\
    \hline FM-254 & 3.30 & Amp.-Min. & 10.7 MC . & Clip & \(3 / 4 \times 34 \times 2\) & K \\
    \hline FM-255 & 3.30 & Ratio Det.-Min. & 10.7 MC . & Clip & 3/4 \(\times 3 / 4 \times 2\) & K \\
    \hline
    \end{tabular}

    ANTENNA-OSCILLATORS—RF (Slug Tuned)
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Description & Freq. MC. & Mitg. Centers & Dimensions & Mtg. \\
    \hline \begin{tabular}{l}
    FM-280
    FM-281 \\
    FM-282
    \end{tabular} & \[
    \begin{array}{r}
    \$ 2.20 \\
    2.20 \\
    2.20
    \end{array}
    \] & Antenna RF Osc. & \[
    \begin{aligned}
    & 8 x-108 \\
    & 8 x-10 x \\
    & 88-10 x \\
    & \hline
    \end{aligned}
    \] &  &  & A \\
    \hline
    \end{tabular}

    BROADCAST
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Function & Freq. & Mitg. Centers & Dimetrions & MItg. \\
    \hline BC-300 & \$2.50 & Input & 17.) KC & \(1^{3} 8\) & \(18 / 6 \times 18 / 8 \times 25 / 8\) & \\
    \hline BC-301 & 2.50
    2.50
    2 & Interstage
    Full Wave Output & 17.5 KC & 18/8 & \(18.918 .8 \times 258\) & I \\
    \hline BC-302
    \(\mathrm{BC}-303\) & 2.50
    2.50 & Full Wave Output & 17.5 KC & \({ }_{1}^{18 / 8}\) &  & I \\
    \hline BC-304 & 2.20 & Input & 262 KC & 13 & \(18.8 \times 13 / 8 \times 25\) & I \\
    \hline BC-305 & 2.20 & Interstage & 262 KC & \(13 / 8\) & 13/8x \(18 / 8 \times 25 / 8\) & I \\
    \hline BC-306 & 2.20 & Full Wave Output & \(262^{2} \mathrm{KC}\) & 13. & \(18.8 \times 18 \times 2 \times 28\) & I \\
    \hline BC-307 & 2.20 & Half Wave Output & 262 KC & 18/6 & \(13 / 8 \times 18 / 8 \times 28 / 8\) & I \\
    \hline BC-308 & 2.20 & Input & & 18 & & I \\
    \hline \(\mathrm{BC}-309\)
    \(\mathrm{BC}-310\) & 2.20
    2.20 & Interstage
    Full Wave Output & 45.5 KC & 13\% &  & I \\
    \hline \(\mathrm{BC}-310\)
    \(\mathrm{BC}-311\) & 2.20
    2.20 & Half Wave Output & 4.55 KC & 18 & \(13.6 \times 18 / 8 \times 25 / 8\) & I \\
    \hline BC-312 & 2.20 & Input & 1500 kC & 18 & \(18 / 8 \times 18 / 8 \times 258\) & I \\
    \hline BC-313 & 2.20 & Interstage & 1500 KC & 18 & \(18.8 \times 18 \times 258\) & I \\
    \hline BC-314 & 2.20 & Full Wave Output & 1500 KC
    1500 KC & 13.8 & \({ }^{18} 8 \times 138 \times 288\) & I \\
    \hline BC-315 & 2.20 & Half Wave Output & 1500 KC & 13 & \(13.6 \times 1 / 8 \times 2 / 8\) & I \\
    \hline
    \end{tabular}

    \title{
    IF-RFCOILS
    }

    \section*{BROADCAST (Cont.)}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Function & Freq. & Mttr. Centers & Dimensions & Mtg. \\
    \hline BC-330 & \$3.30 & Input & 17.) kC & \(13 / 8\) & \({ }^{13} 3 \times 18.818 \times 314\) & 1 \\
    \hline \({ }_{\text {BC- }} \mathrm{BC}-331\) & 3.30
    3.30 & \({ }_{\text {lne }}^{\text {Interstage }}\) Full Wave Output & \({ }_{175}^{175} \mathrm{KC}\) & \({ }_{1}^{13}\) &  & I \\
    \hline BC-333 & 3.30 & Half wave Out put & 17.5 k C & 1888 & \(1386 \times 1{ }^{1}\) & I \\
    \hline - \({ }_{\text {BC-334 }}\) & \begin{tabular}{l} 
    2.75 \\
    2.75 \\
    \hline
    \end{tabular} & \({ }_{\text {lne }}^{\text {Input }}\) Interstage &  & \({ }_{13}^{13}\) &  & I \\
    \hline BC-336 & 2.75 & full wave Output & \({ }_{262} 62 \mathrm{KC}\) & 13 \% &  & I \\
    \hline BC-337 & 2.75
    2.75
    2 & Itilf whave Output & \({ }^{2} 262 \mathrm{KC}\) & \({ }_{13}^{13}\) &  & I \\
    \hline - & \(\begin{array}{r}2.75 \\ 2.75 \\ \hline\end{array}\) &  & 4.55 FC & 13 & \(13 \times 8 \times 883\) & 1 \\
    \hline - \({ }_{\text {BC-340 }}^{\text {BC-341 }}\) & 2.75
    2.75 & linl Wave output & \begin{tabular}{l}
    4.55 \\
    4.5 KC \\
    \hline
    \end{tabular} & 13\% &  & I \\
    \hline
    \end{tabular}

    IF TRANSFORMERS (Capacity Tuned)
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Description & Frey. & Mtg. Centers & Dimensions & Mtg. \\
    \hline BC-360 & \$2.20 & Luput Midget & 175 KC & \(11 / 8\) & \(13 / 8 \times 1 / 8 x 2\) & I \\
    \hline BC-361 & 2.20 & Interatage-sidget & 175 KC & \(11 / 8\) & \(11 / 6 \times 11 / 82\) & I \\
    \hline BC-362 & 2.20 & Fiul Wave-Midget & 175 KC & 118 & \(188 \times 138 \times 2\) & I \\
    \hline BC-363 & 2.20 & Malf Way & 175.) KC & \(11 / 8\) & \(158 \times 148 \times 2\) & I \\
    \hline \(\mathrm{BC}-364\)
    \(\mathrm{BC}-365\) & 1.95 & Interstage- Alidget & 262 KC & \(11 / 8\) & \(15.8 \times 11 / 6 \times 2\) & I \\
    \hline BC-366 & 1.95 & Fiull Wave-Milget & 2ni2 KC & \(11 / 8\) & \(11 / 8 \times 11 / 8 x 2\) & I \\
    \hline BC-367 & 1.95 & Half Wave-Midget & 26.2 KC & \(11 / 8\) & \(13 \times 1\) x \({ }^{1}\) & I \\
    \hline BC-368 & 1.95 & luput-Midget & 4.55 kC & \(11 / 8\) & \(11 / 8 \times 11 / 8 \times 2\) & 1 \\
    \hline BC-369 & 1.95 & Interstage-Midget & 45.5 KC & \(11 / 8\) & \(188 \times 118 \times 2\) & 1 \\
    \hline \(\mathrm{BC}-370\)
    \(\mathrm{BC}-371\) & 1.95
    1.95 & Full Wave-Midget & 45.5 KC & 11/8 & \(18 \times 188 \times 2\)
    \(15 \times 148 \times 2\) & I \\
    \hline \(\mathrm{BC}-371\)
    \(\mathrm{BC}-372\) & 1.95 & Gutput-Midget* & \(2{ }^{2} 2{ }^{2} \mathrm{KC}\) & \(11 / 8\) & \(11 / 8 \times 11 / 8 \times 2\) & 1 \\
    \hline
    \end{tabular}

    IF TRANSFORMERS (Permeability Tuned)
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Description & fires. & Mitg. Centers & Dimensions & Mtg. \\
    \hline BC-350 & \$2.75 & Input-Miniature & \(21 ; 2 \mathrm{KC}\) & \(3 / 4\) & \(84 \times 3 / 4 \times 2\) & \(\underline{1}\) \\
    \hline BC-351 & 2.75 & Output-Ministure & 262 KC & \(8 / 4\) & \(314 \times 3142\) & K \\
    \hline BC-352 & 2.40 & Input-Miniature & 45.5 KC & \(3 / 4\) &  & K \\
    \hline BC-353 & 2.40 & Output-Miniature & \({ }_{265}{ }^{2} 5 \mathrm{KC}\) & clip & \({ }_{3}{ }^{4} \times 3 \times 3 \times 2\) & K \\
    \hline BC-354
    BC- 355 & 2.65
    2.35 & Output-Minature* & 20, & Clip & 34x 3 3 \({ }^{4} \times 2\) & K \\
    \hline
    \end{tabular}
    *Includee output filter.
    IF TRANSFORMERS—Special
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Descrıption & Freg. & Mtg. & Dimensions & Mty. \\
    \hline \[
    \begin{aligned}
    & \text { BC- } 375 \\
    & \text { BC- } 376 \\
    & \text { BC- } 377
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 1.95 \\
    2.75 \\
    4.75
    \end{array}
    \] & \[
    \begin{aligned}
    & \text { Cartwheel } \\
    & \text { Std If (Tweet Filter) } \\
    & \text { AM-FM } \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{array}{r}
    45.5 \mathrm{kC} \\
    45 \mathrm{KC} \\
    \text { 45.5C-10.7 } \mathrm{MC} \\
    \hline
    \end{array}
    \] & 6-32 Screw \(1^{3}\) - Mt - M . Cpinter \(1^{\circ}{ }_{16}-\mathrm{M}\) tg. Center &  & \[
    \begin{aligned}
    & \text { A } \\
    & \text { A } \\
    & \hline
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    RF-ANTENNA—OSCILLATOR (Permeabilisy Tuned) Univ. Replac.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Describtion & Mtg. & Cond. Max. & 1)imensions & Mtg. \\
    \hline BC-380 & \$2.20 & Antema & L Brachet & \(0.50-450-1.19\) & 7/8 Dia. x 2 & 13 \\
    \hline BC-381 & 2.20 & Orcillator* & L Bracket &  & \(7 / 8\) Dia \(\times 2\) & 13 \\
    \hline BC-382 & 2.20 & RF & L Bracket & 250-450-MMF & \({ }^{78}\) Dia. \({ }^{\text {a }}\) & \({ }^{3}\) \\
    \hline \(\mathrm{BC}-383\)
    \(\mathrm{BC}-384\) & 2.75
    2.75 & - \(\begin{aligned} & \text { Intennat (Shielded) } \\ & \text { Oscillator* (Shielded) }\end{aligned}\) & 13/8 Centers & \(2.00-4.50-11 \mathrm{MF}\) & \(138 \times 13.821 / 2\) & A \\
    \hline BC-385 & 2.75 & Rf: (shielded) & 13\% Centers & 2.00-4.00-31MF & \(1 \frac{1}{3} \times 18 \times 21 \frac{2}{4}\) & A \\
    \hline
    \end{tabular}
    *('sed with any "If" (I00 to 550 KC\()\) Tapjed Pri. and sec.
    RF-ANTENNA—OSCILLATOR
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Function & \begin{tabular}{l}
    Operating \\
    Freq. KC
    \end{tabular} & \[
    \begin{aligned}
    & \text { Cond. } \\
    & \text { Size }
    \end{aligned}
    \] & \[
    \underset{\substack{\text { Mitg. } \\ \text { Centers }}}{\text { and }}
    \] & Dimensions & Mtr. \\
    \hline BC-386 & \$2.20 & Anternat & 530-1209 & 365 mmf & \(5 / 16{ }^{17}\) Hole & \(1 / 2 \times 1\) & 13 \\
    \hline BC-387 & 2.20 & Iscillator & . 53012000 & 36.5 mmf & \({ }^{3} 1{ }^{\prime \prime}{ }^{\prime \prime}\) Hole & 1/2x \(11 / 15\) & 13 \\
    \hline BC-388 & 2.20 & R. E. & 331-1700 & 30.5 mmf & \({ }^{5} 16{ }^{\prime \prime}\) Hole & 1/2×11/2 & 13 \\
    \hline BC-394 & 2.00 & Oseillator & -330)-1720 & 346.5 mmf & & & E \\
    \hline
    \end{tabular}

    \section*{Products of Merit}

    A
    

    \section*{BROADCAST（Cont．）}

    MINIATURE（IRON CORE）TYPE K
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No． & List Price & Description & \begin{tabular}{l}
    Operating \\
    Fres．KC
    \end{tabular} & \begin{tabular}{l}
    Coud． \\
    Size
    \end{tabular} & Dimensions & Mtr． \\
    \hline \[
    \begin{aligned}
    & \mathrm{BC}-390 \\
    & \mathrm{BC}-391 \\
    & \mathrm{BC}-392
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 1.65 \\
    1.65 \\
    1.65
    \end{array}
    \] & Antenna \(\dagger\) LF Oscillators \(\dagger\) & \[
    \begin{aligned}
    & 540-1700 \\
    & 5+10-17010 \\
    & 540-1704
    \end{aligned}
    \] &  &  & Spring Clips Spring Clips Spring Clips \\
    \hline \multicolumn{7}{|l|}{\(\dagger\) Tapped Secondaries．} \\
    \hline
    \end{tabular}

    MIDGET－OSCILLATORS（Screw Mounting）（For use with 365 MMF Cond．）
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No． & List Price & Description & Operating Frea． & Dimeneions & Mtg． \\
    \hline BC－395 & \＄1．10 & Oscillator & 17.5 hC & \(1^{\prime \prime}\) Dia \(\times 1^{\prime \prime}\) High & L \\
    \hline BC－396 & 1.10 & Oscillator & 262 kC & \(1^{\prime \prime}\) Dia．\(\times 1^{\prime \prime}\) High & L \\
    \hline BC． 397 & 1.10 & Oscillator & 455 KC & \(1^{\prime \prime}\) Dia \(\times 1^{\prime \prime} \mathrm{H}_{1} \mathrm{ml}_{1}\) & L \\
    \hline BC－398 & 1.10 & Oscllator（Autoformer） & 175 KC & \(1^{\prime \prime}\) Dia．\(\times 1^{\prime \prime} \mathrm{High}\) & L \\
    \hline BC－399
    BC．400 & 1.10
    1.10 & Oscillator（Autoformer） & 262 RCC &  & \(\stackrel{L}{L}\) \\
    \hline
    \end{tabular}

    BEAT FREQUENCY OSCILLATORS（Capacity Tuned）Type M
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No． & List Price & Frequency Range & IF Fres． & Dimensions & Mtg．Centers \\
    \hline BC－430 & \＄2．50 & 16518.5 HC & 17\％hC & \(11 / 8 \times 11 / 8 \times 21 / 8\) & \(11 / 8\) \\
    \hline BC－431 & 2.50 & 250－275 KC & 262 LC & \(11 / 8 \times 118 \times 218\) & \(11 / 8\) \\
    \hline BC－432 & 2.50 & 450－475 KC & 45 lC & 118811／8x23 & \(11 / 8\) \\
    \hline \(\mathrm{BC}-433\)
    \(\mathrm{BC}-434\) & 2.50
    2.50 &  & \(\begin{array}{rr}525 & \mathrm{KC} \\ 1500 \\ 150\end{array}\) & \(118 \times 118 \times 238\)
    \(11 / 8 \times 11 / 8 \times 218\) & \(11 / 8\) \\
    \hline
    \end{tabular}

    TRF UNITS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No． & List Price & Description & Freq．Rampe & Dimensions & Mtg． \\
    \hline BC－410 & \＄1．00 & Antenua \(\dagger\) & 540－1700 kC & 13 Dia．\(\times 2\) & N \\
    \hline BC－411 & 1.00 & RFt & ．54（1）－17（0）KC & \(1{ }^{3}{ }^{\text {d D Dia．}} \times 2\) & N \\
    \hline BC－412 & ． 95 & Antenna \(\dagger\) & \(54(1-1700 \mathrm{kC}\) & & N \\
    \hline BC－413 & ． 95 & RFt \({ }_{\text {Brat }}\) & 540－1700 にく & \(5 / 8 \mathrm{Dia} \times\). & N \\
    \hline BC－414 & ． 95 & Band－Passt & 540－17（0）にС & \％Dia．\(\times 21 / 8\) & N \\
    \hline BC－415 & 1.25 & Anterna（Nhielded） & 540－17（k）KC & \(18,618.6 \times 21 / 0\) & A \\
    \hline BC－416
    BC－417 & 1.25
    1.25 & RF（Shielded）
    Hand Pass（Shielded） &  & \(13 \times 1{ }^{3} \times \times 2\) & A \\
    \hline
    \end{tabular}

    \section*{OSCILLATOR—Special}
    \begin{tabular}{l|c|c|c|c|c}
    \hline Type No． & List Price & Description & Freq． & Mtg．Center & Dinensions \\
    \hline BC－460 & \(\$ 3.30\) & Phono－Ose． & \(540-700 \mathrm{LC}\) & \\
    \hline
    \end{tabular}

    \section*{FILTERS}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No． & List Price & Description & Voltage & Watts & Dimensions & Mtg． \\
    \hline BC－450 & \＄7．70 & Appliance Type & 115 & 550 & 21／4 \(\times 23 / 4 \times 4\) & O \\
    \hline BC－451 & 1.65 & Fluorescent İight & 290 & 20 & 11／4 Dia．\(\times 13\) & \(\stackrel{P}{P}\) \\
    \hline BC－452 & 1.65 & Fluorescent Light & 220 & 40 & 11／4 Dia．\(\times 11 / 2\) & P \\
    \hline BC－453 & 1.65 & Fluorescent Light & 290 & 80 & \(11 / 4\) Dia．\(\times 11 / 2\) & \(\stackrel{P}{P}\) \\
    \hline BC－454 & 1.65
    7.70 & Fluorescent Light
    All－Wave Filter & 129 & 160
    150 &  & \(\stackrel{\mathrm{P}}{\mathbf{O}}\) \\
    \hline
    \end{tabular}

    \section*{Products of Merit}
    

    \title{
    IF-RF COILS
    }

    CHOKES

    \section*{UNSHIELDED AIR CORE}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Induetrucer M11 & Current M.A. & Resistanee Ohms & Mir. \\
    \hline BC-500 & \$0.45 & 25 & 1.5 & 8 & 1: \\
    \hline BC-501 & . 45 & .75 & 12.5 & 17 & 1: \\
    \hline BC-502 & . 45 & 1.50 & 125 & 21 & 18 \\
    \hline BC-503 & . 55 & 2.50 & 125 & 28 & \(1 ?\) \\
    \hline BC-504 & . 55 & 5. \({ }^{\text {( }}\) ) & 125 & 41 & 12 \\
    \hline BC-505 & . 55 & 7.5 & 12.5 & 53.3 & 12 \\
    \hline BC-506 & . 65 & 11.0 & 1:5 & 6.4 & 12 \\
    \hline BC-507 & . 65 & 12.5 & 125 & 74 & 12 \\
    \hline BC-508 & . 65 & 15.9 & 1:5 & 83 & 12 \\
    \hline BC-509 & . 85 & \(\because 1) .0\) & 125 & \(!7\) & 12 \\
    \hline BC-510 & . 85 & 20, 0 & 125 & 120 & 18 \\
    \hline BC-511 & 1.10 & (ii). 0 & 100 & 175 & 11 \\
    \hline BC-512 & 1.40 & 8(1).1) & 100 & 2:30 & 12 \\
    \hline *single Ibu & 11.-13/8 Dj & & & - & \\
    \hline
    \end{tabular}

    SHIELDED AIR CORE*
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Inductance MHI & Current M.A. & Resistance Ohms & Mig. \\
    \hline BC-515 & \$0.85 & 5 & 125 & 10 & \(\therefore\) \\
    \hline BC-516 & . 85 & 1.0 & 125 & 17 & \(\cdots\) \\
    \hline BC-517 & . 95 & 2.5 & 125 & 30 & \(\pm\) \\
    \hline BC-518 & . 95 & 5.0 & 125 & 49 & \(\therefore\) \\
    \hline BC-519 & . 95 & 7.5 & 125 & 61 & \(s\) \\
    \hline BC-520 & 1.05 & 10.0 & 125 & 75 & \(\stackrel{1}{4}\) \\
    \hline BC-521 & 1.20 & 25.0 & 125 & 125 & 5 \\
    \hline BC-522 & 1.50 & \%0.0 & 125 & 186 & \(\cdots\) \\
    \hline
    \end{tabular}

    \section*{RF TYPE}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Inductanc* M M & Current M.A. & Resistance Ohms & Mtg. \\
    \hline \[
    \begin{aligned}
    & \mathrm{BC}-549 \\
    & \mathrm{BC}-550
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 0.85 \\
    66.00
    \end{array}
    \] & \[
    \text { 100-BC-54! } \stackrel{2.5}{3} \text { Bulk Pucked }
    \] & 200 & 26 & じ \\
    \hline
    \end{tabular}

    UNSHIELDED IRON CORE*
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Inductance MH & Current M.A. & Resistance Ohms & Mtr. \\
    \hline BC-525 & \$1.00 & .) & 125 & 6.8 & 12 \\
    \hline BC-526 & 1.10 & 1.0 & 125 & 10.4 & 12 \\
    \hline BC-527 & 1.15 & 2.5 & 12.5 & 19.5 & ! \\
    \hline BC-528 & 1.30
    1.40 & 8.0 & \({ }_{125}^{125}\) & 23.3
    37.0 & \(R\)
    \(R\) \\
    \hline BC
    \(\mathrm{BC}-530\) & 1.45 & 10.0 & 125 & 45 & 12 \\
    \hline BC-531 & 1.75 & 25.0 & 100 & 78.0 & R \\
    \hline BC-532 & 1.95 & 50.0 & 100 & 130.0 & ! \\
    \hline BC-533 & 2.20 & 75.0 & 1010 & 17.11 & ? \\
    \hline  & 2.50
    2.75 & 1001.0
    150.0 & 100
    100 & 210.11
    268.0 & ! \\
    \hline BC-535 & 2.75 & 1501.0 & 1011 & 268.0 & R \\
    \hline
    \end{tabular}

    \footnotetext{
    * Single Bolt Mitg. Dimen, 11/8 Dial. x 5/8.
    }
    

    \section*{IF-RFCOILS}

    CHOKES (Cont.)
    SHIELDED IRON CORE
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Inductinum M11 & Curront M.A. & Rumathere Ohmus & Mtg \\
    \hline BC-538 & \$1.40 & i & 12; & 86 & \\
    \hline BC-539 & 1.50 & 1.0 & 12.5 & 11.7 & S \\
    \hline BC-540 & 1.55 & \(\because\) & 12.5 & 290 & - \\
    \hline BC-541 & 1.70 & 3.1 & 12\% & 310 & - \\
    \hline BC-542 & 1.75 & 7. & 125 & 420 & \% \\
    \hline BC-543 & 1.80 & 111.10 & 10.5 & 470 & S \\
    \hline BC-544 & 2.15 & 23.0 & 125 & 1000 & 8 \\
    \hline BC-545 & 2.30 & 50.01 & 100 & 1600 & 5 \\
    \hline BC-546 & 2.60 & 75.0) & 100 & 2230 & 8 \\
    \hline BC-547 & 2.85 & 1010.0 & 1011 & 3480 & \% \\
    \hline BC-548 & 3.15 & \(1 . \% 0.)^{+}\) & 1010 & 520 0 & \(\stackrel{1}{2}\) \\
    \hline \[
    \begin{aligned}
    & * 11 / \text { Mtg. } \\
    & \$ 15 / 8 \mathrm{Mtg} .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { len. } 11 / 4 \\
    & \text { Ien. } 15 / 8 \text { Din. }
    \end{aligned}
    \] & & & & \\
    \hline
    \end{tabular}

    FILAMENT
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & List Price & Inductanere 1'H & Curcent Ampes & Reasiatance (hams & Mtg \\
    \hline BC-537 & \$0.70 & 10.0 & 8 & 12 & E. \\
    \hline
    \end{tabular}

    \section*{SHORT WAVE}

    \section*{IF TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & 1) escription & I'rex. & Mtig. Cenater & Dimerasiotas & Mtg. \\
    \hline SW-600 & \$2.20 & Input & 1400-1400 & 13. & & \\
    \hline SW-601 & 2.20 & Interstage & 1.400-160) & 1** &  & 1 \\
    \hline SW-602 & 2.20 & Interstage (Mniature) & 1400-160) & 1 & \(3_{4} \times \frac{1}{42}\) & k \\
    \hline SW-603 & 2.20 & Output (Ministur') & 1+60-1160) & 1 & \(3_{4} \times 1 \times 2\) & K \\
    \hline SW-604 & 2.20 & Input Midget & \(1+100-1600\) & 115 & \(15 \times 11 / 8 \times 2\) & 1 \\
    \hline SW-605 & 2.20 & Interstage Midget & 1400-160) & \(11 / 8\) & 1/5x11/6x2 & 1 \\
    \hline SW-606 & 2.20 & Full Wave Output & \(1400-16(0)\) & \(11 / 5\) & 11/5x11/8x2 & 1 \\
    \hline SW-607 & 2.20 & Half Wave Output & \(1+100-1600\) & 118 & \(11 / 5 \times 11 / 8 x^{2}\) & , \\
    \hline
    \end{tabular}

    \section*{SW CHOKES}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Description & Ohmm & Miero Ilenries & Dimensiona & M. & Mtg. \\
    \hline \[
    \begin{aligned}
    & \text { SW-630 } \\
    & \text { SW-631 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 0.65 \\
    .65
    \end{array}
    \] & \begin{tabular}{l}
    Choke \\
    Chore
    \end{tabular} & \[
    \begin{array}{r}
    .07 \\
    .25 \\
    \hline
    \end{array}
    \] & 3.5
    5.0 & \(\begin{array}{llllll}1 / 4 & \text { Man } & \times & 11 / 2 \\ 1 / 4 & \text { Din } & \times & 11 / 2\end{array}\) & \[
    \begin{array}{r}
    200 \\
    200 \\
    \hline
    \end{array}
    \] & \[
    \begin{aligned}
    & \mathrm{P} \\
    & \mathrm{P}
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    RF-ANTENNA—OSCILLATORS—Miniature Type
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & List Price & Description & Freq. & Mtu. & Dimensions & Mtg. \\
    \hline \[
    \begin{aligned}
    & \text { SW-620 } \\
    & \text { SW-621 } \\
    & \text { SW-622 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    \$ 1.65 \\
    1.65 \\
    1.65
    \end{array}
    \] & Aitenna KI Oscillatore* & \[
    \begin{aligned}
    & 2.1-6.3 \mathrm{MC} \\
    & 2.1-6.3 \mathrm{MC} \\
    & 2.1-6.3 \mathrm{MC}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Clip } \\
    & \text { Clip } \\
    & \text { Clip } \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \times 3 \times 2 \\
    & 3 \times 1 / \times 2 \\
    & 3 \\
    & 3 \\
    & 3 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \mathrm{k} \\
    & \mathrm{k} \\
    & \mathrm{k} \\
    & \hline
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    \title{
    UNITED TRANSFORMER CO.
    }

    \section*{NET PRICE LIST}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Tyot & Net & Type & Net & Tjpe & Net & Typt & Net & Type & Net & Type & Net \\
    \hline A. 10 & \$11.01 & CVP-3 & \$17.00 & HaC-I & \(\leqslant 1 \%\) & LS-692 & E\%(11).10 & R. 17 & 2.011 & S-25 & :i. in \\
    \hline A. 11 & 110.00 & CYP-4 & 21.010 & HaC- 2 & 130 & LS-950 & 11100 & R. 18 & 3.011 & S-26 & - 3.50 \\
    \hline A. 12 & 11.00 & CVP-5 & :4, 00 & HaC-3 & 13.106 & LE-980 & 3-06 & R-19
    R-20 & \%xı110 & S-28 & 4.50 \\
    \hline A-14 & 10.00 & D1-1 & 10.108 & HaC-4 & 1:2.100 & MAT-I & 28.00 & R-20
    \(\mathrm{R}-21\) & \(\pm .80\) & S-29 & 4.50 \\
    \hline A-16 & 9.00 & DI-2 & 45.018 & HOC-5 & 13.0I & MAT-2 & 311.1110 & R-2
    R. 22 & \% - 0 & S. 30 & +.an \\
    \hline A. 17 & 11.10 & 01-3 & 517.10 & HQD-1 & 15.000 & MAT-3 & 3 sin & R. 33 & 1.411 & S-31 & 6.110 \\
    \hline A-18 & 11.00 & D1.4 & GTat & HQD-2 & 15.100 & MAT-4 & 40.00 & R-3
    R-34 & 1.10 & S. 32 & 6.011 \\
    \hline A. 19 & 11.00 & DP-2 & 8.00 & HQD-3 & \(1 \therefore .60\) & MAT-5 & 10.10 & R-35 & \(\because . \therefore 1\) & S. 33 & \(\times\) \% \\
    \hline A. 20 & 11.100 & DP-3 & 7.111 & Had-4 & 15.001 & MAT-6 & 0 & R-38A & 2.00 & S-34 & s.in \\
    \hline A-21 & 11.60 & DP.4 & \(\times .111\) & HQO.5 & 15.001 & MC-I & 9.10 & R-39 & 20 & S-35 & 12.00 \\
    \hline A. 24 & 11.6110
    10.10 & FT-1 & \#2: & & f.nn & MC- 2 & 10.00 & R-40 & 3.80 & S-36 & 12.110 \\
    \hline A-25
    A-26 & 10.10
    11.011 & FT-2 & \(\because 10\) & HQE-1
    HQE-2 & C.00 & & f.in & R-41 & \(\overline{8.70}\) & S-37 & \(1+.00\) \\
    \hline A-26
    A. 27 & 11.011
    11.00 & FT-3 & \(\because 90\) & HQE-2
    HQE-3 & \(\bigcirc 111\) & MGA-1 & \(6 . \% 0\) & R-42 & 4.30 & S-38 & 11.001 \\
    \hline A. 27
    A. 30 & 11.00
    8.10 & FT-4 & \(\because 8\) & HQE-3
    HQE.4 & 7.50 & MQA-2
    MQA & 6.50 & R-43 & 3.00 & S-39 & 1.1.t10 \\
    \hline A-32 & 5.50 & FT. 5 & \%85 & HQE-5 & \(\therefore .011\) & MQA.4 & 7.00 & R-44 & 8.50 & S. 40
    S .41 & 15.06 \\
    \hline CG.IC & \(4 \therefore .10\) & Ft. 7 & : 111 & HVC-I & 8.00 & MaA 5 & 1.90
    \(-\quad .00\) & R-4
    R-46 & 28.00 & S-42 & 17.00 \\
    \hline CG-1s & 4.5 .10 & FT-8 & 3.40 & H VC-2 & \(\because 00\) & MaA-6 & 8.50 & R. 47 & 8.in & S-43 & 2.500 \\
    \hline CG-2L6 & 12.10 & FT-9 & \%.90 & HVC-3 & 8.100 & MaA- & 9.00 & R. 48 & 3.50 & S. 44 & 22.011 \\
    \hline CG-4L6 & 20.00 & FT-10 & 4.010 & HVC-4 & S.00 & MQA-9 & 9.50 & R. 49 & 9.50 & S. 45 & 17.00 \\
    \hline CG-15 & \(!3.00\) & H.I & 4.10 & HVC-5 & S. 110 & MQA-9 10 & 9.50 & R-55 & 1.20 & S. 46 & 21.00 \\
    \hline CG-16 & 9.00 & H-2 & 4.30 & HVC. 6 &  & MQA-11 & 9.50 & R. 58 & 2.64 & S-47 & 27.00 \\
    \hline CG. 19 & 9.00 & H-3 & 7.111 & HVC-7 & 5 & MQA. 12 & 10.00 & R-59 & 2.40 & S. 48 & 31.101 \\
    \hline CG-33 & 6.00 & H-4 & 7.010 & HVC-8 & 8.51 & MQA-13 & 10.00 & R-60 & 3.00 & S. 49 & 33.000 \\
    \hline CG-34 & 8.00 & H-5 & 5.50 & HVC-9 & 4.50 & MQA-13 & 11.00 & R-64 & 42.00 & S-50 & -n.04 \\
    \hline CG-40 & 4.50 & H. 6 & 3.50 & HVC-10 & B. 010 & MMA-14 & 12.00 & R. 72 & 5.70 & S-51 & 11.018 \\
    \hline CG-41 & 6.50 & H. 7 & *. 0 & HVC-11 & 111.06 & MQA-16 & 13.00 & R-73 & <.in & S-52 & 14.00 \\
    \hline CG. 44 & f. 00 & H.8 & \(\times .30\) & HVC-12 & 11.011 & MQA-16 & 11.00 & R-74 & \(1 \therefore .00\) & S-53 & 4.:00 \\
    \hline CG. 45 & fi. 00 & H-9 & 8.80 & LS-6LI & 311.00 & MQA-18 & 17.00 & R-75 & 24.00 & S-54 & 4.7n \\
    \hline CG.48C & 6.00 & H-10 & 5.50 & LE-6L3 & 21.00 & MQA-19 & 20.00 & R-76 & 39.00 & S. 55 & 1.70
    .70 \\
    \hline CG-50 & 9. 50 & H-11 & 4.30 & LE-6L4 & 45.00 & Mas. 1 & 1300 & R-77 & 85.160 & S-56 & ¢.70 \\
    \hline CG-5IAX & 8.00 & H-19 & 13.04 & LE.6 & \(\because 11.06\) & MQB-1 & 13.001 & R-78 & 14.00 & S-57 & 7.50 \\
    \hline CG-53AX & 4.10 & H-20 & 12.010 & Ls-10 & 1-5.041 & MQB- 2 & 13.00 & R.79 & 16.09 & S-58 & 8.00 \\
    \hline CG-59AX & 10.00 & H.21 & 11.00 & Ls-10x & 14.00 & MQB-3
    MOB-4 & 1300
    11.00 & R-80 & 20.00 & S. 59 & 11.00 \\
    \hline CG. 100 & 6.50 & H-22 & 12.3n & LS. 12 & 17.00 & MOB-4
    \(M O B-5\) & 14.00 & R.81 & 35.00 & S. 60 & 11.00 \\
    \hline CG-101 & 6. 50 & H-23 & 12.00 & LS.12x & 29.00 & MQB-5
    \(M O B-6\) & 14.00 & R-83 & 17.00 & S-61 & 8.00 \\
    \hline CG-102 & 9.50 & H-24 & 4.00 & LS-14 & 18.00 & MQB-6 & 14.00
    15.00
    15 & R-84 & 18.00 & S. 62 & \% 7.50 \\
    \hline CG-103 & 9.50
    11.00 & H. 30 & 8.01 & Ls-14x & 20.00 & MQB-7
    \(\mathrm{MOB-8}\) & +1\%.00 & R.85 & \(\because 0.00\) & S. 63
    S-64 & 12.in \\
    \hline CG-104 & 11.00
    14.00 & \(\mathrm{H}-31\)
    H .32 & 8.011
    8.00 & LS-15X & 217.00 & MQB-8
    MQB.9 & \(1: 0.00\) & R.86
    R.87
    R & 3.8 .00
    8.00 & S-64
    S. 65 & 8.50
    8.50 \\
    \hline CG-108 & 25.00 & H .32
    H .33 & 8 & LS. 18 & 16.00 & MQB-10 & 17.00 & R.87
    R. 88 & 17.50 & S-65 & \(\bigcirc\) \\
    \hline CG. 109 & 25.00 & H. 34 & 8.00 & Ls.19 & 16.00 & MaB-11 & 18.00 & R-101 & 4.50 & S-67 & 8.50 \\
    \hline CG-120 & 12.00 & H.35 & 4.50 & LS.21 & 20.00 & MQB-12 & 19.00 & R-102 & 5.20 & S-68 & 8.50 \\
    \hline CG-121 & 15.00 & H-36 & 7.30 & LS-22 & 13.00 & MQE-I & -. 50 & R. 103 & 5.70 & S-69 & 8.50 \\
    \hline CG-122 & 12.00 & H. 40 & 12.00 & LS-26 & 18.00 & MQE-2 & \(\therefore .50\) & R-104 & 6.30 & S. 70 & 8.50 \\
    \hline CG-124 & 13.00 & H. 41 & 19.00 & LS.27 & 18.00 & MQE-3 & 6. 00 & R-105 & 7.80 & S-71 & 12.00 \\
    \hline CG-125 & 14.00 & H.42 & 12.00 & LS. 30 & \(1+0.00\) & MQE. 4 & 8.00 & R. 106 & 4.50 & S-72 & 9.00 \\
    \hline CG-126 & 20.00 & H-43 & 12.00 & LS.30X & 119.00 & MQE-5 & C. 50 & R. 107 & 5. 40 & & \\
    \hline CG-131 & 8.50 & HA. 100 & 13.00 & (S.3) & 18.00 & MQE-6 & 6.50 & R-108 & 6.30 & SC-3 & 6.00
    8.00 \\
    \hline CG.132 & 8.50 & HA \(/ 100 \mathrm{X}\) & \(1: 1.00\) & LS-31x & 22.00 & MQE. 7 & 7.00 & R. 109 & 9.00 & SC. 4 & 8.00
    13.00 \\
    \hline CG-133 & 8.50 & HA. 101 & 14.50 & LS.32 & 29.00 & MQE-8 & 7.50 & R-110 & 4.80 & 8C. 5 & 13.0 n \\
    \hline CG. 134 & 8.50 & HA. 101 X & 15.50 & LS.32 & 18.00 & MQE.9 & 8.10 & R-111 & \%. 40 & & 20.00 \\
    \hline CG. 135 & 9.00 & HA-103A & 13.00 & LS.33 & 97.00 & MQE-10 & x & R-112 & 4i. 50 & V.1.m & 3:.00 \\
    \hline CG. 136 & 11.00 & HA-104 & 13.00 & (S.34 & 18.00 & MQE-11 & 4.00 & R-113 & 4.60 & & \\
    \hline CG. 137 & 7.00 & HA-105 & 13.00 & LS.47 & \(\because 0.00\) & MQE-12 & \(\because 1.30\) & & & vic-1 & b. 00 \\
    \hline CG-140 & 7.00 & HA-106 & 13.00 & LS.48 & 40.00 & MQE-13 & 9.10 & S0.1 & 4.00 & vic. 2 & 6.10 \\
    \hline CG-141 & 8.50
    800 & HA-107 & 20.00 & LS. 50 & 18.50 & MQE-14 & 10.00 & S0-2 & 1.60
    3.60 & vic-3 & Ci. 00 \\
    \hline CG-233 & 8.00 & HA-108 & 1 f .00 & LE.51 & 19.00 & MQE.15 & 11.00 & S0-3 & 3.60 & Vic-4 & 6.00 \\
    \hline CG-235 & 11.00 & HA. 108 X & 15.00 & LS-52 & 19.00 & MOL-1 & & S0.4 & 3.60 & Vic. 5 & ti.no \\
    \hline CG-238AX & 18.00 & HA-111 & 13.00 & LE.54 & 1-00 & MQL- & 20.08 & S0.5 & 3.00 & vic. 6 & 6.00 \\
    \hline CG. 300 & 14.00 & HAF 113 & 12.100 & LE.54 & 19.00 & MQL-2 & 20.00
    -1.00 & S0.6 & 4.00 & Vic-7 & 6.108 \\
    \hline CG-301 & 18.00
    25.00 & HA. 114 & 14.00 & LS.56 & 20.00 & MQL-3 & 21.00
    22.00 & S0.7
    S0.8 & 1.40
    4.20 & VIC-8 & 6.50 \\
    \hline CG-302 & 25.00
    30.00 & HA. 130 X & \(1: .00\) & LS. 57 & 15.00 & MaL-4 & 20.00 & S0.8
    SO.
    S & 3.60 & VIC-9 & 6.50 \\
    \hline CG.304 & 110.00 & HA-133
    HA. 134 & \(\begin{array}{r}17.00 \\ 1 \\ \hline 1.00\end{array}\) & LS. 58 & \(3 \times .00\) & 0.1
    0.2 & 7.00
    7.00 & & , & VIC-10 & 6.50
    6.50 \\
    \hline CG. 305 & 50.00 & HA. 134
    HA. 135 & 15.00 & LE.604 & 24.00 & 0.2 & 18.50 & SSO-1
    SSO.2 & 4.20 & VIC-11 & 6. 6.80 \\
    \hline CG-306 & 100.00 & HA-137 & 14.00 & LS-61
    LS.63 & 19.00 & 0.4 & G. 10 & SSO-2
    SSO-3 & 4.10
    3.70 & VIC-12 & 6. \(\% 10\) \\
    \hline CG-307 & 100.00 & & & LS.63 & ¢1:.00 & 0.5 & 15.00 & SSO-4 & 3.70 & Vic-14 & 6.50 \\
    \hline CG-308 & 120.00 & HC. 116 & 11.00 & LS.66 & ancon & \(0 \cdot 6\) & 6.50 & SSO.5 & 3.70 & VIC-15 & 7.00 \\
    \hline CG-309 & 260.00 & HC.
    HC. 117 & 8.100 & LS.72 & 111.00 & 0-7 & 6.30 & SSO-6 & 3.70 & VIC. 16 & 7.00 \\
    \hline CG-310 & 210.00 & HC. 117 & 9.0 & LS.72 & 38.00 & 0-8 & 3.00 & SSO-7 & 3.00 & vic.17 & 7.00 \\
    \hline CG-3:1 & 50.00 & HP-122 & 9.50
    10.010 & LE.80 & \(1 \times .00\) & 0.9 & 7.00 & SS0.8 & 1.21 & vic-18 & 7.50 \\
    \hline CG-312 & 50.00 & HP-123 & 10.100 & LE.82 & 1:00 & 0.10 & 7.50 & SSO-9 & 3.010 & VIC-19 & 7.50 \\
    \hline CG-315 & 12.00 & HQA. 1 & 7.00 & LS-82 & (10.00 & 0.11 & 7.00 & SSO. 10 & 3.10 & vic-20 & 7.50 \\
    \hline CG-316 & 18.00 & HQA 2 & \(\therefore .00\) & LS-83 & シロ.0n & 0-12 & 7.80 & SSO-11 & 3.00 & vic-2I & 8.011 \\
    \hline CG-333 & 7.00
    1500 & HQA. 3 & 7.50 & LS.88 & \(\because 1.100\) & & 5.50 & & 3.108 & vic-22 & 11.00 \\
    \hline CG-422 & 18.00 & HQA. 5 & 8.110 & LS.889 & -1) 0 & 0.14 & 7.00 & SSO-14 & 4.30 & & \\
    \hline CG. 428 & \(\because 0.00\) & HQA 6 & -1011 & LS.90 & 111.00 & 0.15 & 7.00 & & 4.00 & & \\
    \hline CG.429 & 20.00 & HQA. 7 & 4110 & LS-91 & 16.100 & 0-16 & 0.00 & S. 1 & \(\therefore .00\) & & \\
    \hline CG.431
    CG.433 & \(\begin{array}{r}27.10 \\ -8.00 \\ \hline\end{array}\) & HQA-8 & 4.00 & LE-92 & 15.00 & P-1 & 8.50 & S. & 3.70 & EQUALIZE & \\
    \hline CG-512 & 18.00 & HQA.9 & 11.100 & LS.93 & 32.101 & F-2 & 8.50 & S. 4 & 8.70 & Type & Net \\
    \hline CG.710 & 31.10 & HQA-10 & 11. 11.10 & LS-96 & 10.010 & P-3 & 8.00 & S. 5 & 4.00 & Type & \\
    \hline & & HQA-11 & 10.00 & LS-98 & : \(\%\).00\% & F-4 & 7.in & S-6 & 3.70 & 3 A & 1710,111 \\
    \hline CGE-IA & 18.00 & HQA-12 & 11.110 & LS-99 & 100.00 & F-5 & 7.50 & S. 7 & -5.in & 3 AX & \(2.5 \pi\) ¢0 \\
    \hline CVA-1 & 0.00 & HQA-13 & 11.101 & LS-102 & i, 0 & F-6 & \%.0n & S. 8 & 5.50 & \({ }^{\text {c }}\) & \(\because 100.00\) \\
    \hline CVA-2 & 11.00 & HQA-14 & 1:00 & LE-103 & 120.00 & F. 7 & 800 & S. 9 & 6.50 & BMI 0.5 & 73.inon \\
    \hline CVA-3 & 11.00 & HQA-15 & 14.00 & LS-104A & 5510.10 & F-8 & 8.30 & S-10 & -. 30 & BML 2 & \(18: 50\) \\
    \hline CVA-4 & 18.011 & HQA-16 & 15.410 & LE-105 & 1161.00 & F-9 & 8.30 & S-11 & 4.81) & HMI & \(18: 001\) \\
    \hline CVA-5 & 27.00 & HQA-17 & 1ti.0n & LS-106 & \(\because 110.00\) & F. 10 & 9.00 & S. 12 & \(\therefore .00\) & HML & /35.011 \\
    \hline & & HQA. 18 & 17.010 & LE. 120 & 41.000 & F-11 & 8.50 & S-13 & 7.00 & LMO & /3i.00 \\
    \hline CVL-2 & 0.80 & HaB. 1 & \(1+6.110\) & Ls.1218 & 48.014
    401010 & F. 12
    F. 13 & \(\begin{array}{r}14 \\ 7.00 \\ \hline 80\end{array}\) & S-14 & 4.04 & LML 25 & /35.00 \\
    \hline CVL-3 & 12.00 & \(\mathrm{HaB}^{\text {Ha }}\) & 16.00 & LE.148 & 410019
    18.010 & P. 13
    F. 14 & 8.51 & S. 15 & 5.50 & *stork frequentir & (1) \\
    \hline CVL-10 & 8.00 & HQB-3
    \(\mathrm{HOB}-4\) & 16.010 & LE-141 & 15.001 & F-18 & 8.50 & S. 16 & 7.00 & - 019 are & nn net. \\
    \hline CVm-0 & 8.50 & HQE-5 & \(1 \% .00\) & LE-156 & \(1 \times 100\) & FF-1 & 7.00 & S. 17
    S. 18 & (i.) 0 &  & cies aro \\
    \hline CVM-1 & 11.10 & HQB-6 & 18.410 & LS. 151 & 14.041 & FF-2 & 7.00 & S. 19 & s.0n & :itill net. & \\
    \hline CVM-2 & 15.00 & HQB. 7 & 1!1111 & LE.186 & 12.00 & PF-3 & 5.00 & S. 20 & 1:00 & & \\
    \hline CVM-3 & 18.00 & HQ8-8 & 20.00 & LE-183 & -5.01) & FF-4 & 7.00 & S-21 & 18.011 & AMPLIFIER & KIT \\
    \hline CVM-4 & 33.00 & HQ8.9 & -1.119 & LE-184 & 2001.109 & & 1.30 & S-22 & 2x.00 & Type & Net \\
    \hline CVM-5 & 80.011 & \(\mathrm{HOR}-10\)
    \(\mathrm{HOB}-11\) & 29.010 & LE-185
    LS.19\% & 270.00
    -4.109 & R-14
    R- 15 & 1.30 & S-23 & 3.80 & & \\
    \hline CVP-1
    CVP-2 & 9.51
    11.00 & HQB-11
    HQB-12 & 23.00
    24.00 & LE. 192
    LE.691 & 18.00
    410.019 & R. 15
    R-16 & 1.30 & S. 24 & 4.511 & mLF & 1118.10 \\
    \hline
    \end{tabular}

    \section*{LINEAR STANDARD AUDIO TRANSFORMERS}

    \section*{LINEAR STANDARD AUDIO UNITS FEATURE:}

    UNIFORM FREQUENCY RESPONSE . . . at low frequencies, is effected through the use of HIPERM-ALLOY, a STABLE nickel iron alloy of very high initial permeability. Uniform high frequency response is the result of multiple section interleaved windings arranged in a semi-toroidal coil structure. This, plus special winding methods and insulations, assures a minimum of distributed capacity and leak. age reactance.

    UTC LINEAR STANOARO transformers are the ONLY audio units with a GUARANTEED uniform response . . . \(\pm 1\) DB from 20 to 20,000 cycles.

    MINIMUM HUM PICKUP . . . is accomplished through the use of a hum balanced, semi-toroidal, coil structure which affords maximum neutralization of external fields. In addition, all units employ high conductivity outer case for maximum shielding. For very low level applications, units whose code numbers end in \(X\) employ multiple alloy shielding, making possible a transformer with extremely low inductive pickup.

    NEGLIGIBLE WAVE FORM OISTORTION . . . is a function of proper impedance matching, minimum phase shift, and low flux density. These elements have been given great attention in the design of Linear Standard units. It is interesting to note that an output transformer reasonably flat from 20 to 20,000 cycles may show serious distortions at 30 to 10,000 cycles. For this reason, UTC high level units have a frequency range better than guaranteed value, generally 7 cycles to 50,000 cycles (see poge \(\mathrm{N} \cdot 91\) ).

    MULTIPLE TAP WINOINGS . . . make possible a wide combination of impedance terminations without impairing fidelity or efficiency. Precision winding methods result in winding accuracy of \(.1 \% \ldots\) perfect balance of inductance and capacity . . . exact impedance reflection.

    OEPENOABILITY . . . is a function of external and internal structure. Linear Standard units are housed in rugged die cast cases of precise dimension with reversible mounting to permit above chassis or subchassis wiring. The solid terminal posts on low absorption bakelite are arranged in a circular layout so that a round chassis hole will clear all terminals. Coils are vacuum baked and impreg. nated. Semi-hermetic sealing is accomplished through the use of a high adhesion compound poured through the large opening opposite the terminal board after controlled preheating of the unit for full compound penetration.
    

    LS. 1 CASE
    \begin{tabular}{|c|c|}
    \hline Length & 31/8" \\
    \hline Width & 25/8" \\
    \hline Height & \(31 / 4\). \\
    \hline Mounting & 11/16** \(\times 27 / 10^{10}\) \\
    \hline Screws & 6.32 \\
    \hline Cutout & \(17 /{ }^{\prime \prime}\) dia. \\
    \hline Unit Weiglt & 3 lbs . \\
    \hline
    \end{tabular}
    

    MIXING TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Iype } \\
    & \text { tho }
    \end{aligned}
    \] & Applicalion & Fimary Impedanc* & Secondary Impedance & \[
    +1 \text { from }
    \] & Max.t
    Level & 品隹ive * tum & Untal. DC in prim'y & Case No. \\
    \hline 65.30 & Mixing. Jow impedance mike, wichup. or multo. ple line 10 multiple bine & \[
    \begin{aligned}
    & 30,125 / 150, \\
    & 200,250,333 . \\
    & 500 / 600 \text { ohms }
    \end{aligned}
    \] & \begin{tabular}{l}
    \(30,125 / 150,200\). \\
    230, 313. \\
    500600 ohms
    \end{tabular} & 7-50,000 & \(+1508\) & \(-7408\) & 5 MA & 15.1 \\
    \hline 15.308 & AS oluave & As above & A) sbove & 20 20,000 & +1508 & -9208.0 & 3 M & 15.1 \\
    \hline 15.31 & Irmee isclated lines of pads to inultiple line & 30. 50, 200 250 onms teach primary & \[
    \begin{aligned}
    & 50,125 / 150,200 . \\
    & 250,133 . \\
    & 500 / 600 \text { ohms }
    \end{aligned}
    \] & 2020.000 & \(+15 \mathrm{DH}\) & -7408 & 5 MA & 15.1 \\
    \hline 15.318 & As abouve & As abuve & As sbuet & \(20 \cdot 20,000\) & +1408 & -9208.0 & 3 Ma & 15.1 \\
    \hline 15.32 & miaing. luw impedance mine, pichup of parallel intier to multiple line & \[
    \begin{aligned}
    & 25,55,10, \\
    & 15,22,30, \\
    & 38, ~ \text { wo uhims }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 30,125 / 150,200 . \\
    & 250 \text {. } 3131 \\
    & 500000 \mathrm{hmms}
    \end{aligned}
    \] & 2020.000 & + 15 D8 & -7408 & 5 MA & 15.1 \\
    \hline
    \end{tabular}

    \section*{INTERSTAGE AUDIO TRANSFORMERS}
    

    LS 2 CASE
    \begin{tabular}{|c|c|}
    \hline Length & 4\%10" \\
    \hline Width & \(31 / 2^{\prime \prime}\) \\
    \hline Height & 4\% \(/ 1\) \\
    \hline Mounting & \(2^{1 / 1 / 4 " \times 3}{ }^{11 / 14}\) \\
    \hline Screws & - 8.32 \\
    \hline Cutout & 23/4" dia. \\
    \hline Unit Weight & .......... 7.5 lbs . \\
    \hline
    \end{tabular}
    

    The volues of unbolonced \(D C\) shown wilt effect approximotely 1.5 DB lass of 30 cycles.
    Comparison of hum bolonced unit with shielding to normol uncosed
    Q Mpe: Miple alloy magnetic shield.
    t 006 MW as ODB reference.

    \section*{HYBRID AND REPEAT COIIS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type
    No. & Application & Pri, and Sec. Impedances & \[
    \begin{aligned}
    & \pm 1 \mathrm{db} \\
    & \text { from }
    \end{aligned}
    \] & Mas. Level & Hum Reduction & Max. Untal. DC in Pri. & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { No. }
    \end{aligned}
    \] \\
    \hline 15.140 & Line to line for isulat. ing talanced and unbal. anced circuits; Dalanced fur manimum reduction cross talk (70 UH) & \[
    \begin{aligned}
    & 500 / 600 \text { uhms } \\
    & s p l 11 \\
    & 500 / 600 \text { ulims } \\
    & \text { sphit }
    \end{aligned}
    \] & 3020,000 & +10 08 & \(-9200\) Quadruple atluy shield & O'MA & 15-1 \\
    \hline 15.141 & Thite sels of tulanced windinges tur hiybrid serv. ice, centertapped & \(300 / 600\) uhms \(300 / 600\) uhims & 3515.000 & 110 DE & -74 Lt & 0 MA & 15-8 \\
    \hline 15.143 & High etherency fine and talh repeat cuil, for low frequency linging. & \begin{tabular}{l}
    200/600 uhms \\
    \(200 / 600\) uhins
    \end{tabular} & thacient 15/12,000 cycles & + 25 U4 & -74 ט* & 5 MA & 15.2 \\
    \hline
    \end{tabular}

    DRIVER TRANSFORMERS
    PLATE, CRYSTAL, PHOTOCELL, AND BRIDGING TO LINE TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { Me. }
    \end{aligned}
    \] & Application & Primary Impedance & Secondary impedance & \[
    \begin{gathered}
    1 \text { do } \\
    +\operatorname{from}
    \end{gathered}
    \] & Max.t Level & Relative * hum & Unbal. DC in prim'y & \[
    \begin{aligned}
    & \text { Case } \\
    & \mathrm{No} .
    \end{aligned}
    \] \\
    \hline 15.27 & Single plate to multiple lint & 15,000 ohms & \[
    \begin{aligned}
    & 50,125 / 150,200 \\
    & 250,333,500 / 600
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 30 \cdot 15.000 \\
    & \text { sycies }
    \end{aligned}
    \] & +1508 & -7408 & 8 MA & 15.1 \\
    \hline 15.50 & Single plate tu multiple line & 15,000 onms & \[
    \begin{aligned}
    & 50,125 / 130.200 . \\
    & 250,333,500 / 600
    \end{aligned}
    \] & 1040.000 & +1508 & -7408 & 0 MA & 15.1 \\
    \hline 15.51 & Push pull low level plates to multiple line & 30,000 uhms plate to plate & \[
    \begin{aligned}
    & 50,125 / 150,200 \\
    & 250,333,500 / 600
    \end{aligned}
    \] & 10.40,000 & +1608 & \(-7408\) & 1 MA & L\$. 1 \\
    \hline 15-150 & brideing flom 30 to 500 ohm tine to line & \(4,000 \mathrm{ohms}\). brideing & \[
    \begin{aligned}
    & 50,125 / 150.200, \\
    & 250,333,500 / 600
    \end{aligned}
    \] & 7.50 .000 & +1.1508 & -74 D8 & 1 MA & L\$.1 \\
    \hline L\$-151 & Brideiny from 50 to 500 uhim bine to line & 16,000 uhms. bridying & \[
    \begin{aligned}
    & 50,125 / 150,200, \\
    & 750,333,500 \text { t(i0) }
    \end{aligned}
    \] & 7.50,000 & \(\dagger 1808\) & -74 D8 & ) MA & t5.1 \\
    \hline
    \end{tabular}

    DRIVER TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & Application & Primary Impeance & Refl. Sec. Impedanct & \(+1 d b\) trom & Mas. level & \[
    \begin{aligned}
    & \text { Mas. Unbal. } \\
    & \text { OC In Pri. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Case } \\
    \text { Ne. }
    \end{gathered}
    \] \\
    \hline 15.6 & Driver, push pull 2A's.s. efic. to wush pull 845 or 2110 zrids & 3000 ohms plate to plate & 725 mamary impedatice: luths tátio 151 overall & 20.20 .000 & +37 06 & 5 Ma & 15.2 \\
    \hline 15.47 & Cinver fiom push pull 2Aj's. of similar tu class b 438*s 203A's, 805's, of 28120's & 5,000 ohms plate to plate & 1 pli imped. ance turns 1alio, P/1/4/2 Sec 3.2 .1 & 2020.000 & +32 0t & 5 MA & 15.2 \\
    \hline 15.48 & Driver transtormer push pull b45's 10204 ur 849 erids in class \(B\) & 12,000 uhms whate to plate & \(0 \leq 6\) mil imwedance turns tatiu, fori./4/2 Sec. 5.1-1 & 2080.000 & - 717 LH & 15 MA & 15.3 \\
    \hline
    \end{tabular}

    \section*{LS OUTPUT} TRANSFORMERS THE FINEST

    While the UTC Lineor Stondord tine it generally deviened for o hot response from 20 cycles to \(20 \mathrm{Kc.}\), wider response is reavired for oulpul tronsformers. Ai is noted in the first curve below, typical UTC output
     pawer ouiput curve in postible. isecond eurvel) The inird figure below illuilrates savore woves obtoined with the 15.63 tronsformer in o "Williamion" Amplifer Circuit. Of particulor interest is the shart rise time, which is for zuperiop for UTC tronsiormert than ony stondord moke which we have measured.
    
    

    \section*{OUTPUT TRANSFORMERS TO HIGH IMPEDANCE (RF) LOAD}
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { Ne. }
    \end{aligned}
    \] & Primary will match following typlcal fubes & Primary Impedance & Secondary tmpedance & \[
    \pm \underset{\text { tram }}{ } 1 \mathrm{db}
    \] & Max. tevel & Case Ne. \\
    \hline L\$.56 & \[
    \begin{aligned}
    & \text { Push pull 2A3's, 6A5c's, } 3008 \text { 's, } \\
    & \text { 6AS7, 6L6, 6080 }
    \end{aligned}
    \] & 5.000 ohms plate to plate and 3,000 ohms plate to plate & \[
    \begin{aligned}
    & 6000,5000,4000 \\
    & 1800,1500,1000, \\
    & 30,20.15,10, \\
    & 7.5,5,2.5,1.2
    \end{aligned}
    \] & 10-50,000 & 20 watts & LS-2 \\
    \hline 15-66 & Class B 203A, 838, 2B120, 805 & 9,000 ohms plate to plate & \[
    \begin{aligned}
    & 5000,4200,4100 . \\
    & 3500,3300,2650 . \\
    & 2500,2100,1250, \\
    & 600
    \end{aligned}
    \] & 10-50,000 & 260 watts & \[
    \begin{aligned}
    & \text { see } \\
    & \text { Pe. }
    \end{aligned}
    \] \\
    \hline L5.691 & Class 8 849, 833, 2501H & 10.400 ohms plate to plate & \[
    \begin{aligned}
    & 4500,4000,3500, \\
    & 2750,2000
    \end{aligned}
    \] & 20-40,000 & 1000 watts & LS-8 \\
    \hline 15.692 & Class 8 push pull parallel 833 's & 4.750 ohms plate to clate & \[
    \begin{aligned}
    & 2500,2000,1750, \\
    & 1500,1250
    \end{aligned}
    \] & 20-40,000 & 2500 watts & LS.5 \\
    \hline
    \end{tabular}

    MODULATION REACTORS
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|c|}{LS. 6 CASE} \\
    \hline Length & 153/4" \\
    \hline Width & 13" \\
    \hline Height & \(24^{\prime \prime}\) \\
    \hline Mounting Hole & 3/8" dia. \\
    \hline Unit Weight & . 350 lbs . \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type Na. & Application & Inductance & OC Current & 0 C Resistance & Insulation Test Voltage & & Case Mo. \\
    \hline LS.102 & Modulation reactor & 50 hy & 350 MA & 250 ohms & 5000 & See & Pg.N. 92 \\
    \hline L5.103 & Modulation reactor & 50 hy & 500 MAA & 175 ohms & 7500 & See & Pg.N. 92 \\
    \hline L5.106 & Modulation reactor & 50 hy & 750 MA & 120 ohms & 10000 & & Spec. \\
    \hline
    \end{tabular}

    \title{
    LINEAR STANDARD POWER EQUIPMENT
    }

    In choosing power components for broadcast and commercial equipment, the first factor to be considered is dependability. Linear standard power components are very conservatively designed for maximum reliability. Designs provide for low temperature rise, and high insulation safety factors.
    Only the finest of materials and workmanship are used throughout.

    The low power components of the Linear Standard series are housed in the familiar rectangular LS case with top or bottom mounting facilities. High power components are housed in end castings which completely protect the winding, while directly exposing the laminations for maximum heat trans. fer.

    All units have a deep grey finish to obtain the highest heat radiation coefficient. Large components (up to 250 KVA) are housed in oil tanks.
    

    OIMENSIONS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline & & & H & Mig. & we. \\
    \hline LS.66 & 93/4 & 43/3 & 63/4 & 37/8× 91/8 & 37 \\
    \hline LS. 73 & 91/2 & 43/4 & 63/4 & \(37 / 8 \times 87 / 8\) & 34 \\
    \hline LS. 83 & 83/4 & 43/4 & 63/4 & \(37 / 8 \times 81 / 8\) & 25 \\
    \hline LS.89A & 95/8 & 7 & 9 & \(6 \times 8^{1 / 1 / 16}\) & 68 \\
    \hline LS.96 & 101/4 & 43/4 & 63/4 & 37/8× 95/6 & 40 \\
    \hline tS.99 & 141/8 & \(81 / 2\) & 101/4 & \(71 / 4 \times 131 / 8\) & 80 \\
    \hline LS. 102 & 93/4 & 43/4 & 63.4 & \(37 / 8 \times 91 / 8\) & 37 \\
    \hline LS. 103 & 131/8 & \(81 / 2\) & 101/3 & \(71 / 4 \times 121 / 8\) & 58 \\
    \hline LS. 105 & 131/8 & \(81 / 2\) & 101/4 & \(71 / 4 \times 12^{1 / 8}\) & 58 \\
    \hline LS.121Y & 81/3 & \(33 / 4\) & 51/8 & \(3 \times 71310\) & 23 \\
    \hline LS-181 & 93/4 & \(43 / 4\) & 63/4 & 37/8× \(9^{1 / 8}\) & \\
    \hline LS-182 & 103/4 & 43/4 & 6314 & 33/8×101/8 & 45 \\
    \hline LS.183 & 151/2 & 10 & 131/4 & \(81 / 2 \times 141 / 2\) & 70 \\
    \hline LS. 184 & 171/4 & 10 & 131/4 & \(81 / 2 \times 161 / 4\) & 102 \\
    \hline S. 185 & 23 & 10 & 131/4 & \(\times 22\) & 230 \\
    \hline
    \end{tabular}

    \section*{COMBINED PLATE AND FILAMENT TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Pype No. & Typical Application & Pri. Volts 50,60 cycles & Nigh Voltage & Filament Windings & Case No \\
    \hline LS.180 & For pre-amplifier service & 110 & \[
    \begin{aligned}
    & 225 \cdot 0 \cdot 225 \\
    & 15 \mathrm{MA}
    \end{aligned}
    \] & 63 V C. \(1 .-6 A\) 63 V.C. 1 -6A & 15: \({ }^{-}\) \\
    \hline LS. 192 & Power amplifier service & 105, 115.125 & \[
    \begin{aligned}
    & 335-0.335 \\
    & 180 \mathrm{MADC} \\
    & 60.0 .60 .20 \mathrm{MA}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 V \cdot \cdot 3 A \\
    & 6 \text { JV.C.I. } 75 A \\
    & 63 \text { V.C.T. } 5.25 A
    \end{aligned}
    \] & 15.3 \\
    \hline 15.70 & High power amplifier service & \[
    \begin{aligned}
    & 100,105,110 \\
    & 115,120,125
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 425 \cdot 375 \cdot 0 \cdot 375 \cdot 425 \\
    & 200 \mathrm{MA} \\
    & 70-0.70 \\
    & 50 \mathrm{MA}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 \text { V.C.T. } 3 A \\
    & 5 \text { VC.T.2A } \\
    & 25 \text { VC.T. } 10 A \\
    & 63 \text { VCT. }-1 A \\
    & \text { G. } 3 \text { V.C.T. } 3 A
    \end{aligned}
    \] & 15.3 \\
    \hline L\$. 72 & for fired or self bias 6L6's, 300A's & \[
    \begin{aligned}
    & 100,105,110, \\
    & 115,120,125
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 525.450 \cdot 0 \cdot 450 \cdot 525 \\
    & 250 \mathrm{MA} \\
    & 70.0 .70 \\
    & 50 \mathrm{MA}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 V C T .3 A \\
    & 25 V C T .3 A \\
    & 2.5 V C T .3 A \\
    & 6.3 \text { VC.I.1A } \\
    & 6.3 \text { VC.T. } \\
    & \text { tapped } \\
    & 5 \text { VC.T. } 6 A
    \end{aligned}
    \] & 15.3 \\
    \hline 15.74 & For push pull parallel 6l6's. 2A3's, 6B4's & 115 & \[
    \begin{aligned}
    & 415-395 \cdot 0.395 .415 \\
    & 275 \mathrm{MA} \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 V-6 A \\
    & 63 \text { V.C.T. } 5 A
    \end{aligned}
    \] & IS. 3 \\
    \hline
    \end{tabular}

    PLATE TRANSFORMERS*
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline & & \multicolumn{2}{|l|}{\begin{tabular}{l}
    Primary \\
    Voltage
    \end{tabular}} & \multicolumn{2}{|l|}{Approximate OC Voltage} \\
    \hline Type No. & Application & 50,60 cycles & High voltage & out of filter & oc current \\
    \hline is.183 & Class \(8 \quad 805\) or push pull paraliel 203A's, etc. & \[
    \begin{aligned}
    & 100,110,120 \\
    & 220,230,240^{\prime}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1750 \cdot 1500-0 \cdot 1500 . \\
    & 1750
    \end{aligned}
    \] & 1500.1250 & 400 MA \\
    \hline 15.184 & Class B 204A, 849, HF200, HF300, \(250 \mathrm{TH}, \mathrm{HK} 354,10 \mathrm{O}^{\mathrm{T}} \mathrm{H}\), etc. & \[
    \begin{aligned}
    & 100,1110,120 \\
    & 220,230,240
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3500 \cdot 3000 \cdot 2500 \cdot 0 . \\
    & 2500-3000-3500
    \end{aligned}
    \] & 3000-2500.2100 & 500 MA \\
    \hline [\$.185 & For combined class \(\mathbf{B}\) and class \(C\) stages as above & \[
    \begin{aligned}
    & 100,110,120, \\
    & 220,230,240^{\circ}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3500 \cdot 3000 \cdot 2500 \cdot 0- \\
    & 2500 \cdot 3000.3500
    \end{aligned}
    \] & 3000-2500-2100 & 1.2 mmp \\
    \hline
    \end{tabular}

    \section*{FILAMENT TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type Ko. & Applicatien & \[
    \begin{aligned}
    & \text { Pil. Veits } \\
    & 50 / 60 \text { cycles }
    \end{aligned}
    \] & Secondary Valtag: & Iasulation Tast Valtage & Case Me \\
    \hline Is.io & 866 rectifiers & \[
    \begin{aligned}
    & 100,110,120, \\
    & 220,230,240
    \end{aligned}
    \] & 2.5 V.C.T.10A & 10,000 & 15.3 \\
    \hline 15.12 & 872 rectifiers & \[
    \begin{aligned}
    & 100,110,120 \\
    & 220,230,240
    \end{aligned}
    \] & 5 v.c.t. 20 A & 10,000 & ts. 3 \\
    \hline 15.44 & 203 A, 845, elc. HF200, HF300 & \[
    \begin{aligned}
    & 100,110,120 \\
    & 220,230,240
    \end{aligned}
    \] & 10 V.C.T. 8 A & 2,500 & 15.3 \\
    \hline 15.88 & 6.3 volt tubes & 105, 115, 125 & 6.3 V.C.T. 2 A & 2.500 & LS. 1 \\
    \hline \$5.120 & 866 Bridge rectifier & \[
    \begin{aligned}
    & 100,110,120 . \\
    & 220,230,240^{\circ}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2.5 \text { V.C.T. }-10 A \\
    & 2.5 \text { V.C. } 5 A \\
    & 2.5 \text { V.C.T. }-5 A
    \end{aligned}
    \] & 12,000 & 15.3 \\
    \hline ES.121\% & 872 Bridge rectifier & \[
    \begin{aligned}
    & 100,110,120, \\
    & 220,230,240
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5 \text { V.C.T. } 20 A \\
    & 5 \text { V.C.T.10A } \\
    & 5 \text { V.C.T. }
    \end{aligned}
    \] & 12,000 & - \\
    \hline [S.83 & \(872 \overline{\text { a }, 575}\) or 869 rectifiers & \[
    \begin{aligned}
    & 100,110,120, \\
    & 220,230,240
    \end{aligned}
    \] & 5 V.C.T.-20A & 35,000 & \\
    \hline [5.89A & Three 869 rectifiers & \[
    \begin{aligned}
    & 100,110,120, \\
    & 220,230,240
    \end{aligned}
    \] & 5 V.C.T.-60A & 35,000 & \\
    \hline
    \end{tabular}

    \section*{IINEAR STANDARD FILTER, SWINGING, AND AUDIO CHOKES}
    (Inductance values are at D.C. current shown)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. Application & Inductance & OC Current & \[
    \begin{gathered}
    \mathrm{OC} \\
    \text { Resistance }
    \end{gathered}
    \] & Insulation Test Voltage & Case No. \\
    \hline L5.90 Filter choke with hum bucking tap & Series-50 hy Parallel-12.5 hy & \[
    \begin{array}{r}
    50 \mathrm{MA} \\
    100 \mathrm{MA}
    \end{array}
    \] & 450 ohms 110 ohms & 2000 & t5-2 \\
    \hline (S-91 Filter choke with hum bucking tap & \[
    \begin{aligned}
    & \text { Series-14 hy } \\
    & \text { Parallel.3.5 hy }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 125 \mathrm{MA} \\
    & 250 \mathrm{MA}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 200 \text { ohms } \\
    & 50 \text { ohms }
    \end{aligned}
    \] & 2000 & 15.2 \\
    \hline (S-92 filter choke with hum bucking tap & Series. 16 hy Parallel-4 hy & \[
    \begin{aligned}
    & 175 \mathrm{MA} \\
    & 350 \mathrm{MA}
    \end{aligned}
    \] & 88 ohms 22 ohms & 2500 & 15.3 \\
    \hline L5.93 Filter choke with hum bucking tap & \[
    \begin{aligned}
    & \text { Saries- } 26 \text { hy } \\
    & \text { Parallel-6.5 ry }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 200 \mathrm{MA} \\
    & 400 \mathrm{MA}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 120 \text { ohms } \\
    & 30 \text { ohms }
    \end{aligned}
    \] & 3500 & L5.3 \\
    \hline LS-950 filter choke with hum buching tap & Series- 100 hy Parsilel-25 hy & \[
    \begin{aligned}
    & 35 \mathrm{MA} \\
    & 70 \mathrm{MA}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1000 \text { ohms } \\
    & 290 \text { ohms }
    \end{aligned}
    \] & 1500 & 15-2 \\
    \hline LS.96 Filter choke with hum bucking tap & \[
    \begin{aligned}
    & \text { Serias } 20 \text { hy } \\
    & \text { Parallel. } 5 \text { hy }
    \end{aligned}
    \] & \[
    \begin{gathered}
    500 \mathrm{MA} \\
    \quad 1 \mathrm{amp} \\
    \hline
    \end{gathered}
    \] & \[
    \begin{array}{r}
    90 \text { ohms } \\
    22.5 \text { ohms }
    \end{array}
    \] & 7500 & - \\
    \hline 15.980 Filter choke with hum bucking tad & Series-14 hy Paraliet-3.5 hy & \[
    \begin{aligned}
    & 400 \mathrm{MA} \\
    & 800 \mathrm{MA}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 100 \mathrm{ohms} \\
    & 25 \text { ohms }
    \end{aligned}
    \] & 5000 & 15.3 \\
    \hline 15.98 Swinging choke & \(8-40\) hy & 400 MA & 125 ohms & 5000 & 15.3 \\
    \hline LS.99 Filter choke with hum bucking tap & Series-20 hy Parallel-5 hy & \[
    \begin{aligned}
    & 1 \mathrm{amp} \\
    & 2 \mathrm{amp} \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 50 \text { ohms } \\
    & 12.5 \text { ohms }
    \end{aligned}
    \] & 10000 & - \\
    \hline L5-105 Suinging choke & 8.40 hy & 1 amp & 50 ohms & 10000 & - \\
    \hline - See dimension chart, this page. & & & & & \\
    \hline
    \end{tabular}

    \section*{HIPERM ALLOY TRANSFORMERS}

    The UTC Hiperm alloy audio and power trans formers are specifically designed for port able and compact service. While light in weight, neither dependability nor fidelity has been sacrificed. The frequency characteristic of the Hiperm alloy audio units is uniform from 30 to 20,000 cycles. They in corporate a Hiperm-alloy nickel iron core and hum balanced coil structure. The rugged die cast case is of high conductivity alloy finished in grey, arranged for mounting with the terminals either up or down. DC in Prim'y shown is maximum unbalanced.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{\begin{tabular}{l}
    LOW \\
    Type No.
    \end{tabular}} & \multirow[b]{2}{*}{Application} & \multicolumn{5}{|r|}{TRANSEORMERS} \\
    \hline & & Secondary 1mpedance & \[
    \begin{aligned}
    & 1 \mathrm{ab} \\
    & \text { irom }
    \end{aligned}
    \] & \begin{tabular}{l}
    Max. \\
    Level
    \end{tabular} & \[
    \begin{aligned}
    & \text { DC in } \\
    & \text { Prim'y }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Case } \\
    & \text { No. }
    \end{aligned}
    \] \\
    \hline Ha. 100 & \(\begin{array}{ll}\text { Low impedance mike, puckup. } & 50, \overline{1} 25 / 150,200 \\ \text { or multiple line to grid } & 250,333,500 / 600\end{array}\) & 60,000 ohms in two sections & 30-20,000 & \(+1008\) & . 5 MA & H. 1 \\
    \hline Hationx & Same as above but with trialloy internal shield to & Hect very low hum & pickup & & & H-1 \\
    \hline HA. 101 & \(\begin{array}{ll}\text { Low impedance mike. pickup, } & 50,125,150,200 \\ \text { or multiple line to P.P. grids } & 250,333,500,600\end{array}\) & \(1 \overline{20}, 0 \overline{0} 0\) onms overall, split & \(30 \cdot 20.000\) & \(+10 \mathrm{DB}\) & 5 MA & H. 7 \\
    \hline NA-101X & As above but with th-alloy internal shield to effect very low hum prckup & 80.000 ohms overall, split & 30.20.000 & +10 DB & 5 MA & H.1 \\
    \hline Na. \(103 \bar{A}^{\text {a }}\) & \begin{tabular}{l}
    low impedance mike, pickup. \(\quad 2.5,5.5,10.15\). or parallel mixer to grid \\
    22. \(30,38,60\)
    \end{tabular} & 60,000 ohms in two sections & 30.20,000 & \(+100 \overline{0}\) & 5 MA & H. 1 \\
    \hline HA-108 & \begin{tabular}{ll} 
    Mixing. Iow impedance mike. \(\quad 50,125 / 150,200\). \\
    pickup, or multiple line & \(250,333,500 / 600\)
    \end{tabular} & \[
    \begin{aligned}
    & 50,125 / 150,200, \\
    & 250,333,500 / 600
    \end{aligned}
    \] & 20.50,000 & +1008 & . 5 MA & H. 1 \\
    \hline Ha-108x & Same as above but with tri-alloy internal shield to & effect very low hum & pickup & & & H. 1 \\
    \hline HA.130X & Ihree isolated lines or pads \(30,50,200,250\) to one or two grids with tri. each primary alloy internal shield & 60,000 ohms overall, in two sections & 30.20.00a & \(+1008\) & 5 MA & N. 1 \\
    \hline
    \end{tabular}
    

    TYPE H. 1 CASE
    

    TYPE H. 2 CASE
    \begin{tabular}{|c|c|}
    \hline length & 3\%' \\
    \hline Width & 21316 \\
    \hline Height & \(31 / 2\) \\
    \hline Mounting & \(2^{\prime \prime} \times 23 / 4\) \\
    \hline Screws & 8.3 \\
    \hline Cutout & 21/10" dia \\
    \hline Unit Weigh & 5 lbs \\
    \hline
    \end{tabular}

    \section*{ \\ }
    

    \section*{ULTRA COMPACT AUDIO UNITS}

    The UTC UItra compact audio units are small and light in weight, ideally suited to remote amplifier and similar compact equipment. High fidelity is obtainable in all individual units, the frequency response being \(=2 \mathrm{DB}\) from 30 to 20,000 cycles.
    All units except those carrying DC in Primary employ a true hum balancing. coil structure, which combined with a high conductivity outer case, effects good inductive shielding. The die-cast case provides for top or bottom mounting. Maximum operating level +7 DB.

    \section*{LOW IMPEDANCE TO GRID AND MIXING TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Type } \\
    \text { No. }
    \end{gathered}
    \] & Application & Primary Impedance & Secondary Impedance & - 2 db from \\
    \hline A.10 & Low impedance mike, pichup. or multiple line to grid & \[
    \begin{aligned}
    & 50,125 / 150,200250, \\
    & 333,500 / 600 \text { ohms }
    \end{aligned}
    \] & 50,000 ohms & 20-20,000 \\
    \hline A. 11 & Low impedance mike, pickup. or line to 1 or 2 grids & \(50,200,500\) & 50,000 ohms & \(50-20,000\) multiple alloy shield for extremely low hum pickup \\
    \hline A. 12 & Low impedance mike, pickup, of multiple line to push pull grids & 50. 125, 150, 200,250, 333,500600 ohms & 80,000 ohms overail, in two sections & 20-20.000 \\
    \hline A.14 & Dynamic microphone to one or two grids & 30 ohms & 50,000 ohms overa!1, in two sections & 20-20.000 \\
    \hline A-20 & rixing, low impedance mike. pickup. or multiple line to multiple line & \[
    \begin{aligned}
    & 50,125 / 150,200,250 . \\
    & 333,500600 \text { ohms }
    \end{aligned}
    \] & \(5 \overline{0.1} 25 / 150.200250\), 333.500600 ohms & 10.50000 \\
    \hline \(\overline{\text { A-2 }}\) & Mixing, Tow impedance mike, pickup, or line to line & 50, \(200250,500,600\) & \(50,200,250,500600\) & \(30-30,000\) multiple alloy shield for extremely low hum pickup \\
    \hline
    \end{tabular}

    INTERSTAGE AUDIO TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. & Application & Primary Impedance & Secondary impedance & \(=2 \mathrm{dtrom}\) \\
    \hline A-16 & Single plate to single grid & 15.000 ohms & \[
    \begin{aligned}
    & 60,000 \text { ohms, } 2: 1 \text { turn } \\
    & \text { ratio }
    \end{aligned}
    \] & 20.20,000 \\
    \hline A-17 & Single plate to single gid 8 MA unbalanced D.C. & As above & As above & 40.20,000 \\
    \hline A-18 & Single plate to two grids. Split primary, can also be used for P.P. plates & 15,000 Ohms & 80.000 ohms overall, 2.3:1 turn ratio overall \(\qquad\)
    \(\qquad\) & 20-20.000 \\
    \hline A-19 & Single plate to two grids 8 MA unbalanced D.C. & 15.000 ohms & 80,000 chms overall. 2.3:1 turn ratio over. all & 40-20,000 \\
    \hline
    \end{tabular}

    \section*{PLATE AND CRYSTAL TO LINE TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. & Application & Primary Impedance & Secondary impedance & \(\pm 2 \mathrm{db}\) from \\
    \hline A-24 & Single plate to muitiple line & 15,000 ohms & \[
    \begin{aligned}
    & 50,125 / 150,200 / 250, \\
    & 333,500,600 \mathrm{ohms}
    \end{aligned}
    \] & \[
    20 \cdot 40,000
    \] \\
    \hline A. 25 & Single plate to multiple line y MA unbalanced D.C. & 15.000 ohms & \[
    \begin{aligned}
    & 50,125 / 150,200 / 250, \\
    & 333,500 / 600 \text { ohms }
    \end{aligned}
    \] & \[
    40 \cdot 20,000
    \] \\
    \hline A. 26 & Push pull \(\overline{1} 0 \bar{v}\) level plates to multiple line & 30,000 ohms plate to plate & \[
    \begin{aligned}
    & 50,125 / 150,200 / 250, \\
    & 333,500 / 600 \text { ohms }
    \end{aligned}
    \] & 20.40,000 \\
    \hline A.27 & Crystal microphone to multiple line & \(100,000 \mathrm{hms}\) & \[
    \begin{aligned}
    & 50,125 / 150,200 / 250, \\
    & 333,500 / 600 \text { ohms }
    \end{aligned}
    \] & 30-20,000 measured with non. inductive source \\
    \hline A.30 & Audio choke, 250 henrys 5 & A 6000 ohms D.C.. & enrys@ 10 MA 1500 & hms D.C. 450 henrys @ OMA \\
    \hline A. 32 & Finer choke 60 henrys 15 & MA 2000 ohms D.C., & entrys 30 MA 500 oh & ms D.C. \\
    \hline
    \end{tabular}
    

    \section*{OUNCER AUDIO UNITS}

    \section*{STANDARD AND PIUGIIM TYPES}

    UTC OUNCER components represent the acme in compact quality transformers. These inits, which weigh one nunce, are fully impregnated and sealed in a drawn aluminum housing \(7 / 8^{\prime \prime}\) diameter . . . mounting opposite terminal board.

    Ouncer items are ideal for portable broadcast, hearing aid, aircraft, concealed service, and similar applications. High fidelity characteristics are provided, uniform within approximately \(I D B\) from 30 to 20,000 cycles, except for \(0 \cdot 14,0 \cdot 15\), and units carrying \(D C\) which are intended for voice frequencies. Maximum level 0 DB.
    " \(P\) " series units are identical to the UTC OUNCER units but are sealed in bakelite housings with plug.in base to fit standard octal socket. While of submersion proof design, these units weigh but two ounces. Oversize pins in the base make it impossible to dislodge these units from their sockets.
    

    OUNCER CASE
    
    \begin{tabular}{|c|c|c|c|c|}
    \hline OUnc Type No. & ER Apdication & Prit Imp. & Ses. 1 mp. & Plug.in Typa No. \\
    \hline 0.1 & Mike, pickup or line to 1 grid & \[
    \begin{aligned}
    & 50,200 / 250 . \\
    & 500 / 600
    \end{aligned}
    \] & 50.000 & P. 1 \\
    \hline 0.2 & Mike, pickup or line to 2 grids & \[
    \begin{aligned}
    & 50,200 / 250 . \\
    & 500 / 600
    \end{aligned}
    \] & 50.000 & . 2 \\
    \hline 0.3 & Oynamic mike to 1 grid & 7.5/30 & 50,000 & P. 9 \\
    \hline 0.4 & Single plate to 1 grid & 15,000 & 60,000 & P. 4 \\
    \hline 0.5 & Single plate to 1 gric. o.C. in Pri. & 15.000 & 60.000 & P. 5 \\
    \hline 0.6 & Single plate to 2 grids & 15,000 & 95.000 & P. 6 \\
    \hline 0.7 & Single plate to 2 grids. D.C. in Pri. & 15.000 & 95,000 & P. 1 \\
    \hline 0.8 & Single plate to line & 15,000 & 50, 200/250, 500/600 & . 8 \\
    \hline 0.9 & Single plate to line. D.C. in Pri. & 15.000 & 50.200/250. 500/600 & P.9 \\
    \hline 0.10 & Push pull diates in line & 30.000 ohms plate to plate & 50. 200/250. 500/600 & P. 10 \\
    \hline 0.11 & \[
    \begin{aligned}
    & \text { Crystal mike or pick-up } \\
    & \text { to line }
    \end{aligned}
    \] & 50.000 & 50, 200/250. 500/500 & P. 11 \\
    \hline 0.12 & Mixing and matching & 50, 200/250 & 50, 200/250, \(50 n / 600\) & P.12 \\
    \hline \multirow[t]{2}{*}{0} & \multicolumn{3}{|l|}{Reactor, 300 Hys. - no O.C.: 50 Hys. -3 MA, O.C., 6000 ohms} & P. 13 \\
    \hline & \multicolumn{2}{|l|}{\(50: 1\) mike or line to \(1 \quad 200\) grid} & \(\underline{1 / 2}\) megohm & P. 11 \\
    \hline & 10:1 single plate to 1 & \[
    15.000
    \] & 1 megohm & P. 1 \\
    \hline 0.16 & Mike or line to grid & 250 C.T. 50,000 & \multicolumn{2}{|l|}{50.000} \\
    \hline \multicolumn{5}{|l|}{\multirow[t]{2}{*}{This transformer provides very low hum pickup . . . employs two heavy gauge hipermalloy shields plus orientable mounting. Primary centertap is balanced to \(1 \%\). Can be used for 150,200 . 250. 500. or 600 ohm sources . . 200:1 impedance ratio.}} \\
    \hline & & & & \\
    \hline
    \end{tabular}
    
    

    \section*{MICROPHONE CABLE TRANSFORMERS}

    UTC Cable transformers are designed to be inserted in the cable circuit, and are ruggedly constructed to with. stand mechanical abuse. The cable conmections (supplied less cable) are made thrnugh spring strain relicf to terminal boards inside the end caps. \(11 / 2^{\prime \prime}\) diameter . . . \(2 V_{2}\) " long ... \(V_{2} \mathrm{lb}\).
    Type MC-1-primary tapped \(30 / 50\) and \(200 / 250 \mathrm{ohms}\), secondary to grid, standard fidelity.
    Type MC-2-primary tapped \(30 / 50\) and \(200 / 250\) ohms, secondary to grid, high fidellty.

    \section*{hermetically sealed components}

    For over fifteen years UTC has been the largest supplier of transformer components for military applications, to customer specifications. Listed below are a number of types, to latest military specifications, which are now catalogued as UTC stock items.
    Terminals on items \(\mathrm{H} \cdot 20\) through \(\mathrm{H} \cdot 24\) are neoprene-ceramic assemblies. All other units employ glass bead headers, but can be supplied with neoprene-ceramic terminals where required. For printed circuit use, wire terminals on glass header units can be straightened out without injury. Straight wire terminals available on production orders.
    The frequency response ratings are based on military requirements. Actually, most of the units that do not carry \(D C\) are appreciably better in response than the range shown.
    The level ratings are maximum level for reasonable distortion at the lowest frequency specified. For higher frequencies considerably higher levels are permissible.
    The impedance ratings are listed in standard manner. Obviously, a transformer with a 15,000 ohm primary impedance can operate from a tube representing a source impedance of 7700 ohms, etc. In addition, transformers can be used for applications differing considerably from those shown, keeping in mind that impedance ratio is constant. Lower source impedance will improve response and level ratings . . . higher source impedance will reduce frequency range and level rating.

    \section*{MINIATURE AUDIO UNITS ... RCOF CASE}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Type \\
    No
    \end{tabular} & Appliczition & \[
    \begin{aligned}
    & \text { MIL } \\
    & \text { Type }
    \end{aligned}
    \] & Pri. Imp. ohms & Sec. Imp. Ohms & \[
    \begin{gathered}
    \text { OC in } \\
    \text { Pri, MA }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Response } \\
    & +2 \mathrm{db} \text { (Сyc.) }
    \end{aligned}
    \] & Mar, level dbm \\
    \hline H-1 & Thike, pickup, line to giod & TFIAloyy & \(50.200 \mathrm{CT}^{\text {. } 500 \mathrm{CT}}\). & 50.000 & - & 50-10.000 & + 5 \\
    \hline H-2 & Mike to grid & tFlaliyy & 82 & 135,000 & 50 & 250-8.000 & \(+21\) \\
    \hline H-3 & Single plate to single grid & TFIALSYY & 15,000 & 60.000 & 0 & 50-10.000 & \(+6\) \\
    \hline H-4 & Single plate to single grid, OC in Pri. & TFIALSYY & 15,000 & 60,000 & 4 & 200-10,000 & \(-1.14\) \\
    \hline H5 & Single plate to P P . grids & TFIAISYY & 15,000 & \(95,000 \mathrm{Ct}\) & 0 & 50.10,000 & \(+5\) \\
    \hline H. 6 & Single plate to P.P. grids. OC in Pri. & TFIATSYY & 15,000 & 95,000 split & 4 & 200.10,000 & \(+11\) \\
    \hline H-7 & Single or P.P. plates to line & IFIATSYY & \(20,000 \mathrm{Cr}\) & 150.600 & 4 & 200-10,000 & +21 \\
    \hline H. 8 & Mixing and matching & TFIALIGYY & \(150 / 600\) & 600 CT & 0 & 50-10,000 & +88 \\
    \hline H. 9 & \(82 / 41.1\) input 10 grid & TFIALOYY & 150.600 & 1 meg . & 0 & 200.3,000 (4 db.) & ) +10 \\
    \hline H. 10 & 10:1 single plate to single gid & TFIAISYY & 10,000 & 1 meg . & 0 & 200.3,000 (4 db.) & ) +10 \\
    \hline H.11 & Reactor & TFIA2OYY & 300 Henpies. 0 OC & 50 Henries & Ma & 6.000 hms . & \\
    \hline
    \end{tabular}
    

    AC. 25 CASE
    \begin{tabular}{|c|c|}
    \hline Length & 113.2" \\
    \hline Width & 8164 \\
    \hline Height & \(1 \% / 10^{\prime \prime}\) \\
    \hline Mounting (slot centers) & \(11 / 81017 / 82^{\circ}\) \\
    \hline Sutews & 4-40 FIL. \\
    \hline Cutcut & \(7{ }^{\text {\% Dia. }}\) \\
    \hline Unit We!ght & . ... 1.302. \\
    \hline
    \end{tabular}
    
    \begin{tabular}{|c|c|}
    \hline \multicolumn{2}{|r|}{RC-50 CASE} \\
    \hline Length & 15/8 \\
    \hline - width & ....... ....... 15/8 \\
    \hline Height & ..........25/16 \\
    \hline Mounting & 15/16 \\
    \hline Screws & \#6-32 \\
    \hline Cutout & \(11 / 2010\). \\
    \hline Unit Weight & 802. \\
    \hline
    \end{tabular}
    
    \begin{tabular}{|c|c|}
    \hline Length & 11/16 \\
    \hline Width & 1/2 \\
    \hline Height & 21/32 \\
    \hline Screw & 4-40 FIL. \\
    \hline Unit Weight & 802. \\
    \hline
    \end{tabular}

    \section*{HERMETICALLY SEALED \\ PULSE TRANSFORMERS}

    Because of the wide variety of blocking oscillator, interstage, and modulator pulse applications, the bulk of UTC pulse transformers are designed to customer's specifications. Through versatile design, however, the stock pulse transformers listed below take care of most low level applications. The units are hermetically sealed and tested to MIL-T-27 Specifications. Wide ranges of pulse duration, loading, and level are obtainable by variations in tha manner of connecting the balanced coil structure windings. An engineering sheet accompanies each unit, providing data for typical applications.
    The \(H-40\) and \(H-41\) units employ identical windings suitable for different applications because of the manner in which the windings are brought out to the terminals. These units have two windings for 250 ohm impedance, and two windings for 1,000 ohm impedance. Pulse widths from .1 to 5 microseconds are realized with excellent fidelity. At 5 microsecond operation the maximum working voltgges for the \(\mathrm{H}-40\) and H .41 are 175 volts peak for 250 ohms . . . 350 volts for 1,000 ohms. These voltages can be increased at lower pulse widths.
    H-42 and H-43 are highly miniaturized hermetically sealed....MIL-T-27 units. They incorporate threz equal windings capable of being inter-connected fog wide versatility in blocking oscillator, interstage, and impedance matching service. The wound Hipermalioy core is uncut to effect maximum efficiency. Peak working voltage is 175 voits per winding.
    

    MAGNETIC AMPLIFIERS FOR SERVO MOTOR APPLICATIONS
    

    FIG \({ }^{-2}\)
    GRIO GIRCUIT
    MODIFICATION FOR MODIFICATIO
    OG INPUT

    The MAT 1-4 Magnetic Amplifiers are exceptionally stable units designed for the control of 2 phase 400 cycle servo motors. They are compact . . . hermetically sealed . . . magnetically shielded . . . and meet MIL-T-27 and MiLL-E. 5400 Specifications. The output is sinusoidal, amplitude variable, and phase reversible. Control is provided by a dual triode such as a 12AU7operating with a plate voltage of 115 volts, 400 cycles, or higher. The signal to the triode grids can be polarity reversible \(D C\) or phase reversible 400 cycles with or without suppressed carrier modulation. These units eliminate \(O C\) power requirements as well as temperature sensitive dry disc rectifiers. The high input impedance provides minimum loading on sensing elements and high power gain. Ringing at low load level has been reduced to a minimum through high internal damping factors. The power output figures are conservative . . . power gain of the MAGNETIC STRUCTURE is approximately 40 . . response time aproximately 7.5 milliseconds. The maximum null voltage is 3 volts RMS. For single phase supply voltage the load capacitor should effect \(90^{\circ}\) phase shift with motor load . . . for 3 phase, \(30^{\circ}\) phase shift. The chart values shown are approximate.)

    For AC signal control the circuit of Figure 1 is employed. For DC signal control Figure 2 applies. Figure 3 shows the use of a power transformer (MAT-5) which provides higher plate voltages and eliminates the input transformer (MAT-6). The typical response curve of Figure 4 applies to all units, the larger units feeding heavier loads.
    

    F16*3
    PAFALLEL GRIOS-PUSH-PULL PLATES
    
    \begin{tabular}{|c|c|c|c|c|}
    \hline TYPE NO. & MAT.1 & MAT-2 & MAT-3 & MAT-4 \\
    \hline \multicolumn{5}{|l|}{230 Volt Supply.} \\
    \hline Power output & 4 W. & 8 W. & 11 W. & 18 W. \\
    \hline RL, ohms & 3300 & 1600 & 1200 & 720 \\
    \hline CL, mid. & 2 & . 3 & . 5 & . 7 \\
    \hline \multicolumn{5}{|l|}{115 Volt Supply.} \\
    \hline Power output & 2 W. & 4 W. & 6 W. & 9 W. \\
    \hline RL, ohms & 6500 & 3300 & 2200 & 1450 \\
    \hline \(\overline{\mathrm{C}}\), mifd. & . 13 & 2 & . 3 & . 45 \\
    \hline Reson. Freq. & 40 cyc. & 35 cyc . & 35 cyc. & 20 cyc. \\
    \hline Log-Decr. & . 18 & . 23 & . 03 & . 65 \\
    \hline Cont. Wdg. Res. & 6200 ohms & 8450 ohms & 4750 ohms & 5650 ohns \\
    \hline \multicolumn{5}{|l|}{Case} \\
    \hline Length, In. & \(11 / 4\) & \(11 / 2\) & 17/4 & 21/8 \\
    \hline Width. In. & 115/15 & 21/9 & 21/2 & 34/8 \\
    \hline Height, In. & 25/16 & \(23 / 4\) & 215/18 & 31/8 \\
    \hline Mtg. Dim., In. & \(13 / 16 \times 14 / 2\) & \(1 \times 15 / 8\) & \(11 / 8 \times 17 / 2\) & 12/2 \(\times 21 / 2\) \\
    \hline Screws & 4.40 & 6.32 & 8.32 & 8-32 \\
    \hline Cutout, in. & 1 & 1 & 1 & 1 \\
    \hline Unit Weight, ios & . 67 & 1.1 & 1.7 & 2.75 \\
    \hline
    \end{tabular}

    MAT-5 115 V .400 CyC 10460 VCT, provides 230 V .48 MA DC or 460 V. 24 MA DC. RC. 37 Case. \(13 / 6 \times 13 / 8 \times 15 / 9 \ldots 1 / 8 \mathrm{mtg}\) holes 24 Ma DC. RC-31 Case.
    mar-s Input \(j_{j}\). 10,000 ohms pri. . . . 1:15 C.I. ratio ... phase shift under iv...RCOF case.

    \section*{NEW "M" TYPE TOROIDS \\ AXIMUM 0 \\ II inimum size}

    UTC Permalloy Dust Toroids have been the standard of the industry for over 15 years. The MQ series of colls provide the highest \(Q\) factor in their class (see curves below), with miniaturized dimensions. All units are hermetically sealed to MIL.T-27 Specifications.

    The stability is excellent. For the MQE-7 the inductance change is less than \(1 \%\) for voltages from .1 to 3 volts The MQA-13 change is less than \(1 \%\) for applied voltages from 11 to 20 volts. The MQB-5 change is less than \(1 \%\) for applied voltages from 1 to 50 volts. DC is permissible through the coil (values listed below). Inductance is virtually independent of frequency temperature and vibration.

    Hum pickup is extremely low due to the toroidal winding structure, with windings uniformly spread over the core. The case is of high permeability, affording additional shielding such that close spacing of units can be effected, the coupling attenuation being approximately 80 DB.

    Other values of inductance than those listed are available on special order at the price of the next higher listed value.

    \section*{IYPICAL Q CURVES}
    
    
    
    
    
    
    
    
    
    
    
    

    \section*{MOE TYPES}
    \begin{tabular}{|c|c|c|c|}
    \hline Type No. & \multicolumn{2}{|l|}{inductance} & - DC Man. \\
    \hline MaE-1 & 7 & mhy, & 135 \\
    \hline MaE. 2 & 12 & mhy. & 100 \\
    \hline MaE 3 & 20 & mhy, & 80 \\
    \hline MaE-4 & 30 & mhy. & 65 \\
    \hline MaE. 5 & 50 & mhy, & 50 \\
    \hline MaE. 6 & 70 & mhy, & 40 \\
    \hline MaE. 7 & 100 & mhy. & 35 \\
    \hline MaE-8 & 150 & mhy. & 30 \\
    \hline MaE.9 & 25 & hy. & 22 \\
    \hline MaE 10 & 4 & hy. & 17 \\
    \hline MaE-11 & 6 & hy. & 14 \\
    \hline MaE. 12 & . 9 & hy. & 12 \\
    \hline MaE. 13 & 1.5 & hy. & 9 \\
    \hline MaE-14 & 2 & hy. & 8 \\
    \hline maE. 15 & 2.8 & hy. & 7.2 \\
    \hline
    \end{tabular}
    -This value on D.C. (MA) will droo the coil inductance \(5 \%\). Values of D.C. below this will show proportionately (linear) tess inductance dran. Ber example. MOE. 1 will drop \(3 / 2 \%\) in I with 13.5 MA .
    mQA types
    \begin{tabular}{|c|c|c|c|}
    \hline Type No. & \multicolumn{2}{|l|}{Inductance} & - DC Mar. \\
    \hline Man. 1 & 7 & mhy. & 250 \\
    \hline Man. 2 & 12 & mhy. & 200 \\
    \hline Man-3 & 20 & mhy, & 150 \\
    \hline Man-4 & 30 & mhy. & 125 \\
    \hline MQA.5 & 50 & mhy, & 100 \\
    \hline MQA. 6 & 70 & mhy. & 80 \\
    \hline MQA.7 & 120 & mhy, & 60 \\
    \hline man-8 & . 2 & hy. & 50 \\
    \hline MQA.9 & . 3 & hy. & 40 \\
    \hline man. 10 & . 5 & hy. & 30 \\
    \hline Man-11 & . 7 & hy. & 25 \\
    \hline MaA-12 & 1 & hy, & 20 \\
    \hline MeA- 13 & 1.5 & hy. & 17 \\
    \hline men-14 & 2.5 & hy. & 13 \\
    \hline Mom-15 & 4 & hy. & 10 \\
    \hline man. 16 & 6 & hy. & 9 \\
    \hline Moa-17 & 10 & hy, & 7 \\
    \hline man.18 & 15 & hy. & 5 \\
    \hline mon. 19 & 22 & hy, & 4 \\
    \hline
    \end{tabular}

    MQB TYPES
    \begin{tabular}{|c|c|c|c|}
    \hline Type Me. & \multicolumn{2}{|l|}{Inductance} & - OC Mar. \\
    \hline mas. 1 & 10 & mhy. & 400 \\
    \hline MOB-2 & 30 & mhy. & 250 \\
    \hline Mas-3 & 70 & mhy. & 170 \\
    \hline Ma| 4 & 120 & mhy. & 120 \\
    \hline Mab-5 & .5 & hy. & 60 \\
    \hline MQB-6 & 1 & hy, & 40 \\
    \hline meb-7 & 2 & hy. & 30 \\
    \hline Mas-8 & 3.5 & hy. & 22 \\
    \hline mes.9 & 7.5 & hy. & 16 \\
    \hline MOB-10 & 12 & hy, & 11 \\
    \hline MQB-11 & 18 & hy. & 9 \\
    \hline MQE-12 & 25 & hy. & 8 \\
    \hline
    \end{tabular}
    
    mQE CASE
    \begin{tabular}{|c|c|}
    \hline Length & \({ }_{6}{ }^{\prime \prime}\) \\
    \hline Width & \%' \\
    \hline Height & 1/32" \\
    \hline Mounting & 3/4" \\
    \hline Screws & 4/40" \\
    \hline Cutout & \(316{ }^{\prime \prime} \times 1 /{ }^{\text {c* }}\) \\
    \hline Unit Weight & 1.502. \\
    \hline
    \end{tabular}
    
    moa case
    \begin{tabular}{|c|c|}
    \hline Length & \(18 / 32^{\prime \prime}\) \\
    \hline Width & 110 \\
    \hline Height & \(12372{ }^{\prime \prime}\) \\
    \hline Mounting &  \\
    \hline Screws & 4/40 \({ }^{\prime \prime}\) \\
    \hline Cutout & Ko" \(\times 1 / 1{ }^{\prime \prime}\) \\
    \hline Unit Weigh & 402. \\
    \hline
    \end{tabular}
    mab case
    \begin{tabular}{|c|c|}
    \hline Length & 2\%\%" \\
    \hline Width & 13 ke \\
    \hline Height & 213, 36 \\
    \hline Mounting & 21/10 \({ }^{\prime \prime} 11 / 10^{\prime \prime}\) \\
    \hline Screws & 6/32" \\
    \hline Cutout & \(7 / 8^{\prime \prime} \times 1 / 2^{\prime \prime}\) \\
    \hline Unit Weight & 1402. \\
    \hline
    \end{tabular}

    VARIABLE INDUCTORS
    
    
    
    
    
    
    
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type & Mean Hys. & \[
    \begin{aligned}
    & D C \\
    & M A *
    \end{aligned}
    \] & Type & Mean Hys. & \[
    \xrightarrow{\text { MA }}
    \] \\
    \hline VIC. 1 & . 0085 & 75 & VIC-12 & 1.3 & 10 \\
    \hline VIC. 2 & . 013 & 60 & VIC. 13 & 2.2 & 8 \\
    \hline Vic. 3 & . 021 & 50 & VIC. 14 & 3.4 & 7 \\
    \hline VIC-4 & . 034 & 40 & VIC-15 & 5.4 & 6 \\
    \hline VIC. 5 & . 053 & 35 & VIC-16 & 8.5 & 5 \\
    \hline Vic-6 & . 084 & 30 & VIC-17 & 13. & 4 \\
    \hline VIC-7 & . 13 & 25 & VIC.18 & 21. & 3.5 \\
    \hline VIC-8 & . 21 & 21 & VIC-19 & 33. & 3 \\
    \hline VIC.9 & . 34 & 18 & VIC-20 & 52. & 2 \\
    \hline VIC-10 & . 54 & 15 & VIC-21 & 83. & 1.5 \\
    \hline VIC-11 & . 85 & 12 & VIC-22 & 130. & 1 \\
    \hline
    \end{tabular}

    UTC type VIC variable inductors offer a revolutionary approach to the problem of tuned audio circuite. By adjusting a set screw in the side of the case, an inductance value of \(+85 \%,-45 \%\) from mean value is obtainable. Setting is positive, Effective \(Q\) for a wide frequency range and variation of inductance with applied \(A C\) voltage are shown on the illustrated curves, for a typical VIC unit.

    The VIC inductor is housed in a rugged die cast case \(1^{11 / 22^{\prime \prime}}\) long, \(11 / 4\) " wide and \(11 / 14^{\prime \prime}\) high with mounting centers on terminal board side \(11 / 10^{\prime \prime}\) by \({ }^{2} \% / 12^{\prime \prime}\) : Weight is \(51 / 202\).
    
    -DC MA shown is maximum recommended... wilt effect some reduction in inductance ond \(Q\).

    \section*{UTC HERMETIC VARIABLE INDUCTORS}
    \begin{tabular}{ccccc}
    \begin{tabular}{c} 
    TYPE \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    Min. \\
    Hys.
    \end{tabular} & \begin{tabular}{c} 
    Mean \\
    Hys.
    \end{tabular} & \begin{tabular}{c} 
    Max. \\
    Hys.
    \end{tabular} & \begin{tabular}{c} 
    DC \\
    Ma
    \end{tabular} \\
    \hline HVC-1 & .002 & .006 & .025 & 100 \\
    \hline HVC-2 & .005 & .015 & .06 & 60 \\
    \hline HVC-3 & .011 & .040 & .15 & 40 \\
    \hline HVC.4 & .03 & .1 & .4 & 30 \\
    \hline HVC.5 & .07 & .25 & 1.0 & 20 \\
    \hline HVC-5 & .2 & .6 & 2.5 & 15 \\
    \hline HVC.7 & .5 & 1.5 & 6.0 & 10 \\
    \hline HVC-8 & 1.1 & 4.0 & 15 & 7 \\
    \hline HVC-9 & 3.0 & 10 & 40 & 5 \\
    \hline HVC-10 & 7.0 & 25 & 100 & 3.5 \\
    \hline HVC-11 & 20 & 60 & 250 & 2 \\
    \hline HVC. 12 & 50 & 150 & 600 & 1.5 \\
    \hline
    \end{tabular}

    UTC variable inductors have served as the ideal solution to many filter, oscillator, equalizer, and tuned am. lifier problems-for over a decade. Extended development has now made possible the new HVC series of inductors with improved characteristics. They are hermetically sealed to MIL-T-27 specs . . . extremely com. pact . . . wider inductance range . . . higher Q's . . . lower and higher frequencies... superior voltage and temperature stability.

    Adjustment of set screw in top of case permits chang. ing inductance \(+300 \%+0-70 \%\) of nominal value shown. Setting is positive. Effective \(\mathbf{Q}\) for a wide fre. quency range and variation of inductance with applied AC voltage are shown on the illustrated curves, for a typical HVC unit. Case dimensions are \(14 / 8\) long, \(2 / / 3\) : wide \(1^{1 / 1 / 2 "}\) high. The two terminals and two \(4 / 40 \mathrm{mo}-\) unting studs are on opposite diagonals- \(1 \% 10\) spacing.
    
    

    \section*{LOW FREQUENCY HIGH Q COILS}

    Permalloy dust toroids are not suited to providing high \(Q\) at low frequencies. The MOL series of laminated Hipermalloy coils were specifically designed for this class of service. The unique structure employed provides exceptional \(Q\) and stability. Inductance values are laboratory adjusted to \(2 \%\) tolerance at 1 volt, 60 cycles. Stability with voltage is excellent, for MQL-3 inductance variation is less than \(1 \%\) from . 1 V . to 1 V. 60 cycles. Temperature stability is exceptional, total inductance swing being less than \(3.5 \%\) for the wide range of \(-55^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\). A hum reducing lamination structure plus heavy Hipermalloy shielding provide very low hum pickup . . . 240 microvolts/gauss for MQL. 3 series connected. Two identical windings brought out to four terminals permit series, paraliel, center tapped, or transformer type connections.
    
    
    
    mal case
    \begin{tabular}{|c|c|}
    \hline Base &  \\
    \hline Helght & 21/2 \\
    \hline Mounting & \(11 / 2 \times 11 / 2\) \\
    \hline Screws & \#6.32 \\
    \hline Cutout & \(11 / 2 \mathrm{Dia}\). \\
    \hline Unit Weight & \(\ldots . .1 \mathrm{tb}\). \\
    \hline
    \end{tabular}
    \begin{tabular}{ccc}
    \begin{tabular}{c} 
    Type \\
    Ho.
    \end{tabular} & \begin{tabular}{c} 
    Series \\
    Henrles
    \end{tabular} & \begin{tabular}{c} 
    Paralial \\
    Hearies
    \end{tabular} \\
    \hline MaL-1 & 10 & 2.5 \\
    \hline MaL-2 & 20 & 5 \\
    \hline MaL-3 & 200 & 50 \\
    \hline MaL.4 & 400 & 100 \\
    \hline
    \end{tabular}

    \section*{HIGH Q PRECISION INDUCTANCE DECADES}

    UTC DI inductance decades are invaluable instruments for design and experimental work with tuned circuits, wave filters, and equalizers. They set new standards of Q, stability, frequency range, and convenience. The low hum pickup toroid coits employ a new permalloy dust core which, combined with special winding methods, provides very high \(Q\), excellent voltage and temperature stability, and high self resonance frequency. The switch employed is a new low capacity type which lab tests have proven for low contact resistance after 100,000 operations. The inductance values are laboratory adjusted to better than \(1 \%\) precision.
    BI inductance decades are housed in a compact, rugged, die cast case with control on a sloping panel, ideally suiting these units to laboratory use. Ganging panels are available for mounting two, three, or four decades together. It is merely necessary to unscrew the four rubber feet at bottom of decade to attach to panel.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type & Induct. Menries & 0ptimum Range & Max. & Max. ACMA & Ins. Test Volts RMS \\
    \hline 01.1 & \(10 \times .01\) & 2.60 KC & 200 & 500 & 500 \\
    \hline 01.2 & \(10 \times 1\) & . \(25 \cdot 20 \mathrm{KC}\) & 200 & 150 & 500 \\
    \hline 01.3 & \(10 \times 1\) & .25-10 KC & 200 & 50 & 500 \\
    \hline 01.4 & \(10 \times 10\) & .2-1.5 KC & 100 & 15 & 500 \\
    \hline
    \end{tabular}
    
    
    
    

    \section*{INTERSTAGE AND LINE FILTERS}
    
    
    

    STOCK FREQUENCIES
    (Number after lotters is frequency)
    \begin{tabular}{|c|c|}
    \hline BMI.60 & LMI. 2000 \\
    \hline 8M1-100 & LM1.2500 \\
    \hline BMI. 120 & LMI. 3000 \\
    \hline BM1.400 & LM1.5000 \\
    \hline 8M1.500 & [M1-10000 \\
    \hline BMIT.750 & HML-200 \\
    \hline BMI-1000 & HML. 500 \\
    \hline BM1. 1500 & HML- 1000 \\
    \hline BMI. 3000 & BML-400 \\
    \hline BMI-10000 & BML-1000 \\
    \hline HM1. 200 & LML. 1000 \\
    \hline HM1.500 & LML-2000 \\
    \hline HM1. 1000 & LML. 2500 \\
    \hline HM1-3000 & LML-4000 \\
    \hline LM1.200 & LML-8000 \\
    \hline LMI. 500 & LML. 10000 \\
    \hline LM1.1000 & LML.t2000 \\
    \hline
    \end{tabular}

    UTC standardized filters have been designed to take care of many present day filter requirements through stock units. The interstage type filters have a nominal impedance of 10,000 ohms, and lend themselves to effecting gain simul. taneously with their frequency discrimination.
    BMI units (Band Pass) have \(2: 1\) gain. They are sharply peaked, having approximately 2 DB attenuation at plus or minus \(3 \%\) from center frequency and attentuation of 40 DB per octave as shown. Input 10,000 ohms, output to grid. HMI units (High Pass) have a loss of less than 6 DB at cutoff frequency, and an attenuation of 35 DB at .67 cutoff frequency. Input and output 10,000 ohms.
    LMI units (Low Pass) have a loss of less than 6 DB at cutoff frequency, and an attenuation of 3508 at 1.5 cutoff frequency. tnput and output 10,000 ohms. HML (High Pass), and LML (Low Pass) filters are simifar to the interstage filters, in all characteristics, except that they are intended for an input and output impedance of \(500 / 600\) ohms. 8NL (Band Pass) have input of \(500 / 600\) ohms, output to grid.
    All of the standard filters are housed in hermetically sealed cases, shielded to reduce hum pickup to 150 MV per gauss at 60 cycles.
    In addition to the stock filters listed, any of the six types are available as special units for any frequency from 100 to 12,000 cycles. Order by type followed by frequency, as LMI-2500, designating low pass interstage filter-2500 cycles cutoff frequency. These special units are priced at \(\$ 35.00\) net.
    

    FILTER CASE M

    \section*{Base} (11/10" \(\times 1\) 11/6" Mtg. ...................3/4 \(\times 11 / 4\) " Mtg. Screws …...........................32 Cutout … .....................7/. dia. Height, BMI, LMI, BML …......154. Height, HMI, HML, LML ..........21/2** Weight ................ oz and 902.

    \section*{BROADCAST AND RECORDING EQUALIZERS AND FILTERS \\ 500/600 onms}
    

    \section*{3AX UNIVERSALEQUALIZER}

    The universal eharacteristics of the UTC 3 MX equalizer have made it the most popular item for broadcast and pecording equalization. Thls unlque unit, with which most communications engineers are olfeady famillar. Is an accurately caltbrated, quickily adjustable, comblned low and high trequency equalizer. The low trequency controls lnclude a switch for adjusting the maximum equalization frequency to 25,50 , or 100 cycles and a calibrated T -pad for exact adjustment of the amount of equalization. The high frequency portlon of this unit lincludes a switeh to set maximum equalization point at \(4000,6000,8000,10,000\) or 15,000 cycles, and a simltar callbrated control reading directly in O8. Equallzation up to 25 ol avaliable at any frequency selected.
    

    Ihrough unique arrangement of compensating pads, changes in adjustment of the \(3 A x\) equalizer do not affect the apparent aural level. This permits changes in tone color, with negligible change in volume. Where rapld changeover Is roqulred in service from one line to another, or from recording to play back, it is merely necessary to predetermine the required setting. The actual adjustment of the controls can be taken care of almost instantaneously. The constructlon is of the depressed chassls, etched panel, rack mount troe. Thoroughly shielded against inductive pickup with UTC Trlalioy Shielding. Dimensions of Danel \(342^{*} \times 19^{\prime \prime}\). Depth \(7 \operatorname{lig}^{\prime \prime}\) weight 15 los.

    \section*{3A UNIVERSAL EQUALIZER}

    The \(\mathbf{3 A}\) equalizer is Identical to the \(3 A x\) described above, except that it coes not incorporate the compensating pads for constant insertion loss. The Insertion loss is roughty proportional to the amount of equalization employed. All other characteristics Identical with the \(3 A X\) unit, this item weighs 10 los.

    \section*{4C SOUND EFFECTS FILTER}

    The use of filters to obtain unusual sound effects is now finding wide application in broacast technique. The Model 40 filter was ofiginally developed for one of the large broadcasting chains, and is now used extensively by most broadcast statlons. Two controls are provided by the \(54 / 4 \times 19^{\prime \prime}\) panel, which is similar in appearance to the \(3 A x\) unit. The welght of the 4 C unit is 20 los.

    The low pass switen can be set for cutoff frequencies of 100, 250, 500, 1000, 2000, 3000, 4000, or 5000 cycles. The high pass switch has identical frequency points. The great number of cutoff frequencies provides for a wide latitude of tone control. If desired, though not normally necessary, external potentiometers may be Inserted In the circuit for attenuation control.

    \section*{COMMERCIAL GRADE COMPONENTS}

    \begin{abstract}
    The commercial grade series of transformers incorporate conservative design and rugged construction to assure dependability under continuous service
    \end{abstract}
     operation in industrial and commercial grade communication equipment. These units are mounted in uniform drawn cases finished in light grey enamel, and intended for chassis mounting. All items are poured with special sealing compound in addition to vacuum impregnation of coll structures. Type numbers are identical with the PA units except for the prefix "CG."
    CG-134. 135 and 136 are of the hum-bucking type to assure low tum prek.up. All audio components are linear. \(=11,2\) DB from 40 to 10,000 cycles tno unbalanced D.C.), except CVL and CVM units . . . 40 to 6000 cycles. Parallel feed low level interstage units with 50.000 ohms and .25 mld .200 ohm windings on input Iransformers are balanced and may be usec for 150 to 250 nhm circuits.

    INPUT, INTERSTAGE, MIXING AND LOW LEVEL OUTPUT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. & Application & Primary Impedance Ohms & Secondary Impedance Chms & Case No. \\
    \hline CG-131 & 1 plate 101 grid & 15,000 & \(135.000{ }^{-1} 3.1\) ratı0 & RC-50 \\
    \hline CG-132 & 1 plate to 2 grias & 15,000 & 135.000 centertapped 3.1 ratio overall & RC. 62 \\
    \hline CG-133 & 2 plates to 2 grids & 30.000 P 10 P & \begin{tabular}{l}
    80.000 overatl \\
    161 ratio overall
    \end{tabular} & RC. 75 \\
    \hline CG-134 & line to 1 grid hum. bucking & 50,200,500 & -80.000 & RC-50 \\
    \hline CG-135 & Line to 2 grids hum bucking & 50, 200, 500 & 120,000 overall & RC-50 \\
    \hline CG-235 & Line to or 2 grids. hum-bucking; multi. ple alloy shielded for low hum pickup & \[
    \begin{aligned}
    & 50.200 .500 \\
    & 0 \mathrm{hms}
    \end{aligned}
    \] & 80.000 cuerall & RC. 75 \\
    \hline CG-136 & Single plate and low impedance mike or line to 1 or 2 grids hum-buching & 15,000, 50, 200 & 80.000 overall & RC-62 \\
    \hline \(\overline{\text { CG-233 }}\) & PP 6C5, 12AU7, sim. ilar triodes to AB 45's, 2A3's, 6L6's. etc. & 30.000 P 10 P & \begin{tabular}{l}
    25.000 overall \\
    91 ratio overall
    \end{tabular} & \(\mathrm{RC-87}\) \\
    \hline CG-333 & PP 6C5. 12AU7, similar triodes 10 fixed bias 6L6's & \(30.000 \mathrm{P}^{+} 10^{-} \mathrm{P}\) & 5.000 overall . \(4: 1\) ratio overall & RC-87 \\
    \hline CG-433 & PP 45. 2A3. similar tubes to fixed bias 2 or 4616 s & \(5,000 \mathrm{P} 10 \mathrm{P}\) & 1.250 overall .51 ratio overall & RC-100 \\
    \hline CG-137 & Mixing & 50, 200, 500 & 50, 200,500 & RC-50 \\
    \hline CG-140 & Triode plate to line & 15.000 & 50. 200, 500 & RC. 50 \\
    \hline CG-141 & PP triode plates to line & 30.000 P 10 P & 50, 200. 500 & RC-50 \\
    \hline \multicolumn{5}{|l|}{\multirow[t]{6}{*}{}} \\
    \hline & & & & \\
    \hline & & & & \\
    \hline & & & & \\
    \hline & & & & \\
    \hline & & & & \\
    \hline
    \end{tabular}

    \section*{NEW UNIVERSAL INTERSTAGE EQUALIZER-CGE-1A}

    The UTC CGE-1A is the ideal device for any application where frequency response control is desired. Incorporating the latest deveiopments in design and manufaciure, this new unit provides the ultimate in control and flexibility. This equalizer is not a simple R-C tone control, but employs resonant circuits in a unique arrangement providing equalization characteristics unobtainable by conventional circuits. Designed to work from a low or medium impedance source (0 to 20,000 ohms) to a high impedance ( 500,000 ohms or open grid), the CGE-1A affords continuously variable equalization over a 30 DB range at either end of the spectrum, while introducing only 18 DB total insertion loss. (See curve above). Complete independence of high frequency and low frequency contrals permits a wide variety of settings without affecting the over-all volume level. Because of its low insertion loss, this unit may be incorporated directly in many amplifiers. If existent gain is low, a single medium-mu triode stage will provide both proper gain and source impedance. The mechanical construction permits mounting with case on panel directly behind controls, or with case separated from controls and panel. An etched, calibrated panel is provided.
    CGE-1A Panel Dim. 23/8" \(\times 31 / 2^{\prime \prime} \times 21 / 2^{\prime \prime}\) deep. Wt. 2 lbs.
    DYNAMIC NOISE SUPPRESSION INOUCTOR
    Incorporates two accurate High a coils \([8\) hy. and 2.4 hy. . for use in dynamic noise suppression circuits. Excellent circuit accompanies unit.
    suppression
    Typen Cc-so

    COMMERCIAL GRADE CASE
    

    \section*{OUTPUT TRANSFORMERS}

    Secondary Impedances: \(500,200,16,8,5,3,1.5\) ohms
    \begin{tabular}{|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & Imped. P. P. Ohms, Overall & Typical Tubes & Max. Watts & Case No. \\
    \hline CG-15 & 8,000 & 6F6 triode, 6V6 & 20 & AC-100 \\
    \hline CG-15 & \(3.000,5.000\) & 2AB3, 6B4, 6AS7 G, 6L6, 6080 & 20 & RC. 100 \\
    \hline CG.19 & \(6.00010,000\) & 6V6, Triode: 6l6, 5881 & 20 & RC-100 \\
    \hline CG. 710 & 14.000, 20.000 & \(6 \times 6,785,6 A K 6\) & 20 & RC. 100 \\
    \hline CG-216 & 9,000 & \(6\left[6{ }^{\circ} 5, A B 1,5881\right.\) & 30 & RC-125 \\
    \hline CG-4L6 & \(3,8004.500\) & \[
    \begin{aligned}
    & 2.6 L 6 \text { 's, AB2 or } 4.6 \mathrm{~L} 6^{\circ} \mathrm{s} \text { AB1, } \\
    & 6146,6149
    \end{aligned}
    \] & 55 & RC-150 \\
    \hline
    \end{tabular}

    \section*{CG VARIMATCH OUTPUTS FOR P. A.}

    Universal units designed to match any tubes within the rated output power, to line or voice coil. Output impedance \(500,200,50,16,8,5,3.2 .5\) ohms Primary im pedance \(3000,5000,6000,7000,8000,10,000,14,000\) ohms.
    \begin{tabular}{|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. } \\
    & \hline
    \end{aligned}
    \] & Audio Watts & Typical Tubes & Case No, \\
    \hline CVP.1 & 12 & 2A3, 25L6, 6V6, 6B4G, 6AC5 & RC. 100 \\
    \hline CVP-2 & 30 & 2A3, 6L6, 6V6, 807, 5881, 684G & SC-125 \\
    \hline CVP-3 & 60 & 3008's. 6L6's, 801, 807, 1614, 5881, 1625 & RC. 150 \\
    \hline CVP-4 & 125 & 807's, 4-6L6's, 845's, 4-1614's, 6146, 6149 & RC-152 \\
    \hline CVP-5 & 300 & \(211,242 A \cdot \mathrm{~S}, 203 \mathrm{~A}\) 's, 838's, 4-845's, ZB-120's & RC-175 \\
    \hline
    \end{tabular}

    \section*{CG VARIMATCH LINE}

    \section*{TO VOICE COIL TRANSFORMERS}

    The UTC VARIMATCH line to voice coil iransformers will match any voice coil or group of voice coils to a 500 ohm line. More than 50 voice coil combinations can be obtained, as follows:
    \[
    \begin{aligned}
    & \text { ows: } \\
    & .2,4, .5,-62,1,1.25,1.5,2,2.5,3,3.3,3.8,4,4.5, \\
    & 5,5.5,6,6.25,6.6,7,7.5,8,9,10,1,12,14,15, \\
    & 16,18,20,25,28,30.31,40,47,50,63,69,75 .
    \end{aligned}
    \]

    Where speakers are to be connected in groups to one transformer, it is preferable that parallel connection be used to eliminate the possibility of multiple resonance pedance speaker wili develop greater power. If connected in sefies, the higher impedance speaker will develop greater power.
    \begin{tabular}{ccccc}
    \begin{tabular}{c} 
    Type \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    Audio \\
    Watts
    \end{tabular} & \begin{tabular}{c} 
    Primary \\
    Impedance
    \end{tabular} & \begin{tabular}{c} 
    Secondary \\
    Impedance
    \end{tabular} & \begin{tabular}{c} 
    Case \\
    NO.
    \end{tabular} \\
    \hline CVL-1 & 15 & 500 ohms & .2 to 75 ohms & RC-87 \\
    \hline CVL-2 & 40 & 500 ohms & .2 to 75 ohms & R-125 \\
    \hline CVL-3 & 75 & 500 ohms & .2 to 75 ohms & RC-150
    \end{tabular}

    \section*{CG VARIMATCH LINE AUTOFORMERS}

    UTC Varimatch Line Autoformer will match one to ten 500 ohm lines or CVL windings to the 500 ohm output of an audio amplifier. The cV.-10 autoformer has impedances of \(500,250,167,125,100,83,71,62,50\) ohms
    \(\frac{\text { Type Mo. }}{\text { CVL-10 }}\)
    CVL.10
    15
    Case Mo
    \(\frac{\text { Case No. }}{\text { HC- }}\)

    \title{
    COMMERCIAL GRADE COMPONENTS
    }

    UTC CG power transformers, Varimatch units and chokes are designed to A.I.E.E. commercial standards. Ratings are conservative for continuous duty. Designs provide temperature rise less than 55 degrees \(C\). Units are tested for breakdown at twice maximum working voltage plus 1000 volts. Plate trans. formers are given a surge test of \(250 \%\) normal voltage at 200 cycles. All items are vacuum impregnated and sealed with special insulating compound. The conservative design and manufacturing procedure of these units make them suitable for virtually all types of commercial equipment as well as ideally suited for quality amateur and public address service.

    \section*{CG PLATE TRANSFORMERS}

    Primaries for 105, 115, 220, 230 volts, \(50 / 60\) cycles. For reduced power. seconoary voltages can be reduced to half by using 220 V . Pri. on 110 volts. These transformers may be used on 25 to 43 cycles if 220 V . Prt. is used on 110 volts. Secondary voltage
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. & High Voltage & OC voltage & \[
    \begin{aligned}
    & D C \\
    & M A
    \end{aligned}
    \] & Case No. \\
    \hline CG. 300 & 625.515-0.515-625 & 500/400 & 200 & RC. 150 \\
    \hline C6. 301 & \(580 \cdot 530 \cdot 300 \cdot 0 \cdot 300 \cdot 530 \cdot 580\) & \(475425 \quad 250\) & 420 & RC. 152 \\
    \hline CG. 302 & 950.750-0.750.950 & 760610 & 360 & RC. 175 \\
    \hline C6.303 & 1500.1235-400.0-400.1235.1500 & \[
    \begin{aligned}
    & 12501000 \\
    & 300
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 260^{\circ} \\
    & 175
    \end{aligned}
    \] & RC. 175 \\
    \hline
    \end{tabular}

    300 MA , if used without load on low voltage winding.
    TYPE EC CASE UNITS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. & \begin{tabular}{l}
    Max. \\
    Audio Watts
    \end{tabular} & Max. Class C input & Typical Modulator Tubes & Case No. \\
    \hline CVM. 0 & 12 & 25 & 2A3.685G & RC. 100 \\
    \hline CVM. 1 & 30 & 60 & 6V6, 2A3, 6L6, 807, 5881 & RC-125 \\
    \hline CVM-2 & 60 & 125 & 801, 6L6, 809, 4.46, T-20, 1608, 6146. 6149 & RC-150 \\
    \hline CVM. 3 & 125 & 250 & 800, 807, 845, TZ. 20, RK. \(30,35 \cdot \mathrm{~T}\) & RC. 152 \\
    \hline CVM.4 & 300 & 600 & 50.T, 203A, 805, 838, T.55, 28.120 & RC-175 \\
    \hline CVM-5 & 600 & 1200 & 805, HF.300, 204A, HK. \(354,250 \mathrm{TH}\) & \[
    \begin{aligned}
    & 7 \times 12 \times 9 H \\
    & 60 \mathrm{los} .
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    CG VARIMATCH DRIVER TRANSFORMERS
    \begin{tabular}{|c|c|c|c|}
    \hline Type No. & Primary & Typical Output Tubes & Case No. \\
    \hline C6.51AX & All single tubes like: 6C5, 6C4, 12AU7, 45, 2A3 & \[
    24 \overline{3,45}, 616
    \] & RC. 87 \\
    \hline c6.53AX & \[
    P \text {. P. tube like: } 45,2 \mathrm{~A} 3
    \]
    \[
    6 L 6,684
    \] & \(46,4.46,84 \overline{4}, 210,801\),
    RK. \(18,800,203 \mathrm{~A}, 838,805\),
    \(50 \mathrm{~T}, 8308\) & RC-112 \\
    \hline C6.59AX & 50, 200, 500 ohm line & \[
    \begin{aligned}
    & 805,838,203 \mathrm{~A}, \quad 28 \cdot 120 . \\
    & 100 \mathrm{TH}, 800,55 \mathrm{~T},
    \end{aligned}
    \] & RC. 112 \\
    \hline CC. \(238 A X\) & \[
    \begin{aligned}
    & 4.2 A 3,4.45, \\
    & 2.845
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 4.805 \text { 's, } 4.838 \text { 's, } 4.203 \mathrm{~A} \text { 's. } \\
    & 2.204 \text { 's, } 2.849 \text { 's, } 2 \cdot \mathrm{HF} 300 \mathrm{~s}, \\
    & 2-\mathrm{HF} 200 \mathrm{~s}, 2.250 \mathrm{TH} \text { 's, } \\
    & 2.450 \mathrm{TH} \text { 's }
    \end{aligned}
    \] & RC. 150 \\
    \hline CG. 512 & 50, 200, 500 ohm lirle & \begin{tabular}{l}
    \(2.250 \mathrm{TH}_{\mathrm{C}} \mathbf{2} \mathbf{2 . 4 5 0 \mathrm { TH }}\) \\
    2-HF200, 2. HF300, \\
    2.204A. 2.849
    \end{tabular} & RC. 150 \\
    \hline
    \end{tabular}

    \section*{VARIPOWER AUTO-FORMERS}
    \begin{tabular}{ccc} 
    Type & Watts & Case \\
    No. & Output & No. \\
    CVA.1 & 150 & RC. 112 \\
    CVA.2 & 250 & RC-125 \\
    CVA. 3 & 500 & RC-150 \\
    CVA. & 1000 & RC-152 \\
    EVA.5 & 2000 & RC-175
    \end{tabular}

    Designed tor line voltage control, filament control and reduced power operation. Output voltage from
    0 to 130 volts, 5060 cycles. Varipower units permit 0 to 130 volts, 5060 cycles. Varipower units permit control 01 flament voltage at the fube socket to
    within \(21 / 2 \%\) of desired value simultaneously with line voltage control and plate voltage control. Can de used to reduce or increase voltages on fllament transformers. Taps at \(25,55,75,95,100.105,110\). l15, 120,125 and 130 volts permit output voltages
    from 0 to 130 volts in 5 volt steps.

    \section*{POWER AND BIAS TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{8}{|c|}{Primary 115 valts 50,60 cyeles} \\
    \hline Type & High Voltage & OL & fil. 1 & fil. 2 & fil. 3 & fil. 4 & Case No. \\
    \hline cG.422 & \[
    \begin{aligned}
    & 435 \cdot 365 \cdot 0 \\
    & 365 \cdot 435 \\
    & 125 \cdot 0 \cdot 125
    \end{aligned}
    \] & 125
    25 & 5V.3A & 5V.2A & \[
    \begin{aligned}
    & 6.3 \mathrm{VCT}- \\
    & 3 \mathrm{~A}
    \end{aligned}
    \] & \[
    { }_{5 A}^{2.5} \mathrm{VCT}-
    \] & RC. \(150^{\circ}\) \\
    \hline \(\overline{\text { CG. }} \mathbf{2} 8\) & \[
    \begin{aligned}
    & 500 \cdot 0 \cdot 500 \\
    & 80 \cdot 0 \cdot 80
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 250 \\
    & 100
    \end{aligned}
    \] & 5V.JA & 5V-2A & \[
    { }_{4 A}^{63 V C T} .
    \] & \[
    \begin{aligned}
    & 6.3 \mathrm{VCT} \\
    & 3 \mathrm{~A}, \text { tapped } \\
    & 2.5 \mathrm{VCT} \text {. } \\
    & 3 \mathrm{~A}
    \end{aligned}
    \] & RC. 152 \\
    \hline CG. 429 & \[
    \begin{aligned}
    & 600.525 .0 \\
    & 525.600
    \end{aligned}
    \] & 230 & 3V.3A & \[
    { }_{3 \cdot A}^{6} J V C F-
    \] & 7.5 VCT . 6.3 VCT . 4 A & & RC. \(15 \overline{2}\) \\
    \hline CG-431 & \[
    \begin{aligned}
    & 500.4000 . \\
    & 400.500 \\
    & 80.0 .80
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 500 \\
    & 100
    \end{aligned}
    \] & 5 V .6 A & 5V.2A & \[
    \frac{6.3}{6.3} \mathrm{VCT} \text {. }
    \] & \[
    { }_{3 A}^{6.3} \mathrm{VCT}-
    \] & RC. 175 \\
    \hline \(\overline{\mathrm{Ca}} .315\) & \multicolumn{6}{|l|}{rapped for any DC voltage from 15 to 100 volts within \(6 \%-250 \mathrm{MA}\)} & RC-125 \\
    \hline Cu. 316 & \multicolumn{6}{|l|}{Tappeut tor any DC voltage from 75 10400 volts within \(6 \%-250 \mathrm{MA}\)} & RC. 152 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & High Voltag: & DC Voitage & ac MA & 1 & W & H & \[
    \begin{gathered}
    \text { wt. } \\
    \text { los. }
    \end{gathered}
    \] \\
    \hline CC. 304 & \[
    \begin{aligned}
    & 1500 \cdot 1235.0 \\
    & 1235.1500
    \end{aligned}
    \] & 1250/1000 & 800 & 15 & \(81 / 2\) & 103 & 100 \\
    \hline CG. 305 & \[
    \begin{aligned}
    & 2400.1750 .0 . \\
    & 1750.2400
    \end{aligned}
    \] & 2000/1500 & 300 & 101/2 & 47/4 & 67\% & 50 \\
    \hline CG.306 & \[
    \begin{aligned}
    & 2400-1750-0 . \\
    & 1750.2400
    \end{aligned}
    \] & 2000/1500 & 500 & 15 & 81/2 & 1076 & 100 \\
    \hline CC-307 & \[
    \begin{aligned}
    & 3500 \cdot 3000 \cdot 2400-0 . \\
    & 2400 \cdot 3000 \cdot 3500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3000 / 2500 \\
    & 2000
    \end{aligned}
    \] & 300 & 141/2 & 81/2 & 10\% & 90 \\
    \hline C. 308 & \[
    \begin{aligned}
    & 3500 \cdot 3000 \cdot 2400 \cdot 0 \\
    & 2400 \cdot 3000 \cdot 3500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3000 / 2500 \\
    & 2000
    \end{aligned}
    \] & 500 & 161/2 & 81/2 & 10\% & 125 \\
    \hline C6.309 & \[
    \begin{aligned}
    & 3500 \cdot 3000 \cdot 2400 \cdot 0 \cdot \\
    & 2400 \cdot 3000 \cdot 3500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3000 / 2500 \\
    & 2000
    \end{aligned}
    \] & 1000 & 21 & 10 & 131/4 & 185 \\
    \hline CG. 311 & \[
    \begin{aligned}
    & 1500-1235-0 . \\
    & 1235.1500 \\
    & \hline
    \end{aligned}
    \] & 1250/1000 & 500 & 101/2 & 43/4 & 67\% & 50 \\
    \hline CG.312 & \[
    \begin{aligned}
    & 1800-1500-0 . \\
    & 1500-1800
    \end{aligned}
    \] & 1500/1250 & 400 & 102\% & \(4 \mathrm{~S}_{4}\) & E\% & 30 \\
    \hline
    \end{tabular}

    FILTER CHOKES inductance shown is at rated oc ma
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Typo No. & Induetance Henrys & \[
    \begin{gathered}
    \text { OC } \\
    \text { WA }
    \end{gathered}
    \] & OC Res. ohms & Test Volts & Case Ne. \\
    \hline CG-40 & 10 & 200 & 110 & 1750 & RC. 112 \\
    \hline C6-41 & 4.20 & 200 & 110 & 1750 & WC. 112 \\
    \hline CG.44 & 30 & 100 & 400 & 1750 & HC.100 \\
    \hline \(\mathrm{C}_{6} 6.45\) & 250 & 15 & 5000 & 1750 & HC-87 \\
    \hline CG-4.C & 75 & 50 & 2200 & 1750 & RC. 87 \\
    \hline CG. 100 & 12 & 150 & 110 & 2500 & RC. 125 \\
    \hline CG. 102 & 12 & 250 & 100 & 3000 & RC. 150 \\
    \hline CG. 104 & 10 & 350 & 90 & 5000 & RC-152 \\
    \hline CG.108 & 10 & 500 & 52 & 7000 & RC. 175 \\
    \hline C6.15 & 10 & 1000 & 40 & 9000 & \[
    \begin{aligned}
    & 111 / 2 \times 43 / 4 x \\
    & 67 \% H, 60
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    SWINGING INPUT CHOKES INDUCTANCE SHOWN IS FROM \(100 \%\) TO 10\% OF RATED DC MA
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type Me. & Inductance Henrys & \[
    \begin{aligned}
    & 0 C \\
    & M A
    \end{aligned}
    \] & DC Res. 0hms & Test Volts & Case No. \\
    \hline C6.101 & 5.25 & 150 & 110 & 2500 & AC-125 \\
    \hline C6. 103 & \(5 \cdot 25\) & 250 & 100 & 3000 & HC-150 \\
    \hline CE. 105 & 5.25 & 350 & 90 & 5000 & RC. 152 \\
    \hline C6. 109 & 5.25 & 500 & 52 & 7000 & AC. 175 \\
    \hline cs.10 & \(5 \cdot 25\) & 1000 & 40 & 9000 & \[
    \begin{aligned}
    & 111 / 2 \times 43 / 4 \mathrm{x} \\
    & 67 / \mathrm{H}, 60 \mathrm{lb}
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    \section*{filament transformers}

    Primary for \(105,115,220,230\) volts, \(50 / 60\) cycles. These transformers may be used on 25 to 43 cycles if 220 volt primary is used on 110 volts. Secondary voltage is
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type No. & \begin{tabular}{l}
    Sec. Volts \\
    C. T .
    \end{tabular} & sec. Amps. & Working Voltage & Test Voltage & case No. \\
    \hline CC. 33 & 6.3 & 4 & 500 & 2000 & RC-75 \\
    \hline CG. 34 & 21/2 & 10 & 2500 & 6000 & RC-112 \\
    \hline CC. 120 & \(21 / 2\) & 10 & 5000 & 11000 & RC-125 \\
    \hline CG. 129 & 5 & 25 & 5000 & 11000 & RC-150 \\
    \hline CG. 122 & 7.56 .3 & 10 & 1500 & 4000 & RC-125 \\
    \hline CG. 124 & 10 & 10 & 1500 & 4000 & RC. 150 \\
    \hline CG. 125 & 141211 & 10 & 1500 & 4000 & RC. 150 \\
    \hline \(\mathrm{CG}-125\) & +14 11110 & 10 & 1500 & 4000 & RC. 152 \\
    \hline
    \end{tabular}

    Copsriwh by l. . . P., If
    CASE SIZES
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Type & H & w & 0 & H & Wt.
    Lbs. \\
    \hline C.1 & 17/8 & 2.13 16 & 13/4 & 23\% & 1 \\
    \hline 6.2 & 2.516 & 33 3 & 1.1516 & \(27 / 8\) & \(11 / 2\) \\
    \hline 6. 3 & \(21 / 2\) & \(33 / 4\) & 2.532 & \(31 / 4\) & 2 \\
    \hline 6.4 & 2.1516 & \(41 / 8\) & 2.516 & \(35 \%\) & 3 \\
    \hline
    \end{tabular}
    

    \section*{SPECIAL SERIES AUDIO TRANSFORMERS}

    CIASS A INPUT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|}
    \hline Type No. & Application & Ratio & Case \\
    \hline S. 1 & 1 plate * 101 grid & \(3 \overline{1 / 2}: 1\) & G. 2 \\
    \hline S.2 & 1 plate \({ }^{\text {to } 2} 2\) grids & \[
    \begin{aligned}
    & 2: 1 \\
    & 4: 1
    \end{aligned}
    \] & \(\mathrm{G}-2\) \\
    \hline 5.3 & 1 plate' to 1 or 2 grids compact type & 2:1 & G. 1 \\
    \hline 5.4 & 1 plate. to 2 grids wide range response & \(1: 1\) & G. 3 \\
    \hline S. 5 & Single or double button mike or dine to 1 grid hum-bucking type & 16:1 & G. 2 \\
    \hline S.6 & Single or double button mike or line to 1 grid, compact type & 16:1 & G.1 \\
    \hline S.7 & Single plate and carbon mike to one or two grids & \[
    \begin{aligned}
    & 3: 1 \\
    & 16: 1
    \end{aligned}
    \] & G.2 \\
    \hline
    \end{tabular}
    - Will match tubes like 6J5, 6C. , 12AU7, etc. Can be used with high mu triodes with loss in low frequencies

    \section*{UNIVERSAL DRIVER transformers}
    (See Modulator chart for lube types)
    \begin{tabular}{|c|c|c|}
    \hline Type No. & Application & Case \\
    \hline S. 8 &  & 6. 3 \\
    \hline S.9 & Pushoull driver plates 10 grids of class 8 fubes up to 400 watts output & G. 4 \\
    \hline S. 10 & Pushpull \(56.6 \mathrm{C} 6^{-}\)triode, 6C5. op similar plates to 45 's, 2A3's or 6L6's. self or fixed bias & 6.3 \\
    \hline
    \end{tabular}

    \section*{MATCHING TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type No. & Application & Pri. Ohms & Sec. 0 hms & Case \\
    \hline S. 11 & Single 6J5. 6C4, 12AU7 or similar tube to line & 15.000 & \(200^{-} 500\) & G. 2 \\
    \hline 5.12 & Line to speaker 15 watts & 500, 2000, 4000 & 2,4, 8, 15 & G. 2 \\
    \hline S.13 & Line to speaker 30 watts & 500, 2000, 4000 & \(2,4,8,15\) & G. 4 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{5}{|c|}{UNIVERSALOUTPUT TRANSFORMERS} \\
    \hline \multicolumn{5}{|l|}{\multirow[t]{2}{*}{Type (Secondary impedances: \(500,15,8,2\) o}} \\
    \hline & & & & \\
    \hline No. Max. Watts & Primary Impedance & Typical Tubes & Class & Case \\
    \hline & \multicolumn{4}{|l|}{Single Tubes:} \\
    \hline \multirow{4}{*}{\[
    \begin{aligned}
    & \$ .14 \\
    & 10 \mathrm{w} .
    \end{aligned}
    \]} & \multirow[t]{4}{*}{2500 ohm: 4000 ohms 7000 ohms 10,000 hms} & \multirow[t]{2}{*}{\(243,684,6 โ 6,6 Y 6,25 ⿺ 𠃊, ~ 35 \overline{16}\)
    6V6, \(12 A 6\)} & A & \multirow[t]{4}{*}{C-2} \\
    \hline & & & A & \\
    \hline & & 6AC5, 6F6, 6K6, 785 & A & \\
    \hline & & 1G5. 3C5, 6A4, 6N7 & A & \\
    \hline & \multicolumn{4}{|l|}{P. P. Tubes:} \\
    \hline \multirow[b]{3}{*}{\[
    \begin{aligned}
    & \mathrm{S} .15 \\
    & 12 \mathrm{w} .
    \end{aligned}
    \]} & \multirow[t]{3}{*}{4000 ohms 5000 ohms 10.000 ohms} & 6Y6. 2515 & \(A B\) & \multirow[t]{3}{*}{6.2} \\
    \hline & & 2A3, 6B4, EAS 7 & AB & \\
    \hline & & \[
    \begin{gathered}
    1 \mathrm{HA}, 6 \mathrm{AC5G}, 6 \mathrm{B5}, 6 \mathrm{~A} 6, \\
    6 Y 7
    \end{gathered}
    \] & \[
    \hat{A B}
    \] & \\
    \hline \multirow[t]{4}{*}{\[
    \begin{aligned}
    & \$ .16 \\
    & 30 . \mathrm{w} .
    \end{aligned}
    \]} & \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 3000 \text { ohms } \\
    & 6000 \text { ohms }
    \end{aligned}
    \]} & 2A3, 684, 25 L 6 & AB & \multirow[t]{4}{*}{6.4} \\
    \hline & & 2A5. ô56 triodes, 6AS7, & \({ }_{\text {AB }}\) & \\
    \hline & & 6A6. 6N7 & \multirow[t]{2}{*}{-} & \\
    \hline & 900010000 ohms & 2A5, 6AC5, 6B5, 6F6, 6L6, 6V6. 307 .triode & & \\
    \hline 5.17 & 3800 ohms & -6L6's & & G. 5 \\
    \hline 55 W. & 4500/5000 ohms & 1-6L6's & AB1 & 5 \\
    \hline & & 46. 1608, 809 & & \\
    \hline
    \end{tabular}

    \section*{UNIVERSAL MODULATION TRANSFORMERS}

    Secondary carries class C current
    Any modulator tubes to any RF load. (See chart)
    \begin{tabular}{|c|c|c|}
    \hline Type No. & Audio Power & Case \\
    \hline S. 18 & 12 watts & G. 3 \\
    \hline S. 19 & 30 watts & 6.4 \\
    \hline S. 20 & 55 watts & 6.5- \\
    \hline - 5.21 & 110 wătts & 6.7 \\
    \hline - 5.22 & 250 vatts & 6.9 \\
    \hline
    \end{tabular}

    UTC Special Series transformers are specifically designed for amateur and popular-priced PA service. The Special units are finished in a rich, commercial iype medium gray enamel. A recessed terminal strip is provided permitting above chassis or breadboard wiring in addition to standard chassis type wiring. The universal windings provided on driver, matching and output transformers assure a maximum of flexibility. Modulator output units will carry the \(D C\) current of the class \(C\) stage for any of the impedances available and will match practically any audio tubes to any RF load within the power rating of the transformer. Large components are housed in formed cases with top or bottom mounting. All units are vacuum impregnated-compound filled.

    \section*{TYPICAL MODULATOR COMBINATIONS} S.18-12 WATTS max.

    DRIVER TUBES: In the combinations shown below, typical suitable driver tubes are: 6C5, 6E6, 6N7, 6J5, 6C4, 12AU7, 6P5, 6J7-TR, 6SJ7.TR.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multicolumn{3}{|c|}{ORIVER} & \multicolumn{4}{|c|}{modulator stage} \\
    \hline Transf. & sec. Term. & P.P. Tubes & Watts Output & P.P. Load & Plate Volts & Bias Volts \\
    \hline S-2 & G-G & 6E6 & 1.6 & 14,000 & 250 & 27 \\
    \hline 5-8 & G.G & 19.1/6G & 2.1 & 10,000 & 135 & 0 \\
    \hline 5.8 & G.G & 49 & 3.5 & 12,000 & 180 & 0 \\
    \hline S.2 & G.G & 25.6 & 4 & 4,000 & 110 & 7.5 \\
    \hline \$.8 & \(\mathrm{G}^{\prime} \cdot \mathrm{G}^{\prime}\) & 627 G & 4.2 & 12,000 & 180 & 0 \\
    \hline S.2 & C.G & 6Y6G & 7 & 4,000 & 135 & 13.5 \\
    \hline 5.8 & G.G & 6Y7G & 8 & 14,000 & 250 & 0 \\
    \hline 5.8 & \(\mathrm{G}^{\prime} \mathrm{G}^{\prime}\) & 6AC5G & 8 & 10,000 & 250 & 0 \\
    \hline S.8 & \(\mathrm{G}^{\prime}\). \(\mathrm{G}^{\prime}\) & 6A6, \(6 \overline{N 6,6 N 7}\) & 10 & 10.000 & 300 & 0 \\
    \hline S. 2 & G-G & \(2 A 3,6 A \overline{3,6 A 5 G, ~ 6 B 4 G}\) & 10 & 5.000 & 325 & 750 onrms \\
    \hline S. 8 & \(\mathrm{G} . \mathrm{G}\) & 45 & 10 & 5.000 & 275 & 770 ohrs \\
    \hline S. 2 & G-G & 6 AS7 \(\bar{G}\) & 10 & 5.000 & 250 & 1,250 ont. \\
    \hline \multicolumn{6}{|c|}{Single tubes} & Pri. Lead \\
    \hline S. 1 & F-G & \begin{tabular}{l}
    43. \(45,7 \overline{1 A}, 25 \mathrm{~A}, 25 \mathrm{~A}\) \\
    46. 6V6 \\
    42, 46, 47, 49, 2A5 . 6F \\
    10, 41, 32, 6G6, 6K6 \\
    38, 12A7
    \end{tabular} & & & & \begin{tabular}{l}
    4.000 ohms \\
    6.000 ohms \\
    7,000 ohms \\
    10,000 ohms \\
    14,000 ohms
    \end{tabular} \\
    \hline
    \end{tabular}
    S.19-30 WATTS MAX.
    (615, 6C4, 12AU7, etc. may be substituted for 6C5 tubes)
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Tube or Tubes & \begin{tabular}{l}
    DRIVER \\
    Transi.
    \end{tabular} & Sec. Terms. & \[
    \begin{aligned}
    & \text { MODULATOR } \\
    & \text { P.P. } \\
    & \text { Tubes }
    \end{aligned}
    \] & Stage Watts Output & \[
    \begin{aligned}
    & \text { P.P. } \\
    & \text { Load }
    \end{aligned}
    \] & Plate Volts & Bias Volts \\
    \hline 6 C 5 & S-10 & G.G & 6 V 6 & 13 & 8.000 & 300 & ? 0 \\
    \hline 6C5 & \(5 \cdot 10\) & G.G & \[
    \begin{aligned}
    & 2 \mathrm{AJ}, 6 \mathrm{AB}, \\
    & 45,6 \mathrm{~A}, \\
    & 684 \mathrm{G}
    \end{aligned}
    \] & 15 & 3,000 & 325 & 08 \\
    \hline \(6 \mathrm{C5}\) & \$.10 & G-G & 2A5, 6F6 Pentode AB & 10 & 10,000 & 375 & \[
    \begin{array}{r}
    340 \\
    \text { ohms }
    \end{array}
    \] \\
    \hline 245 & \$.8 & G-G & 2A5, 6F6, triode AB & 18 & 6,000 & 350 & 38 \\
    \hline 89 & \$.8 & \(\mathrm{G}^{\circ} \cdot \mathrm{G}^{\prime}\) & \[
    \begin{aligned}
    & 6 \bar{A} 6,6 N 6, \\
    & 6 N 7
    \end{aligned}
    \] & 19 & 5,000 & 300 & 0 \\
    \hline 45 & \$.8 & G-G & 10,1602 & 25 & 8,000 & 425 & 50 \\
    \hline 45 & \$.8 & G'- \({ }^{\text {' }}\) & 46 & 25 & 6,000 & 425 & 0 \\
    \hline 45 & S. 8 & \(\mathrm{G}^{-} \cdot \mathrm{G}^{+}\) & 841 & 28 & 7,000 & 425 & 5 \\
    \hline 6C5 & 5.10 & G-G & 6 L6 self bias & 30 & 9,000 & 400 & 23 \\
    \hline
    \end{tabular}

    S-20-55 WATTS max.
    
    
    Page N-104
    (Refer to Page N-88 for UTC Prices)

    \section*{SPECIAL SERIES POWER EQUIPMENT}

    UTS Special Series power supply components are designed specifically for amateu and popular-priced PA service. The ratings are based on such applications and camporents should be employed. Tapped coil structures on power, GGd or LS grade iransformers afford maximum flexibility, permitting a given transformer to be used with many circuits and types of tubes. Stand by service should not be obtained by interrupting h:gh voltage center tap.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{P.P.-2A3 Oriver S-g Transf. sec. Term.} & \multicolumn{7}{|c|}{S-21-115 WATTS MAX.} \\
    \hline & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { P.P. } \\
    & \text { Tubes }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Watts Output} & \multicolumn{2}{|l|}{\multirow[b]{2}{*}{\begin{tabular}{cc} 
    MOOULATOR STAGE \\
    P.P. & Plate \\
    Load & Volts
    \end{tabular}}} & \multirow[b]{2}{*}{Plate Transf.} & \multirow[b]{2}{*}{Bias Volts} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { Bias } \\
    & \text { Trst. }
    \end{aligned}
    \]} \\
    \hline & & & & & & & \\
    \hline \(2 \cdot 2\) & T2-20 & 70 & 12000 & 800 & S.46 & 0 & \\
    \hline 1-1 & T. 20 & 70 & 12000 & 800 & S.46 & 40 & S. 51 \\
    \hline . & 845 & 75 & 4600 & 1000 & S-47 & 175 & S-52 \\
    \hline 1.1 & 807 & 80 & 6600 & 600 & S-45 & 30 & S-51 \\
    \hline 1-1 & 800, RK. 30 & 100 & 12000 & 1000 & S.47 & 55 & \$-51 \\
    \hline \(3 \cdot 3\) & 809 & 100 & 8400 & 750 & S-45 & 5 & S-51 \\
    \hline 2-2 & 825 & 100 & 6600 & 850 & S-46 & 30 & S.51 \\
    \hline 2.2 & T2.40 & 100 & 6000 & 750 & S. 45 & 0 & \\
    \hline 2.2 & T. 756 & 100 & 7000 & 850 & S. 46 & 30 & S.51 \\
    \hline \(1 \cdot 1\) & 50-T & 100 & 8000 & 1000 & \$.47 & 90 & S.51 \\
    \hline 2.2 & RK.18 & 100 & 12000 & 1000 & S.47 & 50 & S.51 \\
    \hline 1-1 & HK. 354 & 100 & 15000 & 1000 & S. 47 & 60 & S.51 \\
    \hline & 845 & 105 & 8800 & 1250 & S-47 & 225 & S-52 \\
    \hline 3.3 & RK. 31 & 110 & 14000 & 1000 & S-47 & 0 & \\
    \hline 1.1 & 4.6L6 & 110 & 2000 & 400 & S-44 & 25 & S.51 \\
    \hline \(2-2\) & 35-T & 115 & 11000 & 1000 & S-47 & 30 & S. 51 \\
    \hline \multicolumn{8}{|l|}{- Reverse S-9 transformer using terminals \(1-1\) for plates and P.P. for grids.} \\
    \hline \multicolumn{8}{|c|}{S-22-250 WATTS MAX.} \\
    \hline \[
    \begin{aligned}
    & \text { P.P.-2A3 } \\
    & \text { oriver }
    \end{aligned}
    \] & & & M00U & OR STA & & & \\
    \hline S.9 Transf. Sec. Term. & P.P. & Watts Output & \begin{tabular}{l}
    P.P. \\
    Load
    \end{tabular} & \begin{tabular}{l}
    Plate \\
    Volts
    \end{tabular} & \begin{tabular}{l}
    Plate \\
    Transí
    \end{tabular} & Bias Volts & \[
    \begin{aligned}
    & \text { Bias } \\
    & \text { Trsi. }
    \end{aligned}
    \] \\
    \hline 3-3 & RK-31 & 140 & 17000 & 1250 & S. 47 & 0 & \\
    \hline - & 50 T & 250 & 20000 & 2000 & S. 50 & 180 & S. 52 \\
    \hline - & 50 T & 160 & 17000 & 1500 & \$.49 & 140 & S.52 \\
    \hline 2-2 & T2.40 & 175 & 6800 & 1000 & \$. 47 & 0 & \\
    \hline 1-1 & T. 55 & 175 & 6900 & 1000 & S. 47 & 40 & S.51 \\
    \hline \(1 \cdot 1\) & T-55 & 225 & 9400 & 1250 & S. 47 & 50 & S. 51 \\
    \hline \(2 \cdot 2\) & HF-100 & 250 & 12000 & 1500 & \$. 49 & 52 & S.51 \\
    \hline 2 -2 & 100 TH & 250 & 7200 & 1250 & S-47 & 0 & \\
    \hline ! & 100 TL & 230 & 7200 & 1250 & S-47 & 112 & S-52 \\
    \hline \(2 \cdot 2\) & 2B-120 & 150 & 4800 & 750 & S. 45 & 0 & \\
    \hline 2.2 & 28-120 & 245 & 9000 & 1250 & S-47 & 0 & \\
    \hline - & HK. 154 & 225 & 11400 & 1250 & S. 47 & 210 & S. 52 \\
    \hline 1-1 & 203 A & 250 & 9000 & 1250 & S. 47 & 45 & S. 51 \\
    \hline 3-3 & 2032 & 200 & 6900 & 1000 & S. 47 & 0 & \\
    \hline 1-1 & 211 & 200 & 6900 & 1000 & S. 47 & 77 & \$.51 \\
    \hline \(1-1\) & 211 & 250 & 9000 & 1250 & \$. 47 & 100 & S.51 \\
    \hline \(1 \cdot 1\) & HK-354 & 220 & 15000 & 1500 & S-49 & 100 & S.51 \\
    \hline 2-2 & 808 & \(1 \cdot 90\) & 12700 & 1250 & \$.47 & 15 & S. 51 \\
    \hline 2-2 & 830 B & 175 & 7600 & 1000 & S-47 & 35 & S.51 \\
    \hline \(2 \cdot 2\) & 838 & 250 & 9000 & 1250 & S.47 & 0 & \\
    \hline
    \end{tabular}
    - Reverse S.9, using 2.2 for plates and P.P for grids.
    s Reverse S-9, using 1.1 for plates and P.P for grids.

    \section*{FILAMENT TRANSFORMERS}
    
    
    

    COMBINED PIATE AND FILAMENT UNITS Primary 115 V. \(-50 / 60\) Cycles
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type Ho. & Voitage & \[
    \begin{gathered}
    \text { O.C. } \\
    \text { voltages }
    \end{gathered}
    \] & Rectifier Fil. & Fil. No. 1 & Fil. No. 2 & Case No. \\
    \hline 5.39 & \[
    \begin{aligned}
    & 490 \cdot 400 \cdot 0 \\
    & 400.490 \\
    & 175 \mathrm{Ma} .
    \end{aligned}
    \] & 400310 & 5 V.-3A & \[
    \begin{gathered}
    2.5 \text { V.C.T. } \\
    -6 A^{2} .
    \end{gathered}
    \] & \[
    { }_{4 A}^{6.3} \text { V.C T. }
    \] & 0.7 \\
    \hline 5-40 & \[
    \begin{aligned}
    & 525-425 \cdot 0 . \\
    & 425.525 \\
    & 250 \mathrm{Ma} .
    \end{aligned}
    \] & 400310 & 5 V.-3A & \[
    \begin{gathered}
    6.3 \text { V.C.T. } \\
    .3 \mathrm{~A}
    \end{gathered}
    \] & \[
    { }_{3 A}^{6.3} \text { V.C.T. }
    \] & G. 7 \\
    \hline S.41 & \(600-0-600\)
    200 Ma. & 475 & 5 V.-3A & \[
    \begin{gathered}
    7.5 \mathrm{~V} \\
    \text { tapped } \\
    6.3 \mathrm{~V} .3 \mathrm{~A}
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 63 \vee C . T . \\
    & 2 A
    \end{aligned}
    \] & G. 7 \\
    \hline \$.42 & \[
    \begin{aligned}
    & 600-525-0 . \\
    & 525.600 \\
    & 300 \mathrm{Ma} .
    \end{aligned}
    \] & 480400 & 5 V.-6A & \[
    \begin{gathered}
    7.5 \mathrm{~V} . \\
    \text { tapped } \\
    6.3 \mathrm{~V} .3 \mathrm{~A}
    \end{gathered}
    \] & \[
    { }_{3 A}^{6.3} \text { V.C.T. }
    \] & G. 8 \\
    \hline 5.43 & \[
    \begin{aligned}
    & 525 \cdot 0-525 \\
    & 450 \mathrm{Ma} . \\
    & 40 \cdot 0 \cdot 40 . \\
    & 200 \mathrm{Ma} .
    \end{aligned}
    \] & 400 & \[
    \begin{aligned}
    & 5 \text { V. } 3 A \\
    & 5 \text { V. }-6 A
    \end{aligned}
    \] & \[
    \begin{array}{r}
    6.3 \mathrm{~V} \\
    \cdot 2 \mathrm{~A}
    \end{array}
    \] & \[
    \frac{6.3}{5 \mathrm{~A}} \mathrm{~V} \text {.C.T. }
    \] & 6.9 \\
    \hline
    \end{tabular}
    - Based on two section filter, choke input.

    PLATE TRANSFORMERS - BIAS TRANSFORMERS
    

    FILTER, SWINGING, AND AUDIO CHOKES
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & Servie & Indactance & Current & Resistance & Insulation & cast Ne. \\
    \hline 8-23 & Audio & 450 Hy . & 5 Ma . & 5000 ohms & 1500 V . & 6.2 \\
    \hline \$-24 & P.P. Choke & \[
    \begin{gathered}
    500 \mathrm{My} \\
    \text { C.T. }
    \end{gathered}
    \] & 3 Ma . & 400 ohms & 1500 V . & 6.2 \\
    \hline 5.25 & Filter & 30 Hy . & 30 Ma . & 800 ohms & 1500 V . & 6.2 \\
    \hline 5-28 & Filter & 15 My. & 60 Ma . & 250 ohms & 1500 V . & - 2 \\
    \hline \$.27 & Filter & 30 Hy . & 75 Ma . & 350 chms & 1500 V . & C-4 \\
    \hline \$.28 & Filter & 20 Hy . & 100 Ma . & 350 ohms & \(1500{ }^{-} \mathrm{V}\). & 64 \\
    \hline 5-29. & Filter & 10 Hy . & 175 Ma . & 90 ohms & 1500 V . & 64 \\
    \hline \$.30 & Swinging & 525 Hy . & 175 Ma . & 90 ohms & 1500 V . & 64 \\
    \hline \$.31 & Filter & 20 Hy . & 225 Ma . & 100 ohms & 2700 V . & 6.5 \\
    \hline \$-32 & Swinging & 5/25 Hy. & 225 Ma. & 100 ohms & 2700 V. & 6.5 \\
    \hline S.33 & Filter & 20 Hy . & 300 Ma . & 100 ohms & 4000 V . & 6.7 \\
    \hline \$.34 & Swinging & 525 Hy . & 300 Ma . & 100 ohms & 4000 V . & 6.7 \\
    \hline S.35 & Filter & 20 Hy . & 400 Ma . & 60 ohms & 5000 V . & 6.8 \\
    \hline 5.36 & Swinging & 525 H :. & 400 Ma. & 60 ohms & 5000 V . & C.8 \\
    \hline \$.37 & Filter & 20 Hy . & 550 Ma . & 60 ohms & 6000 V . & 6-8 \\
    \hline \$.38 & Swinging & \(5 / 25 \mathrm{Hy}\). & 550 Ma . & 60 ohms & 6000 V . & \(6 \cdot 8\) \\
    \hline
    \end{tabular}

    \section*{SUBOUNCER UNITS}

    FOR HEARING AIDS...VEST POCKET RADIOS...MIDGET DEVICES

    UTC Sub-Ouncer units fulfill an essential requirement for miniaturized components having relatively high efficiency and wide frequency response. through the use of special nickel iron core materials and winding methods, these miniature units have performance and dependability characteristics far superior to any other comparable items. They are ideal for hearing aids, miniature radios, and other types of miniature electronic equipment.

    The coils employ automatic layer windings of double Formex wire . . . in a molded Nylon bobbin. All insulation is of cellulose acetate. Four inch color coded flexible leads are employed, securely anchored mechanically. No mounting facilities are provided, since this would preclude maximum flexibility in location. Units are vacuum impregnated and double (water proof) sealed. The curves below indicate the excellent frequency response available. Alternate curves are shown to indicate operating characteristics in various typical applications.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline  & Type & Application & Level & Pri. Imp. & MAD.C. in Pri. & Sec. Imp. & Pri. Res. & Sec. Res. \\
    \hline  & -50.1 & Input & + 4 V.U. & \[
    \begin{aligned}
    & 200 \\
    & 50
    \end{aligned}
    \] & 0 & \[
    \begin{aligned}
    & 250,000 \\
    & 62,500
    \end{aligned}
    \] & 16 & 2650 \\
    \hline & 50.2 & Interstage/3: 1 & + 4 v.u. & 10,000 & 0 & 90,000 & 225 & 1850 \\
    \hline \[
    1
    \] & . 50.3 & Plate to line & +20 V.U. & \[
    \begin{aligned}
    & 10,000 \\
    & 25,000
    \end{aligned}
    \] & \[
    \begin{array}{r}
    .3 \mathrm{mil} . \\
    1.5 \mathrm{mil} .
    \end{array}
    \] & \[
    \begin{aligned}
    & 200 \\
    & 500
    \end{aligned}
    \] & 1300 & 30 \\
    \hline \(\square\) & 50.4 & Output & +20 v.u. & 30,000 & 1.0 mil . & 50 & 1800 & 4.3 \\
    \hline & S0.5 & Reactor 50 HY & . O.C. 3000 & O.C. Res. & & & & \\
    \hline Hem & 50.6 & Output & +20 V.u. & 100,000 & . 5 mil. & 60 & 3250 & 3.8 \\
    \hline & S0.7 & Transistor & +20 v.U. & 20.000 & 5 & 800 & 450 & 32 \\
    \hline SUBOUNCER UNIT & & Interstage & & 30,000 & . 5 & 1200 & & \\
    \hline SUBOUNCER UNIT & 50.8 & Transistor Pri. to & +20 V.U. & 10,000 & 1 & 2000 ct . & 1000 & 40 \\
    \hline Dimensions … \(9 / 16^{\prime \prime} \times 5 / 8^{-1} \times 7 / 8^{\prime \prime}\) & 50.9 & PP Transistor to & +20 v.u. & 500 ct . & - & 3.2 & 15 & . 35 \\
    \hline Weight . .... ................ . . 03 lb . & - Impe & ace ratio is fixed & : 1 for \$0.1 & for \$0.3. & mpedance b & the values & wn may be & employed. \\
    \hline
    \end{tabular}
    

    \section*{SUB-SUBOUNCER UNITS \\ for hearing alds and ultra-miniature equipment}

    UTC Sub SubOuncer units have exceptionally high efficiency and frequency range in their ultra-miniature size. This has been effected through the use ul specially selected Hiperm-Alloy core material and special winding methods. The constructional details are identical to those of the Sub-Ouncer units cescribed above. The curves below show actual characteristics under typical conditions of application.
    

    SUB-SUBOUNCER UNIT
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type & Application & Level & Pri. Imp. & MAD.C. in Pri . & See. Imp. & Pri. Res. & Sec. Res. \\
    \hline \({ }^{-} 550.1\) & Input & + 4V.u. & \[
    \begin{aligned}
    & 200 \\
    & 50
    \end{aligned}
    \] & 0 & \[
    \begin{aligned}
    & 250.000 \\
    & 62.500 \\
    & \hline
    \end{aligned}
    \] & 13.5 & 3700 \\
    \hline \$50.2 & Interstage/3:1 & + 4 V.u. & 10.000 & 0.25 & 90,000 & 750 & 3250 \\
    \hline \({ }^{-} 580.3\) & Plate to Line & +20 V.u. & \[
    \begin{aligned}
    & 10,000 \\
    & 25,000
    \end{aligned}
    \] & \[
    \begin{array}{r}
    .3 \\
    1.5
    \end{array}
    \] & \[
    \begin{aligned}
    & 200 \\
    & 500
    \end{aligned}
    \] & 2600 & 35 \\
    \hline 550.4 & Oulput & +20 V.U. & 30,000 & 1.0 & 50 & 2875 & 4.6 \\
    \hline 550.5 & Reactor 50 HY at 1 mil & . 0.C. 4400 & 0.C. Res. & & & & \\
    \hline S50.6 & Oulput & +20 v.u. & 100.000 & 5 & 60 & 4700 & 3.3 \\
    \hline -5S0.7 & Transistor Interstage & +20 v.u. & \[
    \begin{aligned}
    & 20.000 \\
    & 30,000
    \end{aligned}
    \] & \[
    \begin{aligned}
    & .5 \\
    & .5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 800 \\
    & 1,200
    \end{aligned}
    \] & 850 & 125 \\
    \hline -550.8 & TransistorPritopP Sec. & +20 V.U. & 10.000 & 1 & 2000 ct . & 1200 & 45 \\
    \hline S50.9 & Transistor to Speaker & +20v.u. & 10.000 & 2 & 16 & 800 & 2.7 \\
    \hline S50.10 & Transistor to Speaker & +20 v.u. & 10,000 & 2 & 3.2 & 800 & . 65 \\
    \hline SS0.11 & Transistor Output & +20 v.u. & \[
    \begin{aligned}
    & 600 \\
    & 500
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3.5 \\
    & 3.5
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 60 \\
    & 50
    \end{aligned}
    \] & 50 & 5 \\
    \hline 550.12 & Transistor Output & +20 v.u. & \[
    \begin{aligned}
    & 1200 \\
    & 1000 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \\
    & 3 \\
    & \hline
    \end{aligned}
    \] & \[
    60
    \] & 90 & 5 \\
    \hline 550.13 & Crystal to Transistor & \(+4 \mathrm{~V} . \mathrm{U}\). & \(200.0 \overline{\mathrm{C}}\) & 0 & 1000 & 4000 & 190 \\
    \hline
    \end{tabular}
    -Impedance ratio is fixed, 1250:1 for SSO-1, 1:50 for SSO-3. Any impedance between the values shown may be employed.
    

    \section*{REPLACEMENT TYPE COMPONENTS}

    \section*{VARITRAN VOLTAGE ADJUSTERS}
    input 115 volts \(50 / 60\) eycles. Output continually adjust. able from 0.130 volts through roller contact on exposed autotransformer winding. Regulation and efficiency at excellent, no wave form distortion. Output voltage is independent of load. Complete with line cord, switch, and receptacle . . sor toads up* 10570 Watts . . . S A.
    \begin{tabular}{llll}
    \begin{tabular}{lll} 
    Type
    \end{tabular} & Dimensions & Wt. \\
    \hline V-1-M & with meter & \(47 / 8 \times 97 / 6 \times 35 / 6\) & 14 lbs \\
    \hline V-1 & without meter & \(47 / 8 \times 8 \times 35 / 8\) & 12 lbs \\
    \hline
    \end{tabular}
    

    \section*{EXPORT VOLTAGE ADAPTER}

    Complete with cord and plug and special locking switch providing for tine voltages of 105, 115, 125, 135, 150, 210, 230, 250 volts; 42 to 60 cycles. Output voltage 115.
    

    \section*{TV VOLTAGE REGULATOR}

    Complete with cord, plug, and special locking switch. Permits operation of 115 volt \(50 / 60\) cycle TV sets on line voltages of \(85,90,95\), 100, 105, 110, 120, 125 v.
    \begin{tabular}{ccc}
    \begin{tabular}{c} 
    Type \\
    No.
    \end{tabular} & Rating & \begin{tabular}{c} 
    Wgt. \\
    LES.
    \end{tabular} \\
    \hline M-49 & 350 watts & 5 \\
    \hline
    \end{tabular}
    

    STEP DOWN AUTO.TRANSFORMERS
    With 6 foot cord and lemale receptacle 220.240 to \(110-120\) Volts \(-50 / 60\) Cycles
    

    \section*{PHOTO FLASH TRANSFORMERS}

    Can be used for either standard (Amglo type) or trigger (Sylvanla type) multiple flash bulbs. Circult details included with transformer.
    Pf. 1 Primary for 115 volts, 50/60 cycles. Secondaries for power supply delivering 2200 volts OC to condenser up to 100 Mfd . Compound sealed in \(\mathrm{G}-3^{\circ}\) case \(21 / 4 \times 23 / 4\) ( \(53 / 4\) including flanges) \(\times 21 / 2\) inches high. Weight 2 lbs .
    pl-2 For portable service. Primary tapped for 4 volt or 6 volt battery (full valve vibrator). Secondary for power supply dellvering 2200 volts OC to condenser up to 60 Mmd . Compound sealed In G-3* case. Weight 2 lbs.

    Pf-3 Trigger Transformer 15 KV pean. \(9 / 6\) O.D. \(\times 3^{\prime \prime}\) long. weight \(20_{2}\).
    PFA Dual Pri. for either 4 V battery or 1135 V 50/60 cycles. Secondary for power supply delivering 900 volts \(D C\) to condenser up to 150 Mfo . G. \(3^{\circ}\) case, 2 tb.
    -See Page N - 104

    VOLTAGE BOOSTERS

    The constantly inceasing appliance load in home and office presents a serious low line voltage problem to which the UTC voltage booster is a perfect answer, These autotransformers are designed to operate from a 95 to 110 V. \(50 / 60\) cycle line. They boost the voltage air conditioners. Complete with line cord and receptacle.
    
    R. 87
    

    \section*{ISOLATION TRANSFORMERS}

    Ideal for isolating line noise, \(A C-D C\) sets, etc. Exceltent electrostatic shielding. 1500 volt breakdown test. Six foot cord and female receptacle.

    Primary \(110-120\) volts, \(50 / 60\) eyeles-Secondary \(110-120\) volts
    

    \section*{LINE VOLTAGE ADJUSTERS WITH METER}

    The perfect answer to abnormal of fluctuating line voltage. Adjust switch so that meter reads at red line and you know that your equipment is working at correct voltage.

    These units combine a tapped auto-transformer with a switch and meter in a compact, rugged assembly.

    The nine tap switch provides for line voltage of 60 to 140 volts on 115 volt output models and 160 to 240 volts on 230 volt output models.
    

    All units are designed for \(50 / 60\) cycle service and come complete with 6 foot input cord and plug and outlet receptacle.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & Primary Voltages & Sec. volts & Watts & 1 & W & H & \[
    \mathrm{tt} \text {. }
    \] \\
    \hline R-78 & 60, 70, 80, 90, 100, 110, 120, 130, 140 & 115 & 150 & 7 & 4 & 43/4 & 6 \\
    \hline R-79 & 60, 70, 80, 90, 100, 110, 120, 130, 140 & 115 & 300 & 7 & 4 & 41/4 & \\
    \hline R-80 & \(60,70,80,90,100,110,120,130,140\) & 115 & 600 & 101/4 & 4 & 43/4 & 13 \\
    \hline - \(\mathrm{B}^{81}\) & 60, 70, 80, 90, 100, 110, 120, 130, 140 & 115 & 1200 & \(101 / 4\) & 4 & \(43 / 4\) & 21 \\
    \hline R-83 & 160, 170, 180, 190, 200, 210, 220, 230, 240 & 230 & 150 & 7 & 4 & 43/4 & 6 \\
    \hline - 84 & 160, 170, 180, 190, 200, 210, 220, 230, 240 & 230 & 300 & 7 & 4 & 43/4 & \\
    \hline R-85 & 160, 170, 180, 190, 200, 210, 220, 230, 240 & 230 & 600 & 101/4 & 4 & 43/4 & 13 \\
    \hline T-86 & 160, 170, 180, 190, 200, 210, 220, 230, 240 & 230 & 1200 & 101/4 & 4 & 43/4 & 21 \\
    \hline
    \end{tabular}

    \section*{SIGNALIING AND CONTROL TRANSFORMERS}

    Pimary 119.120 valts, \(50 / 60\) eycles-Secondory 4, B, 12, 16, 20. 24 volts
    High power transformers suitable for operating relays, sirens, horns, gongs, etc. from 115 V. \(50 / 60\) cycle line. These units have four secondary terminals providing \(4,8,12,16,20\) and 24 volt output. The volt ampere rating is based on the 24 volt secondary tap with corresponding reduction at the lower voltages. Underwriters' approved primary leads are employed, and screw-type binding posts.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & Watts & \multicolumn{3}{|l|}{Overall Dimensions} & Mtg. Dim. & WgI.
    IDs. \\
    \hline SC-3 & 50 & 3 & \(\times 31 / 2\) & \(\times 39 / 16\) & \(17 / 6 \times 21 / 4\) & 3 \\
    \hline SC-4 & 100 & 31/4 & \(\times 4\) & \(\times 4\) & 21/8 \(\times 21 / 2\) & 5 \\
    \hline 86-5 & 250 & 4 & \(\times 5\) & \(\times 43 / 4\) & \(31 / 4 \times 3\) & 10 \\
    \hline
    \end{tabular}

    \section*{REPLACEMENT TYPE COMPONENTS}

    UTC replacement type transformers (Pri. \(117 \mathrm{~V} .50 / 60\) cycles) represent the culmination of years of development in this field. All units are low temperature rise, vacuum sealed against humidity with special impregnating materials to prevent corrosion and electrolysis. Shells and brackets are finished in attractive high lustre black enamel.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{DOUBL} & \multicolumn{2}{|l|}{SHELL} & \multicolumn{2}{|l|}{POWER} & \multicolumn{5}{|l|}{TRANSFORMERS} \\
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No, } \\
    & \hline
    \end{aligned}
    \] & High & DC MA. & Rec. Fil. & Amp. Fil. & W & 0 & H & M & N & Wt. \\
    \hline R. 101 & \[
    \begin{aligned}
    & 275-0- \\
    & 275 \\
    & \hline
    \end{aligned}
    \] & 50 & 5V-2A. & \[
    \begin{aligned}
    & 6.3 \mathrm{~V} \text { CT- } \\
    & 2.7 \mathrm{~A}
    \end{aligned}
    \] & 3 & 21/2 & \(23^{3}\) & 21/2 & 21/16 & \(2^{1 / 2}\) \\
    \hline R. 102 & \[
    \begin{aligned}
    & 350-0 . \\
    & 350
    \end{aligned}
    \] & 70 & 5V-3A. & \[
    \frac{6.3 V C T-}{3 A}
    \] & 3 & 21/2 & 33/8 & \(21 / 2\) & 21is & \(31 / 2\) \\
    \hline A. 103 & \[
    \begin{aligned}
    & 350-0 \text { - } \\
    & 350 \\
    & \hline
    \end{aligned}
    \] & 90 & 5V-3A. & \[
    \begin{aligned}
    & 6.3 \mathrm{VCT}- \\
    & 3.5 \mathrm{~A}
    \end{aligned}
    \] & 33/3 & 27/4 & 373 & 213/16 & 21,3 & 41/2 \\
    \hline R-104 & \[
    \begin{aligned}
    & 350 \cdot 0= \\
    & 350
    \end{aligned}
    \] & 120 & 5V-3A. & \[
    \begin{aligned}
    & 6.3 \mathrm{VCT}- \\
    & 5 \mathrm{~A}
    \end{aligned}
    \] & \(31 / 4\) & 31/8 & 378 & \(31 / 3\) & \(2^{1 / 2}\) & \(51 / 2\) \\
    \hline R-105 & \[
    \begin{aligned}
    & 385 \cdot 0 \\
    & 385 \\
    & \hline
    \end{aligned}
    \] & 160 & 5V-3A. & \[
    \frac{6.3 V}{5 \mathrm{CT}}
    \] & \(33 / 1\) & 31/6 & 3\% & 31/a & 24/2 & 7 \\
    \hline
    \end{tabular}

    \section*{SINGLE SHELL POWER TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No. & \[
    \underset{\text { High }}{ }
    \] & \begin{tabular}{l}
    OC \\
    MA.
    \end{tabular} & Rec. Fil. & Amp. & w & 0 & H & M & N & Wt.
    Lb. \\
    \hline R. 106 & \[
    \begin{aligned}
    & 300 \cdot 0 . \\
    & 300
    \end{aligned}
    \] & 50 & 5V-2A. & \[
    \begin{aligned}
    & \text { 6.3V CT- } \\
    & 2.7 \mathrm{~A}
    \end{aligned}
    \] & 3 & \(21 / 2\) & 3 & \(21 / 2\) & 21/16 & \(21 / 2\) \\
    \hline R.107 & \[
    \begin{aligned}
    & 350-0- \\
    & 350
    \end{aligned}
    \] & 70 & 5V.3A. & \[
    \begin{aligned}
    & 6.3 \mathrm{~V} \text { CT- } \\
    & 3 \mathrm{~A}
    \end{aligned}
    \] & 3 & 21/2 & 359 & \(21 / 2\) & 21/15 & \(31 / 2\) \\
    \hline R-108 & \[
    \begin{aligned}
    & 350-0- \\
    & 350
    \end{aligned}
    \] & 120 & 5V-3A. & \[
    \begin{aligned}
    & 6.3 \mathrm{VCT} \\
    & 5 \mathrm{~A}
    \end{aligned}
    \] & 33/4 & \(31 / 8\) & 35:89 & \(31 / 8\) & 21/2 & \(51 / 2\) \\
    \hline R.109 & \[
    \begin{aligned}
    & 400 \cdot 0 \cdot \\
    & 400
    \end{aligned}
    \] & 200 & 5V-3A. & \[
    \begin{aligned}
    & 6.3 \mathrm{VCT}- \\
    & 6 \mathrm{~A}
    \end{aligned}
    \] & \(41 / 2\) & 33/4 & 4 & \(33 / 4\) & 3 & 8 \\
    \hline
    \end{tabular}

    VERTICAL SHELL POWER TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No. & \[
    \underset{\substack{\text { High } \\ \text { V. }}}{ }
    \] & \[
    \begin{aligned}
    & \text { OC } \\
    & \text { MA. }
    \end{aligned}
    \] & Rec. Fil. & Amp. Fii. & w & 0 & H & M & N & Wt. \\
    \hline R-110 & \[
    \begin{aligned}
    & 300-0 . \\
    & 300
    \end{aligned}
    \] & 50 & 5V-2A. & \[
    \begin{aligned}
    & \text { 6.3V CT- } \\
    & 2.7 \mathrm{~A}
    \end{aligned}
    \] & \(2^{1 / 2}\) & \(21 / 2\) & 31/4 & 2 & \(1 x^{\prime}\) & 21/2 \\
    \hline A.111 & \[
    \begin{aligned}
    & 350-0 . \\
    & 350
    \end{aligned}
    \] & 70 & 5V.3A. & \[
    { }_{3 \mathrm{~A}}^{6.3 \mathrm{VCT}}
    \] & \(2^{1 / 2}\) & 31/6 & \(31 / 4\) & 2 & 23/6 & \(31 / 2\) \\
    \hline -112 & \[
    \begin{aligned}
    & 350-0 . \\
    & 350
    \end{aligned}
    \] & 120 & 5V.3A. & \[
    \frac{6.3 \mathrm{VCT}}{5 \mathrm{C}}
    \] & \(31 / 4\) & 35/4 & 4 & \(2^{1 / 2}\) & 21/2 & \(51 / 2\) \\
    \hline A. 113 & \[
    \begin{aligned}
    & 400-0- \\
    & 400
    \end{aligned}
    \] & 200 & 5V-3A. & \[
    \begin{aligned}
    & 6.3 \vee C T- \\
    & 6 \mathrm{~A}
    \end{aligned}
    \] & 37/6 & 41/4 & 45/8 & 3 & 31/8 & 8 \\
    \hline
    \end{tabular}

    CHANNEL FRAME FILTER CHOKES
    Inductance shown is at Rated 0.C.m.A.-Insulation Test: 1750 volts
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Type } \\
    & \text { No. }
    \end{aligned}
    \] & Induet. Hys. & Current & Resistance Ohms & W & 0 & H & M & Lbs. \\
    \hline A. 55 & 6 & 40MA & 300 & 21/2 & 176 & \(1{ }^{1 / 8}\) & 2 & 1/2 \\
    \hline A. 14 & 8 & 40MA & 250 & 27/8 & 13/6 & \(11 / 16\) & \(2^{18}\) & 3/4 \\
    \hline A. 15 & 12 & 30MA & 450 & 27/3 & 13,8 & 111/16 & 23/8 & 3/4 \\
    \hline A. 16 & 15 & 30MA & 630 & 27/8 & 13/8 & 111/10 & 23/8 & 3/4 \\
    \hline R. 17 & 20 & 40MA & 850 & 35/1* & 15/8 & 2 & 214/0 & 1 \\
    \hline R-18 & 8 & 80 MA & 250 & \(35 / 16\) & 15/8 & 2 & 21710 & 1 \\
    \hline R-19 & 14 & 100MA & 450 & \(33 / 4\) & \(13 / 3\) & \(2^{5 / 14}\) & 31/9 & \(11 / 2\) \\
    \hline R. 20 & 5 & 200MA & 90 & 41/8 & 2 & 25\% & 39/16 & 21/2 \\
    \hline R-21 & 3/15 & 200 MA & 90 & 41/8 & 2 & 25/8 & 39/18 & \(21 / 2\) \\
    \hline R.22 & 120 & 5 MA & 4000 & 35/16 & 15/6 & 2 & \(2^{13110}\) & 1 \\
    \hline
    \end{tabular}

    FILAMENT TRANSFORMERS
    CHANNEL FRAME TYPE
    Pri. 115 V. \(50 / 60\) Cycles- 1500 V Breakdown
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Type No. & Secondary & Dimensions, & \[
    \begin{gathered}
    \text { Inches } \\
    0
    \end{gathered}
    \] & H & M & \[
    \begin{aligned}
    & W! \\
    & \text { tbs }
    \end{aligned}
    \] \\
    \hline FT-1 & 2.5 V.C.T.-3A & 27/6 & 13 & 111/18 & 23/8 & 3/4 \\
    \hline FT. 2 & 6.3 V.C.T.-1.2A & 2\% & 13 & 111/19 & 23/8 & 3 \\
    \hline FT-3 & 2.5 V.C. \(\mathrm{T}_{1}-6 \mathrm{~A}\) & 35/16 & 15. & ? & 21316 & 1 \\
    \hline FT-4 & 6.3 V.C.T.-2.5A & \(35 / 10\) & 159 & 2 & \(213 / 16\) & 1 \\
    \hline FT. 5 & 2.5 V.C.T. 10 A & 33/4 & 131 & \(2 \% 16\) & 31/8 & \(11 / 2\) \\
    \hline FT. 6 & 5 V.C.T. 3 A & 33/4 & \(13 / 4\) & \(28 / 16\) & \(3 \mathrm{~L} / 8\) & 11/2 \\
    \hline FT-8 & 7.5 V.C.T. 3 A
    6.3 V.C.T. 6 A & \(333 / 4\) & 13 & \(25 / 16\) & \(31 / 8\) & 11/2 \\
    \hline FT-9 & 2.5 V.C.T. 10 A & 41/8 & 21/4 & 25.9 & 3\%/13 & 21/2 \\
    \hline & 10000 V . Test & 41/2 & 21: & 25/3 & 39\% & 21/2 \\
    \hline FT-10 & \[
    \begin{aligned}
    & 2 \overline{24 V C T-2 A} \\
    & \text { or } 12 V-4 A
    \end{aligned}
    \] & 41/3 & 21/3 & 25/9 & 39/10 & \(21 / 2\) \\
    \hline
    \end{tabular}
    
    dOUBLE SHELL TYPE
    

    SINGLE SHELL TYPE
    

    CHANNEL FRAME AUDIO TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type No. & Application & Oescription & \(w\) & 0 & Dimen.. Ins
    H & M & tbs. \\
    \hline R-33 & \[
    \begin{aligned}
    & 1 \text { plate to } 1 \\
    & \text { grid }
    \end{aligned}
    \] & 4:1 ratio & 27/0 & \(13 / 8\) & \(11 / 16\) & 23/6 & \(3 / 4\) \\
    \hline R-34 & \[
    \begin{aligned}
    & 1 \text { plate to } \\
    & \text { grids }
    \end{aligned}
    \] & 2:1 ratio & 2\% & 13/8 & 111/4. & \(23 / 6\) & \(3 / 4\) \\
    \hline Q-35 & Mike to 1 grid & 17.1 satio to Pri. C.I. & 27/8 & 136 & 111/18 & 23\% & 2/6 \\
    \hline R-58 & 5 watt Universal outpui & Any single iube to any voice coll. 1 to 30 ohms & 21/2 & 13/8 & \(13 / 8\) & 21/0 & 1/2 \\
    \hline R.38A & 6 watt Universal & Any tubes up to 6 watts to any voice coll, 1 to 30 ohms & 21/2 & 176 & 13/8 & \(21 / 8\) & 1/2 \\
    \hline *. 59 & 10 watt Universal & Any tubes up to 10 watts to any voice coll, 1 to 30 ohms & 27/6 & \(13 / 4\) & 1114 & 2\% & \(1 / 2\) \\
    \hline A-60 & 15 watt Universal & Any tubes up to 15 watts to any vorce coil. 1 to 30 ohms & \(35 / 16\) & 15/8 & 2 & \(2^{1 / 16}\) & \(1{ }^{-}\) \\
    \hline R.39 & 10 watt line Matching Transinemer & 250, 500, 1,500 ohms to \(2,8,15 \mathrm{ohms}\) & 27\% & \(13 / 8\) & 11/16 & 23/6 & \(7 / 4\) \\
    \hline R-40 & 25 watl tine Matching Transformer & 250. 500. 1,500 ohms to \(2,8,15 \mathrm{ohms}\) & 41/6 & \(21 / 4\) & 25\% & 3\%/4. & \(21 / 2\) \\
    \hline
    \end{tabular}

    \title{
    REVOLUTIONARY LINEAR STANDARD AMPLIFIER
    }

    \section*{NEW HEIGHT OF FIDELITY 20 WATTS...KIT FORM}

    The Linear Standard amplifier climaxes a project assigned to our audio engineering group a year ago. The problem was, why does a Williamson circuit amplifier which tests beautifully in the laboratory seem to have considerable distortion in actual use? It took a year to fully determine the nature and cause of these distortions and the positive corrective measures. This new amplifier not only provides for full frequency response over the audio range but, in addition, sets a new standard for minimum transient dirtortion.

    An inherent weakness of the Williamson circuit lies in the fact that its negative feedback becomes positive at subsonic and supersonic frequencies. The resultant instability in use lends to parasitic oscillation at the high end and large subaudio cone excursions both of which produce substantial distortions. The Linear Standard Amplifier uses Multiple Loop Feedback and network stabilization to completely eliminate these instabilities. The oscillagrams below show comparative performance. The flat frequency response and extremely low intermodulation distortion provided by 36 db feedback, are self evident from the curves shown.

    In addition to providing an ideal amplifier electrically, considerable thought was given to its physical form. A number of points were considered extremely important: (1) Size should be minimum (power and audio on one chassis). (2) Each kit must have identical characteristics to lab model. (3) Rugged, reliable, structure is essential.

    This resulted in a rather unique construction employing a printed circuit panel as large as the chassis with virtually all components pre-assembled and wired. The result is that each kit, which comes complete, including tubes and cover, can be fully pretested before shipment. Additional wiring involves only the connection of 17 leads to screw terminals for completion.

    COMPARATIVE PERFORMANCE
    

    LINEAR STANDARD TYPE MLF AMPLIFIER SPECIFICATIONS...
    Rated Power Output:
    Intermodulation Distortion:
    07\%-1W, 1\%-20W
    Frequency Response (controlled): \(\qquad\) 1 db 20 to 20,000 cycles
    Hum \& Noise Level: 80 db below rated output
    feedback: 36 db
    Output impedances (not critical): \(\qquad\) \(4,8,16 \ldots\) also \(2,5,10,20,30\) ohms
    iubes 1-12AX7, 2-6AUG, 2-5881, 1.5V4G
    Dimensions \& Weight: \(51^{\prime \prime \prime} \times 8^{\prime \prime} \times 171 / 0^{\prime \prime}, 24 \mathrm{lbs}\).
    Net Price:
    \(\$ 108.00\)
    
    linear standard mlf amplifien
    

    WITH COVER REMOVED
    

    Suited yo \(7 "\) rack panel mountine
    
    printed circuit construction
    
    frequency response curve
    

    IWTE RMODULATION DISTORTION CURVE
    like - new
    performance
    Replace with original ROGERS TV DEFLECTION components HIGH VOLTAGE and HORIZONTAL OUTPUT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Part No. & KV Output & Defi. & Description and Use & Deflection Yoke & Width Coıl & Linearity Coil & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline EFR 85 & 12 & \(70^{\circ}\) & Hgh efflciency for "630" type defi. CKTS. Same mitg. holes and terminals as \(211 \mathrm{~T} 1,211 \mathrm{~T} 3\). Roplaces 211T1, 211T3 with minor CKT changes, and has greater output. Can be supplied with 2 filament teads for doubler CKTS to replace 211 T5. & PCM \({ }^{\circ}\) & QRC 102 & ORC 106 & \$9 50 \\
    \hline EFR 88 & 15 & \(70^{\circ}\) & Regal 140-126, 140-138. GEM-JEWEL No. 64T3 exact replacement & PCM 85 & ORC 102 & QRC 106 & 950 \\
    \hline EFH 93 & 14.5 & \(70^{\circ}\) & VIDEO PRODUCTS No. ET-106 exact replacement also PHILHARMONIC and BRUNSWICK " 630 's" & PCM 85 & QRC 102 & QRC IUG & 9.50 \\
    \hline EFR 96 & 14.5 & \(70^{\circ}\) & Similar to EFA 85 Dut with higher output KV. Conversion unit and general use in " 630 " type deflection CKTS. & PCM 85 & QPC 102 & ORC 106 & 450 \\
    \hline EFR 101 & 13 & \(70^{\circ}\) & FADA \(37.258,37.255\); CROSLEY AD151802, 153619 exact replacement & PCM 145 & ORC 112 & QRC 103 & 350 \\
    \hline EFR 102 & 17 & \(70^{\circ}\) & FADA B37.264 exact replacement & PCM 145 & ORC 112 & ARC 103 & 10.00 \\
    \hline EFR 105 & 15 & \(70^{\circ}\) & GEM-JEWELL 91T5 & PCM \(8{ }^{\circ}\) & QRC 102 & none & 9.50 \\
    \hline EFR 106 & 14.5 & \(70^{\circ}\) & MAJESTIC C9.253, D9 259 exact replacement & PCM 145 & QRC 104 & ORC 104 & 9.50 \\
    \hline EFR 112 & 14.5 & \(70^{\circ}\) & GE 77Jt for use in all GE type deflection CKTS. & PCM 145 & QRC 104 & QRC 104 & \(9: 0\) \\
    \hline EFR 118 & 14 & \(70^{\circ}\) & Direct drive, air core, auto transformer. RCA EMERSON, CAPEHART, PACKARD BELL & PCM 303 & QRC 110 & QRC 106 & © 0 \\
    \hline EFR 125 & 14.5 & \(70^{\circ}\) & EMERSON No. \(738056,060,064\) exact replacement & PCM 303 & QRC 110 & QRC 104 & 9.30 \\
    \hline EFR 126 & 15 & \(70^{\circ}\) & EMERSON No. 738067, 068, 069, 073, 074 exact replacem 3nt-newer models & PCM 175 & QRC 110 & nono & 9.50 \\
    \hline EFR 127 & 14.5 & \(70^{\circ}\) & EMER.3ON 738079 & PCM 305 & QRC 103 & nono & 9.50 \\
    \hline EFR 128 & 14 & \(70^{\circ}\) & WESTINGHOUSE V10214, exact replacement & PCM 104 & QRC 102 & QRC 104 & 4.6 \\
    \hline EFR 132 & 15 & \(70^{\circ}\) & WESTINGHOUSE V11548 exact replacement & PCM 204 & QRC 102 & QRC 100 & 9.0 \\
    \hline EFR 138 & 12.5 & \(70^{\circ}\) & Dow 13A, 8 1676-13A exact replacement & PCM 8.5 & QRC 102 & QPC 106 & 95 \\
    \hline EFR 142 & 12 & \(70^{\circ}\) & AC/DC Auto Transformer uses \(100 \mathrm{~V} .8+\) & PCM 145 & none & none & 950 \\
    \hline EFR 149 & 12 & \(77^{\circ}\) & ZENITH, later models. exact replacement & PCM 85 & QRC 102 & nonu & 9.50 \\
    \hline EFR 151 & 16 & \(70^{\circ}\) & RCA 225T1 also HOFFMAN & PCM 245 & QRC 142 & - & 10.00 \\
    \hline EFR 152 & 16 & \(70^{\circ}\) & RCA 230T1 exact replacement & PCM 144 & QRC 109 & ORC 110 & 10.00 \\
    \hline EFR 155 & 19 & \(90^{\circ}\) & RCA 235 T 1 oxact replacement & PCM 2045 & ORC 109 & ORC 110 & 15.00 \\
    \hline EFR 158 & 16 & \(70^{\circ}\) & OLYMPIC TR-2771 STROMBERG 161042,161046 exact replacement & PCM 144 & QRC 109 & ORC 103 & 9. \({ }^{\text {d }}\) \\
    \hline EFR 162 & 13 & \(70^{\circ}\) & SYLVANIA 241-0003 exact replacement & PCM 144 & QRC 106 & QRC 103 & 8.90 \\
    \hline EFA 163 & 13 & \(70^{\circ}\) & SYLVANIA 241-0005, 6 exact replacement & PCM 144 & QRC 107 & ORC 103 & 8.06 \\
    \hline EFR 164 & 13 & \(70^{\circ}\) & SYLVANIA 241-0007 exact replacement & PCM 204 & QRC 112 & ORC 103 & 8.50 \\
    \hline EFR 167 & 14.5 & \(70^{\circ}\) & ADMIRAL 79C30-1, -3 exact replacement & PCM 144 & QRC 103 & ORC 103 & 10.00 \\
    \hline EFR 168 & 14.0 & \(70^{\circ}\) & ADMIRAL 79C30-2, -4 exact replacement & PCM 144 & QRC 103 & QRC 103 & 10.00 \\
    \hline EFH 169 & 15.0 & \(70^{\circ}\) & ADMIRAL 79041-1 exact replacement & PCM 175 & ORC 105 & QRC 110 & 9.50 \\
    \hline EFR 170 & 15.0 & \(70^{\circ}\) & ADMIFIAL 79D41-2 exact replacement & PCM 175 & QRC 105 & QRC 110 & 9.50 \\
    \hline EFR 174 & 12 & \(70^{\circ}\) & MOTOROLA 24A790184, 24C791823, 24 K 791974 & PCM 245 & none & - & 9.50 \\
    \hline EFR 175 & 12 & \(70^{\circ}\) & MOTOROLA \(24 \mathrm{~K} 792753,24 \mathrm{~K} 700\) 588, 24C 792596. \(24 \mathrm{~K} 701099,24 \mathrm{C} 701134\) & PCM 305 & - & - & 9.60 \\
    \hline EFR 177 & 16 & 70 & MOTOROLA 24C \(711265,24 \mathrm{C} 721290\), 24K 722 126, 24 K 721 301, \(24 \mathrm{~K} 711266,24 \mathrm{~K} 730\); 92 & PCM 243 & - & - & 11.0 \\
    \hline EFR 178 & 16 & \(70^{\circ}\) & MOTUROLA \(24 \mathrm{~K} 702975,24 \mathrm{~K} 711937\) & PCM 243 & - & - & 11.50 \\
    \hline EFR 179 & 16 & \(70^{\circ}\) & MOTOROLA 24K730904 & PCM 243 & nune & notre & 12.60 \\
    \hline EFR 181 & 13 & \(66^{\circ}\) & PHILCO No. 32-8428-2 & PCM 144 & - & - & 5.60 \\
    \hline EFR 182 & 13 & \(66^{\circ}\) & PHILCO No. 32-8453-3 & PCM 105 & - & - & 12.00 \\
    \hline EFR 183 & 13 & \(66^{\circ}\) & PHILCO No. 32-8509 & PCM 105 & - & - & 12.50 \\
    \hline EFR 184 & 13 & \(70^{\circ}\) & PHILCO No. 32-8509-* & PCM 105 & - & - & 12.50 \\
    \hline EFR 185 & 13 & \(70^{\prime \prime}\) & PHILCO No 32-8534 & PCM 144 & - & - & 9.50 \\
    \hline EFR 186 & 15 & \(70^{\circ}\) & PHILCO No 32-8555 & PCM 305 & none & none & 9.50 \\
    \hline EFA 187 & 14. & \(70^{\circ}\) & PHILCO No. 32-8:565 & PCM 305 & none & none & 9.50 \\
    \hline EFA 188 & 16.5 & & PHILCO 32-8572 exact replacement. & PCM 305 & none & none & 10.00 \\
    \hline EFR 189 & & & PHILCO 32-8634 exact replacement. & & none & none & 10.00 \\
    \hline EFR 194 & 16 & \[
    70^{\circ}
    \] & MUNTZ TO-0031 & PCM 14; & none & QRC 113 & \[
    10.06
    \] \\
    \hline EFR 195 & & \[
    90^{\circ}
    \] & MUNTZ TO-0036 & PCM 2045 & none & none & 10.00 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{4}{|c|}{COILS} & & & \multicolumn{7}{|c|}{DEFLECTION YOKES} \\
    \hline \multirow[t]{2}{*}{ORC Part No.} & \multirow{2}{*}{Description and Use} & \multicolumn{2}{|r|}{\(L(m h)\)} & \multirow{2}{*}{R(ohms)} & \multirow{2}{*}{List Price} & \multirow{2}{*}{Part No. PCM} & \multicolumn{2}{|l|}{Inductance (mh)} & \multicolumn{2}{|l|}{Resistance} & \multirow{2}{*}{Def. Angle} & \multirow{2}{*}{List Price} \\
    \hline & & min. & \(\max\) & & & & Hor & vert. & Hor. & Vert. & & \\
    \hline 101 & GE width coil with width
    AGC winding
    AGC & 5 & 30
    8 & 28
    30 & \$1.65 & 84
    85 & 8.3
    8.3 & 43
    40 & 9.6
    9.6 & 45
    53 & 70
    70 & \(\$ 9.00\)
    9.00 \\
    \hline 102 & RCA 201 R 4 width coil & . 16 & . 65 & 1.2 & . 95 & 104 & 10.3 & 43 & 12.5 & 45 & \(70^{\circ}\) & 9.00
    9.00 \\
    \hline 103 & Tappod linearity (RGA & 3 & 4.3 & 7.0 & 1.20 & 105 & 10.3 & 50 & 12.5 & 53 & \(70^{-}\) & 9.00 \\
    \hline & 207R1) & & & & & 144 & 14.0 & 43 & 18.0 & 45 & \(70^{\circ}\) & 9.00 \\
    \hline 104 & GE width \& lin. conls & 5 & 30 & 28 & 1.20 & 145 & 14.0 & 50 & 18.0 & 53 & \(70^{\circ}\) & 9.00 \\
    \hline & RLD-014 & & & & & 175 & 17.5 & 50 & 21.5 & 53 & \(70^{\circ}\) & 9.60 \\
    \hline 105 & ORC 102 with AGC / width & . 16 & . 65 & 12 & & 204 & 20.0 & 43 & 25.0 & 53 & \(70^{\circ}\) & 9.00 \\
    \hline & winding |AGC & 3 & 9 & 28 & 1.65 & 243 & 24.0 & 3 & 28.5 & 3.2 & \(70^{2}\) & 9.00 \\
    \hline 106 & RCA 201 R3 Lin. Coil & 4 & 20 & 35 & 1.20 & 244 & 24.0 & 43 & 28.5 & 45 & \(70^{\circ}\) & 9.00 \\
    \hline 107 & AFC coil & 15 & 40 & 60 & 1.20 & 245 & 24.0 & 50 & 28.5 & 53 & 70 & 9.00 \\
    \hline 108 & RCA 211 R1 width coll & 1.65 & 9.2 & 8.8 & 1.20 & 303 & 30.0 & 3 & 32 & 3.2 & 70 & 9.00 \\
    \hline 109 & RCA 212R1 width coil & 2.9 & 16 & 12 & 1.20 & 305 & 30.0 & 30 & 32 & 53 & \(70^{\circ}\) & 9.00 \\
    \hline 110 & RCA \(213 \mathrm{R1}\) lin. coll & 1.5 & 8.3 & 8.3 & 1.20 & 1045 & 10.5 & 45 & 12 & 52 & \(90^{\circ}\) & 15.00 \\
    \hline 111 & RCA 201 R5 tap. lin. cou \({ }^{\text {d }}\) & . 55 & 2.3 & 8.3 & 120 & 2045 & ? 0 & \(4{ }^{3}\) & 28 & 52 & \(90^{\circ}\) & 15.00 \\
    \hline 112 & Width coil & 5 & 2.5 & 2.5 & 1.00 & \multicolumn{7}{|l|}{Each yoke supplied with color coded leads and matched network} \\
    \hline
    \end{tabular}
    

    \section*{"the eye \\ tells}

    TRANSFORMER SPECIALISTS SINCE 1895
    MT. CARMEL, ILL.
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    FGV
    

    BAH
    

    RTV
    

    RAV
    

    GGV

    \section*{AUDIO INPUT AND INTERSTAGE TRANSFORMERS}
    

    TUBE TO LINE TRANSFORMERS (Low Level)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline T-22S90 & \$6.00 & \(F(i)\) & Single or mush-pull phates to line............. \(20,000 \mathrm{Ct}\). & \[
    \begin{aligned}
    & 500 \text { Ct. or } \\
    & 12.5 \text { to } 200
    \end{aligned}
    \] & & 8 & 23/8 & \({ }^{227} 82017 / 8 \quad 23 / 8\) & \\
    \hline T-22S92 & 12.50 & RTV & Single or puabh-pull flates to line (Hum-bucking \(20,000 \mathrm{Ct}\). coil and corn-fully poted) & \[
    \begin{aligned}
    & 500 \mathrm{Ct} \text { or } \\
    & 125 \text { to } 200 \\
    & \hline
    \end{aligned}
    \] & & 8 & \(15 / 8 \times 15 / 6\) & 1960 Diam. 2 & \\
    \hline
    \end{tabular}

    \section*{DRIVER TRANSFORMERS}
    

    \section*{MODULATION TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Type No.} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\[
    \text { Mtg. } \begin{gathered}
    \text { Capacity } \\
    \text { Wgatto }
    \end{gathered}
    \]}} & \multirow[t]{2}{*}{\begin{tabular}{l}
    l'rimary \\
    Imp. Ohms
    \end{tabular}} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Secondary \\
    Imp. Ohms
    \end{tabular}} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{Secondary Voltes M.A.}} & \multirow[t]{2}{*}{Primary Application} & \multirow[t]{2}{*}{Mtg. Centers} & \multicolumn{3}{|c|}{Dimensions} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { Wit. } \\
    & \text { IJs. }
    \end{aligned}
    \]} \\
    \hline & & & & & & & & & & W. & & H. & \\
    \hline T-21M50 & \$4.00 & BAII & 3 & \(10,000 \mathrm{Ct}\). & 4500 & 135 & 30 & 19, etc. & 2 & \(23 / 8\) & \(12 / 8\) & \(18 / 8\) & \(11 / 3\) \\
    \hline T-21M52 & +6.00 & FGV & 10 & \(10,000 \mathrm{Ct}\). & 4500/3750/3000 & 350 & 80 & 6N7, etc. & \(23 / 81136\) & 2788 & 21.15 & 21. & \(1{ }^{1} \cdot 4\) \\
    \hline T-21M54 & 8.50 & GGV & 25 & 6,600 Ct. & 4000 & 400 & 100 & PP 6 I. \({ }^{\text {c, etc. }}\) & \(2 \times 113\) 何 & 296 & \(21 / 10\) & \(3 \% 8\) & \(8{ }^{3}\) \\
    \hline T-21M56 & 16.50 & GGV & 75 & 10,000 Ct. & 6600/3750 & 1250 & 200 & TZ-20-809
    etc. & \(215 \times 23\) 佰 & \(31 / 6\) & 414 & 37/8 & 8\% \\
    \hline T-21M58 & 31.00 & KTV & 100 & 15,000 Ct. & 6250 & \[
    \begin{aligned}
    & 1250 \\
    & \text { M8x. }
    \end{aligned}
    \] & 200 & 811-812, etc. & \(31 / 2 \times 416\) & 416 & 5114 & 55/8 & 13 \\
    \hline
    \end{tabular}
    

    UNIVERSAL MULTI-MATCH MODULATION TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No. & \[
    \begin{aligned}
    & \hline \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Mtg. & \[
    \begin{gathered}
    \text { Capacity } \\
    \text { Watts }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Primary M. } \\
    & \text { Each Side }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { econdary } \\
    & \text { Series }
    \end{aligned}
    \] & M.A.
    Parallel & \[
    \begin{aligned}
    & \text { Mig } \\
    & \hline
    \end{aligned}
    \] & & W. & nensi
    D. & 1. & Wt. \\
    \hline T-21M60 & \$21.00 & KTV & 15 & 50 & 50 & 100 & 21.6 & & 215/0 & 31 & 4 & 33/4 \\
    \hline T-21M61 & 33.00 & PUV & 60 & 125 & 125 & 250 & \(13 / 4\) & & \(31 / 8\) & 51 & 4 & 83 \\
    \hline T-21M62 & 43.20 & PUV & 125 & 210 & 160 & 320 & & & 410 & 68 & \(5^{3}\) /06 & 168/4 \\
    \hline T-21M64 & 68.50
    115.00 & PUV & 300
    500 & 250
    320 & 250
    320 & 500
    640 & 211106 & & \(4{ }^{411} 16\) & \(11^{7 / 4}\) & & 20
    50 \\
    \hline T-21M66 & +32.00 & KTV & \multicolumn{6}{|l|}{50500 Ohm Line to R.F. Load- \(5000 / 6000 / 7000 \quad 31 / 4 \times 33 / 4\)} & 43\%680 & & 61/8 & 11 \\
    \hline
    \end{tabular}

    VIBRATOR POWER TRANSFORMERS
    

    OUTPUT TRANSFORMERS
    

    TELEVISION REPLACEMENT \& EXPERIMENTAL POWER TRANSFORMERS
    

    \title{
    TRANSFORMER SPECIALISTS SINCE 1895
    }

    MT．CARMEL，ILL．
    For a Complete Listing Ask for a Copy of Our Latest General Catalog
    REPLACEMENT POWER TRANSFORMERS
    

    FILAMENT TRANSFORMERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No． & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Mtg． & \[
    \begin{aligned}
    & \text { Secon } \\
    & \text { Volts }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { dary } \\
    & \text { Aınр. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Ins. } \\
    & \mathrm{R} . \mathrm{II} . \mathrm{S} .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Pri. Volts } \\
    & 50 / 60 \mathrm{Cy} \text {. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { \$1tg. } \\
    \text { Centers }
    \end{gathered}
    \] & W． & \[
    \begin{gathered}
    \hline \text { Dimensions } \\
    \text { D. }
    \end{gathered}
    \] & H． & \[
    \begin{gathered}
    \mathrm{Wt} \\
    \text { Lbs. } \\
    \hline
    \end{gathered}
    \] \\
    \hline T－21F00 & \＄5．00 & BAY & 2.5 Ct ． & （a） 5 & 2500 & 117 & \(23 / 8\) & 27\％ & \(13 / 4\) & \(2^{5}\) & 1 \\
    \hline T－21F01 & 6.00 & BAV & 2.5 Ct ． & （a） 10 & 2500 & 117 & \(2^{11}\) 的 & \(3^{5}\) & 2 & \(2^{111 / 16}\) & \(11 / 2\) \\
    \hline T－21F02 & 8.00 & CAV & 2.5 Ct ． & （ 10 & 10.000 & 117 & \(2 \times 13 / 4\) & 23 & 24 & \(3{ }^{1 / 0}\) & \(21 / 4\) \\
    \hline T－21F03 & 5.00 & BAV & 5 Ct ． & （a） 3 & 250 & 117 & 238 & 2\％8 & 11／4 & \(2^{3} 16\) & 1 \\
    \hline T－21F04 & 7.50 & BAV & 5 Ct ． & （13） 8 & 2500 & 117 & \(2{ }^{11}\) & 356 & & \(2^{11} 16\) & \(11 / 2\) \\
    \hline T－21F05 & 8.00 & CAV & 5 Ct ． & （14） 3 & 10，000 & 117 & \(2 \times 13 / 4\) & 236 & 21／4 & 31／4 & \\
    \hline T－21F06 & 7.50 & CAV & 5 Ct ． & （a） 13 & 2500 & 117 & \(2 \times 2\) & 23／2 & 23／2 & 31／6 & \(29 / 4\) \\
    \hline T－21F07 & 12.00 & CAV & 5 Ct & （a） 21 & 2.300 & 117 & 21／2 \(\times 21 / 4\) & 31／8 & 31 & \(3^{13 / 10}\) & 5 \\
    \hline T－21F08 & 3.50 & Hav & 6.3 Ct ． & （a） 1 & 2.50 & 117 & 2 & 238 & 13 & & 3／4 \\
    \hline T－21F10 & 5.00 & HAH & 6.3 Ct ． & （a） 3 & 250 & 117 & \(23 / 4\) & 3\％ & 13／4 & & \\
    \hline T－21F11 & 8.00 & HAV & 6.3 Ct ． & （a） 6 & \(\because 250\) & 117 & 2110 & 3 \％ & 2 & \(23 / 4\) & \(11 / 3\) \\
    \hline T－21F12 & 7.50 & CAV & 6.3 Ct ． & （9） 10 & 2500 & 117 & \(2 \times 2\) & \(21 / 2\) & \(23 /\) & 31 的 & 23／4 \\
    \hline T－21F14 & 5.00 & B．AI & 6．3－5－2．5 & （a） 2.5 & 2500 & 117 & \(23 / 4\) & 31／4 & 13／4 & & 1 \\
    \hline T－21F15 & 6.50 & BAV & 7.5 Ct ． & （a） 4 & 2.500 & 117 & \(2{ }^{11} 10\) & 35 & & \(2{ }^{11}\) & \(11 / 3\) \\
    \hline T－21F16 & 8.00 & CAV & 7．5 Ct． & （a） 8 & 2500 & 117 & & \(21 / 2\) & \(23 / 4\) & \(31 / 10\) & \(23 / 4\) \\
    \hline T－21F17 & 10.50 & CAV & 7.5 Ct ． & （a） 12 & 2500 & 117 & \(21 / 4 \times 214\) & \(2{ }^{13} / 10\) & \(31 / 1\) & \(31 / 2\) & \({ }_{4}^{4}\) \\
    \hline T－21F18 & 8.00 & CA V & 10 Ct ． & （4） 5 & 2500 & 117 & \(2 \times 13\) & 21／2 & \(21 / 4\) & \({ }_{3}^{315}\) & \(21 / 4\) \\
    \hline T－21F19 & 12.00 & CAV & 10 Ct ． & \[
    \text { (a) } 12 \text { or }
    \]
    \[
    \text { (a) } 11
    \] & 2500 & 117 & \(21 / 2 \times 214\) & \(31 / 8\) & 34 & 315 自 & \(51 / 1\) \\
    \hline
    \end{tabular}

    CHOKES－REACTORS－Universal Types－Swinging and Smoothing
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Type No． & Liet Price & \[
    \begin{gathered}
    \text { Mtk. } \\
    \text { F'ig. }
    \end{gathered}
    \] & O D．C． & Itporien Hated 13．\({ }^{1}\) & \[
    \begin{aligned}
    & \text { Max. } \\
    & \text { 1). }
    \end{aligned}
    \] & Currant Hated I）．C． & \[
    \begin{aligned}
    & \text { MA. } \\
    & \text { Max. } \\
    & \text { W.C. }
    \end{aligned}
    \] & \begin{tabular}{l}
    D．C．Rea \\
    Ghme
    \end{tabular} & Tpat Volta H．M．S． & \begin{tabular}{l}
    Mtg． \\
    Centere
    \end{tabular} & W． & \[
    \begin{gathered}
    \text { nens } \\
    \text { D. }
    \end{gathered}
    \] & H． & \[
    \begin{aligned}
    & \text { Wt. } \\
    & \text { Ibs. }
    \end{aligned}
    \] \\
    \hline T－20C50 & \＄5．00 & \(\mathrm{HA} \overline{\mathrm{H}}\) & 47.5 & 350 & 75 & 5 & 25 & 5500 & 2000 & 27／8 & 314 & 2 & 2 & 115 \\
    \hline T－20C51 & 2.50 & H．\({ }^{\text {H }}\) & 70 & 35 & 15 & 1.5 & 25 & 1850 & 1：00 & 2 & \(28 / 8\) & 114 & 18／8 & 12 \\
    \hline T－20C52 & 2.50 & H．AH & 13 & 5 & 4 & 40 & 6.5 & 4.50 & 1200 & 2 & 28／8 & 11／4 & 13／8 & 12 \\
    \hline T－20C59 & 3.00 & H．\({ }^{\text {d }}\) & 14 & 7 & 5 & 55 & 15 & 210 & 1800 & 23／8 & 2310 & \(15 / 8\) & 15\％ & 3.4 \\
    \hline T－20C53 & 3.50 & H．AH & 24 & 12 & 8 & 80 & 310 & 375 & 2000 & \(27 / 8\) & \(31 / 4\) & 2 & 2 & 114 \\
    \hline T－20C64 & 4.50 & HAH & 15 & 4 & 3 & 130 & 150 & 100 & 1600 & 31／8 & \(311 / 10\) & \(2 \frac{8}{8}\) & 214 & \(11 / 2\) \\
    \hline T－20C54 & 6.50 & （iGV & 16 & 8 & 4 & 1.50 & 200 & 145 & 2700 & \(2 \times 111 / 8\) & 217 & 234 & 318 & \(21 / 2\) \\
    \hline T－20C54－P & 11.50 & WTV & 16 & 8 & 4 & 1.50 & 200 & 14.5 & 2710 & \(2116 \times 23 / 2\) & 3 & \(23 / 4\) & 4 & 33.4 \\
    \hline T－20C55 & 8.00 & （i）\({ }^{\text {dV }}\) & 11 & 1 & 2 & 200 & 3100 & 75 & 2700 & \(21.4 \times 2\) & 27／8 & 31／4 & 31／2 & 312 \\
    \hline T－20C55－P & 13.00 & WTV & 11 & 6 & 2 & 200 & 300 & 75 & 2700 & \(2^{23}\) 㐌 \(\times 2^{11} / 5\) & \(38 / 8\) & 3 & 45 & 5 \\
    \hline T－20C56 & 11.00 & （igiv & 10 & 7 & 4 & 300 & 375 & 10 & 3500 & \(213 \times 3\) & 33.10 & 43／6 & \(37 / 8\) & 61 \\
    \hline T－20C56－P & 18.00 & W「V & 10 & 7 & 4 & 306 & 375 & H0 & 3500 & \(33^{5} \times 318\) & 4 14 & \(3 \frac{3 / 4}{}\) & \(4^{13} 16\) & \(81 / 2\) \\
    \hline T－20C57 & 45.00 & PUV & 16 & 10 & 6 & ：00 & 600 & 45 & 7500 & \(21110 \times 7\) & \(411 / 10\) & \(73 / 4\) & 6 & 26 \\
    \hline T－20C58 & 3.00 & 13．13 & & ． 75 & & ． 5 & & 30 & 1100 & 23 \％ & \(2{ }^{13} 16\) & 1／2 & 15／3 & \(1 / 2\) \\
    \hline
    \end{tabular}

    \section*{miniature transformers}
    

    ALUMINUM CASED （－A）
    t1＂ Mtg center
    \(2-56\) screw 2－56 screw
    Available with UA Bracket，mounting centers＇ \(11 \%\)＂on special order． Add \(\$ .50\) to List Price．

    Weight 2 ounces．
    Sealed plastic
    housing with plug－in octal base．

    困 microtran company

    The ruggedize military type units shown on this and the accom． panying page were developed to meet the demands of a growing miniaturization program．All units shown are available from stock miniature audio transformers
    （＂\(M\)＂series）
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Catalog No．＊} & \multirow[t]{2}{*}{Application} & \multicolumn{2}{|l|}{Impedance in Ohms} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{\begin{tabular}{cc} 
    Pri．DC． & Operating \\
    Unbalance & Level \\
    MA． & DBM
    \end{tabular}}} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Freq． \\
    Response \(\pm 2 \mathrm{DB}\)
    \end{tabular}} \\
    \hline & & Primary & Secondary & & & \\
    \hline M1 & Nike of line to 1 grid & ¢0／150／600 C．T． & 50,000 & 0 & 5 & \(20-20,000\) \\
    \hline H2 & Nike or line to 2 grids & \(50 / 150 / 600\) C．T． & 50，000 C．T． & 0 & 5 & 20－10．000 \\
    \hline M3 & ［lynamic mike to 1 grid & 7．5／30 & 50,000 & 0 & 5 & 20－30．000 \\
    \hline M4 & Single plate to 1 grid & 15,000 & 60，000 & 0 & 6 & 20－15，000 \\
    \hline M5 & Single plate to 1 grid & 15，100 & 60.000 & 4 & 14 2 & \(200-20,000\) \\
    \hline M6 & Single plate to 2 erids & 15.000 & 15，000 C．T． & 0 & 5 & \(2(1-15.000\) \\
    \hline M 7 & Single plate 102 grids & 15.000 & \％5．000 C．T． & 4 & 11 ： & \(2001-20.000\) \\
    \hline M8 & single plate to dine & 15.100 & 50／150／600 С．T． & 0 & 8 & \(20-20.000\) \\
    \hline M9 & single plate to line & 15.000 & \(50 / 150 / 600\) C．T． & 0 & 211 & 150－20．000 \\
    \hline M10 & l＇usis pull plates to line & 30，000 whms P．－P． & 50／150／600 C．T． & 0 & 8 & 30－50，000 \\
    \hline MII & C＇rystal mike to line & 50.000 & \(50 / 150 / 600\)（．，T． & 0 & 5 & 20－20．000 \\
    \hline M12 & Mixing and matchitio & \(50 / 150\) & \(50 / 150 / 600\) C＇．T． & 0 & 8 & 20－80．000 \\
    \hline M13 & Reactor 300 HIS．－ No．I．©． & 50 HIS． & \[
    \begin{aligned}
    & \text { 6.000 chms } \\
    & \text { 1.C. R's. }
    \end{aligned}
    \] & 3 & & 30－40，000 \\
    \hline M14 & 50： 1 mike or line to 1 grid & 200 & 1／2 Megohm & 0 & 9 & \(80.3,000\) \\
    \hline M15 & 10： 1 single plate tor 1 grid & 10，100 & 1 Megohm & 0 & 11 & 100－2，500 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multicolumn{7}{|c|}{\begin{tabular}{l}
    miniature transistor transformers \\
    （＂MT＂series） \\
    These units have been designed to permit maximum efficiency and best size factor for audio frequency transistor circuitry．
    \end{tabular}} \\
    \hline Catalog No．\({ }^{*}\) & Application & Impedanc Primary & \begin{tabular}{l}
    in Ohms \\
    Secondary
    \end{tabular} & Pri．DC． Unbalance MA． & Operating Level DBM & \begin{tabular}{l}
    Frequency \\
    Response
    \[
    \pm 2 \mathrm{DB}
    \]
    \end{tabular} \\
    \hline MT1 & Line to emitter & 600 & 600 & 10 & 2： & 200 t10 15,100 \\
    \hline MT3 & collector tu emitter or line & 50 K & 000 & 8 & 311 & 300 to 15.000 \\
    \hline MT5 & Collector to speaker & 5.06 & 6 & ： & 31 & 300 to 15.000 \\
    \hline MT6 & Conlector t＂l＇．l＇．emitter & 1001 & 1200 C．T． & 1.4 & 17 & 2001015,000 \\
    \hline MT7 & ［0］lector pols．t＇．emitier & ごド & 1200（＇．T． & 3 & \(\because 2\) & 200 t1 15.1000 \\
    \hline MT8 & L．P．Cinleetar to P． \(\mathbf{S}^{\prime}\) ． cmitter & E0人 C．T． & 1200 C．T． & ： & 20 & 3001015,000 \\
    \hline MT9 & Jime to P＇．P．emittor & \(606150 \mathrm{C} . \mathrm{T}\). & 1200 C．T． & 1 & \(2:\) & \(\because 00\) to 15，000 \\
    \hline MT10 & Coblector tormiter & ごら & （i）0 & 3 & 22 & 200 to 15.000 \\
    \hline MT11 & P．F．Cublector to emit ter or linke & 4K（＇．T． & 400／150 C．T． & 3 & 32 & 200 to 15.000 \\
    \hline MT12 & （hitput collerolur to speater & 2K & 3.4 & 10 & ？i & \(2(10) 101-1000\) \\
    \hline MT13 & Gutput 1＇． F ．collectur to speaker & ＋K（\％．T． & 3.4 & \(\because\) & ：\(\because\) & 200 to 15.000 \\
    \hline
    \end{tabular}

    \section*{＊ordering and part no．information}

    Add the following suffixes to the obove port numbers to designote mounting type required：
    mtg．type
    Hermetic
    Aluminum cased
    Plug－in
    Open Frame
    Open Frame with Channel
    \begin{tabular}{l} 
    suffix \\
    \hline\(-A G\) \\
    \(-H\) \\
    \(-A\) \\
    \(-P\) \\
    \(-F\) \\
    \(-F B\) \\
    \(-M\)
    \end{tabular}
    typical example

    \section*{MI－AG}

    MI－H
    MI－A（Available \(M\) size only） MI－P（Available \(M\) size only）
    MI－F
    MI－FB
    MI－M（on special order only）

    \section*{图}

    The ruggedize military type units shown on this and the accom－ panying page were developed to meet the demands of a growing miniaturization program．All units shown are available from stock．
    sub－miniature audio transformers
    （＂SM＂series）
    
    sub－miniature transistor transformers
    （＇SMT＇＂series）
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multicolumn{7}{|c|}{（＇SMT＇series）} \\
    \hline SMT1 & S．ine lo amilla & 1 （1）11 & fill！ & 4 & 23 & 2000 （10 15．0000 \\
    \hline SMT3 & rouldeetur to amitter of lime & Sthk & （ill） & 1 & \(\because 11\) & 30101015.1100 \\
    \hline SMT5 & (oullomen lof stucak＇r & \(\therefore 10 k\) & Ii & 1 & 21 & （3110（1）1．5，000 \\
    \hline SMI7 & （iollerondor I＇．I＇．amitter & 2．5 & 12000（．T． & 1． 5 & 20 & 200 （1） 1.5 .1100 \\
    \hline SMT10 & （i）lentur 0 （ milltel & 2．\％ & （illl & \(\because\) & \(\because 11\) & 2110 t015．1900 \\
    \hline SMT 12 & 1mitput cullector for suraher & 长 & 3.1 & is & ：30 &  \\
    \hline SMT 13 &  & 1．1．T． & 3.1 & 1．7 & 311 & 30016151000 \\
    \hline
    \end{tabular}
    micro－miniature audio transformers
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multicolumn{7}{|c|}{（＇MM＇series）} \\
    \hline MM1 & ItıM1 & 200 ＇．00 &  & ＊ & 1 & \(\underline{2} 010110.1000\) \\
    \hline MM2 & Intorstare 2 ： 1 & 10.10010 & 30， 01001 & 1 & 1 & 1．10－10，000 \\
    \hline MM3 & I＇lafe foline & 10.0010 & 2011 & ： & \(\because 1\) & 150－10，000 \\
    \hline MM4 &  & 310.000 & ．111 & 1 & 21 & 150－10．000 \\
    \hline MM5 & Rastar in Ill al 1111， 110 & 1.500 ohms： 110．Res & & & & \\
    \hline MM6 & Mut pat \({ }^{\text {a }}\) & 100.000 & 180 & 0.5 & \(\because 1\) & \(250.10 .100 n\) \\
    \hline
    \end{tabular}
    micro－miniature transistor series
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline MMT1 & S．inm tomither & 15（）） & lidM & 8 & 23 & 2001015.900 \\
    \hline MMT3 & Collemtar tor matier of line & Sok & tillo & 11.7 & 34 & 200 fo 15.000 \\
    \hline MMT5 & Cullacter for sheraher & 310 K & ＋i & 1 & 20 & 200 to 15.000 \\
    \hline MMT 10 & Cinlteram（o） rmitler & \(25 \%\) & lill & I & 211 & 2001015,1000 \\
    \hline MMT13 & Wathat I＇，I＇ ralluftir in stuaher & 1ん 「．T． & 2.1 & \({ }^{11} .7\) & 2N & 201011015,000 \\
    \hline
    \end{tabular}

    \section*{veri－miniature transformers}

    Veri－miniature transformers were developed to provide maximum efficiency with transistor circuitry． These units were designed for printed circuit applications．4＂leads on open frame units are suitable for dip soldering．Highest efficiency－space factor obtained by use of high permeability Nickel－Alloy Cores．Nylon Bobbins，Formvar Wire．Frequency response 200 cy ．to loKC．Open Frame weight ． 0 Il Ib．
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Catalon No，＊ & Application & Primary I mpedance & Secondary Impedance & \[
    \begin{aligned}
    & \text { Pri. } \\
    & \text { D.C.R }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Sec. } \\
    \text { D.C.R. }
    \end{gathered}
    \] & \begin{tabular}{l}
    Level \\
    MW
    \end{tabular} \\
    \hline VMI & Hı3it & 511 & （104）（1．5ma） & \(1 ;\) & （1） & 15 \\
    \hline VM2 & Imput ur Interstage & 200 K & （i1）0（1．1／mia） & \(2(0.10)\) & （1） & 5 \\
    \hline VM4 & frput or Interstam & 200 K & 120（6）（．72ma） & 215i） & 160 & 5 \\
    \hline VM5 & IItierstame & 50k & 600 （1．0ma） & 1500 & 60 & 5 \\
    \hline VM7 & Gutput & 500 （3．．5mai） & 3.4 & （10） & \％ & 15 \\
    \hline VM8 & Output & 1251）（2．0ma） & 3.4 & 115 & ．） & 1.5 \\
    \hline VM9 & Gutuut & 12，50）（ 2.0 （112） & ．10 & 11.1 & ． 6 & 1.1 \\
    \hline VM11 & Chow & －1111（0ma） & 12119．（．5ma） & 11010 & & － \\
    \hline
    \end{tabular}

    \section*{＊ordering and part no．information}

    Add the following suffix to the above part numbers to designate mounting type desired
    min．Type
    MIL
    Hermetic
    Open Frame
    Open Frame with channel
    VM Hermetic
    \begin{tabular}{|c|c|}
    \hline suffix & typical example \\
    \hline －AF & SMI－AF（Available SM \＆MM sizes only）MMI．AF \\
    \hline －H & SMI－H，MMI－H \\
    \hline －F & SMI－F，MMI－F，VMI－F \\
    \hline －FB & SMI－FB，MMI－FB \\
    \hline －H & VMI－H（Available VM size only） \\
    \hline
    \end{tabular}
    

    PRINTED CIRCUIT
    Miniature，Sub－Miniature
    Micro－Miniature，and
    Veri－Miniature available on
    special order with straight tab： and solid buss leads for tab mounted printed circuit applications．
    
    k． 60 －

    \section*{HERMETIC（VM－H）－}

    M．H Hermetically sealed unit
    is available on special order is available on special order type mounting．Weight 02 lb

    \section*{困 microtran company \\ Transformer Division Crest Laboratories, Inc.}
    

    \section*{LVS-153 line voltage stabilizer}

    A quality voltage regulator that automatically stabilizes line voltage for TV, Radio or industrial use. Popularly priced.
    Output 115 volts \(\pm 3 \%\).
    Input 9510130 valts, 60 cycles Universal use. . only one model covers 100 to 300 watt range. Automatically operated . . . Regulator never needs adjustment and turns on with sel.
    Pure waveshape, free from distortions and line frequency sensitivity of resonant type regulators.
    Size . . \(10^{\prime \prime} \times 5^{\prime \prime} \times 91_{2}^{\prime \prime}\) high.
    Finish . . . mahogany wrinkle.
    Weight . . . 10 lbs.
    

    \section*{LVB-117 line voltage booster}

    Engineered to safely and accurately restore valtage to any TV set or electrical appliance. Insures fuil strength, width, and height of TV picture when low line voltage weakens and shrinks piclure. Corrects low line voltage sync and oscillator drift troubles.
    350 Watt rating . . . ample for most requirements, restores line voltage of 90 through 135 valts to 117 volts output. Simple plug-in installation. Automatically operated . . . furns on and off with set or appliance. Multi-tap Selector Switch and Calibrated Neon Indicator permit exact voltage boost. Overload fuse protection... protects against unsafe line voltage increase. \(1 — 43 / 8^{\prime \prime}, W-31 / 4^{\prime \prime}\), H— \(3 \% 8^{\prime \prime}\). Mig. Cirs. \(-2 T^{\frac{3}{6}}{ }^{\prime \prime} \times 2 \frac{1}{2} 2^{\prime \prime}\). Weight 4 lbs .

    \section*{LVB "Jr" economy voltage booster}

    Reliable budget priced unit. Single switch control . . . provides 10 Volt Boost, drop, or straight-through line. 350 Watt rating ... simple plug-in installation. \(\mathrm{L}-2 \frac{1}{\mathrm{~m}^{\prime \prime}}, \mathrm{W}-314^{\prime \prime}, \mathrm{H}-37 \mathrm{~m}^{\prime \prime}, \mathrm{Mrg}\). Ctrs.\(1+!"\) к \(21 / \mathbf{2}^{\prime \prime}\). Weight 3 lbs .

    \section*{step down auto transformers}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Part No. & \multicolumn{4}{|c|}{DIMENSIONS} & Mtg. Ctrs. & Weight \\
    \hline M1556 & 1010 Watt rapautity & \(\because 1 \%\) & \(\because\) - & \(: 3^{1}\) & 1\% \({ }_{6} \times 1\) \% & +lhs . \\
    \hline M1555 & 250 Watt cabacity & \(3^{7} \times\) & 31 , & \(3{ }^{5}\) & \(211 \times 216\) & filmo \\
    \hline M1559 & 300 Watt capacity & 3\% & \(3{ }^{7}\) & 15\% & -1; \({ }^{7}\) x \(\%\) & 7 lms \\
    \hline M1558 & 5 50, Matt thpaudt? & 4 it & \(3^{7}\) & \(10 \%\) & \(81_{10}^{9} \mathrm{x}\), & 1214. \\
    \hline M1557 & L"the Watt cuparct & 7 & +!2 & \(5{ }_{5}^{3}\) & \(51 / 4 \times 312\) & 4 O 118 \\
    \hline M1554 & 1500 Whatt capacity & \(\gamma\) & 11. & :3\% & 61/4 \(\times 31 / 2\) & atills. \\
    \hline
    \end{tabular}

    Equipped with secondary standard receptacle and primary 6 ft . line cord. \(240 / 220 \mathrm{~V}\) to \(120 / 110 \mathrm{~V} 50 / 60\) cycles.

    \section*{cathode ray tube rejuvenator}
    

    \title{
    图microtran company 国 \\ \author{
    ROCKAWAY BEACH,N. Y.
    } \\ Transformer Division
    } Crest Laboratories, Inc.

    \section*{price list}
    

    Prices, Mechanical Construction, or Electrical Characteristics Subject to Modification without Nalice.

    \section*{HORIZONTAL OUTPUT. TRANSFORMERS}
    

    \footnotetext{
    The MASTIER - 2nto bhtion
    }

    Page N -118

    \section*{HORIZONTAL OUTPUT TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{RAM} & \multirow[t]{2}{*}{\[
    \begin{gathered}
    \text { MOUNT } \\
    \text { ING } \\
    \text { TYPE }
    \end{gathered}
    \]} & \multirow[b]{2}{*}{KV} & \multicolumn{2}{|l|}{OPERATING CONDITION} & \multirow[t]{2}{*}{DIRECT REPLACEMENT AND DESCRIPTION} \\
    \hline & & & \[
    \begin{gathered}
    8+ \\
    \text { SUPPIY }
    \end{gathered}
    \] & BOOST & \\
    \hline * \(\times 109\) & B & \[
    \begin{aligned}
    & 10.5- \\
    & 13.5
    \end{aligned}
    \] & 350 & 460 & Airline. Raytheon, Coronado. Trans-Vue. Truetone 201-19817.-1,-2,-3, 201-19533-1. 12M-19 407.-1.-2. 12N-19408. 12M-19190 \\
    \hline * X 110 & 8 & \[
    \begin{aligned}
    & 16.5 \\
    & 18.0
    \end{aligned}
    \] & 350 & 580 & Alriine. Raytheon, Truetone 201 19874. 201-19999-1, 201-21270.-1: Wells Gardner 53×326. \(53 \times 328\). \(53 \times 329\), \(53 \times 330\) : Sentinel 22E80: Sparton PC700 15 \\
    \hline \[
    \begin{array}{lllll}
    * & x & 1 & 11 \\
    * & x & 1 & 1
    \end{array}
    \] & \[
    \begin{aligned}
    & \hline B \\
    & B
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 12.5 \\
    & 15.0
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 240 \\
    & 240
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 480 \\
    & 450- \\
    & 480
    \end{aligned}
    \] & Airline, Raytheon, Truetone 201-21025.-1 Raytheon 201-22396.-1 \\
    \hline \(\times 114\) & A & 18.0 & 340 & 525 & Muntz T0-0036.-1 \\
    \hline * XII5 & P & \[
    \begin{gathered}
    8: 0- \\
    10.0
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 345- \\
    & 400
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 400- \\
    & 480
    \end{aligned}
    \] & Crosley AC146756. 147552. 148161.149146 \\
    \hline \({ }^{*} \times 116\) & 0 & 14.0 & 250 & 430 & Zenith S18567. 18990. 19032. 19728 \\
    \hline \({ }^{*} \mathrm{X} 117\) & \(a\) & \[
    \begin{aligned}
    & 11.0- \\
    & 13.0 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 300^{\circ} \\
    & 380
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 480- \\
    & 550
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Crosley AD148258. } 149567 . \\
    & 15189661 . \\
    & 151195 . \\
    & \hline
    \end{aligned}
    \] \\
    \hline * X118 & 0 & 13.0 & \[
    \begin{aligned}
    & 260^{\circ} \\
    & 275
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 490^{\circ} \\
    & 520
    \end{aligned}
    \] & Crosley 154069-1, 154990-1,-2.-3.-4. 155514-1. 156330-1, Hallicrafter. Hoffman \\
    \hline * \(\times 119\) & I & 12.0 & 340 & 475 & Hallicrafter. Silvertone. Truetone 55C133. 55C143. 55C144 \\
    \hline * \(\times 120\) & L & 11.5 & 360 & 580 & Hallicrafter. Silvertone 55C154. 55C155 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline & \multicolumn{2}{|l|}{HNEARIT AND} \\
    \hline \multirow[b]{2}{*}{\[
    R A M
    \]} & \multicolumn{2}{|l|}{WDTA COHS} \\
    \hline & MILLIHENRIES & OHMS \\
    \hline 201814 & \(0.07 \cdot 0.5\) & 0.7 \\
    \hline 201 R3A & 5.0-35 & 39.5 \\
    \hline 201 R 4 & \(0.18-1.5\) & 1. 2 \\
    \hline \(201 \mathrm{R5} \mathrm{~A}^{*}\) & 0.5-4.8 & 7.5 \\
    \hline 20 1R10 & 3.2-28.2 & 21.5 \\
    \hline 20 1R11 & \[
    \begin{array}{cc}
    \text { PRI. } & 0.18 \cdot 1.4 \\
    \text { SEC. } & 4.5-16.0
    \end{array}
    \] & \[
    \begin{array}{r}
    1.2 \\
    48.0
    \end{array}
    \] \\
    \hline 201R12* & 1.2-8.0 & 5.6 \\
    \hline 201R13A & 0.44-3.1 & 2. 3 \\
    \hline \(201 R 14\) & \[
    \begin{array}{lrr}
    \hline \text { PRI. } & 2.6-5.5 \\
    \text { SEC. } & 5.0-22.0
    \end{array}
    \] & \[
    \begin{aligned}
    & 24.0 \\
    & 36.5
    \end{aligned}
    \] \\
    \hline 201 1R15 & 2.0-14.0 & 11.0 \\
    \hline 201 R 16 & 2.8-18.8 & 12.3 \\
    \hline 201817 & \[
    \begin{array}{ll}
    0.17= & 1.8 \\
    8.0-5.0
    \end{array}
    \] & \[
    \begin{array}{r}
    2.5 \\
    22.0
    \end{array}
    \] \\
    \hline 201 R 19 & 2.8 (0.15 CAP.) & 16.0 \\
    \hline
    \end{tabular}
    * Topped Coil
    * exClusively engineered by ram.
    transformers replacing a relatgd group of initial foulpment fivactige, coverine several manufacturers combining the eyart fiectical ane mechanical characteristics of that group.

    \section*{VERTICAL BLOCKING OSCILLATOR TRANSFORMERS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{RAM} & \multirow[t]{2}{*}{TURNS PRI/SEC} & \multirow[t]{2}{*}{\[
    \begin{array}{|c|}
    \hline \text { MOUNT- } \\
    \text { ING } \\
    \text { TYPE } \\
    \hline
    \end{array}
    \]} & \multirow[b]{2}{*}{MOUNTING CENTERS} & \multicolumn{3}{|c|}{DIMENSIONS} & \multirow[t]{2}{*}{\begin{tabular}{l}
    SHIPPING \\
    WEIGHT \\
    IN 18 S
    \end{tabular}} \\
    \hline & & & & HEIGHT & WIDTH & DEPTH & \\
    \hline V40 1 & 1: 4.2 & V5 & \(115 / 16\) & \(21 / 8\) & \(21 / 4\) & \(117 / 32\) & 1 \\
    \hline V402 & 1: 4.2 & V6 & \(17 / 32\) & \(125 / 32\) & \(15 / 32\) & \(15 / 32\) & 1/2 \\
    \hline V403 & 1: 4 & V5 & 2 & \(121 / 32\) & \(23 / 8\) & \(113 / 32\) & 1 \\
    \hline V404 & 1:1.5 & V3 & 2 & \(111 / 32\) & \(23 / 8\) & \(13 / 8\) & \(1 / 2\) \\
    \hline V405 & 1: 4.2 & V3 & \(13 / 4\) & \(11 / 8\) & \(21 / 16\) & \(13 / 8\) & 1/2 \\
    \hline
    \end{tabular}

    \section*{RAM ELECTRONICS SALES CO.}

    IRVINGTON on-Hudson, NEW YORK

    \section*{DEFLECTION YOKES}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{\[
    R A M
    \]} & \multicolumn{2}{|l|}{inductance} & \multicolumn{2}{|l|}{D.C. RESISTANCE} \\
    \hline & HORIZ. & VERT. & HORIZ. & VERT. \\
    \hline Y̌ị Fu® & 8.3 4H & 50.0 0 41H & 9. 50 hms & 60.0 ohms \\
    \hline Y70F08/43 & 8.3 MH & 43.0 MH & 9.50 hms & 48.0 ohrs \\
    \hline Y70F 10 & 10.0 MH & 50.0 MH & 10.0 Ohms & 60.0 0hms \\
    \hline Y70F10/43 & 10.0 MH & 43.0 MH & 10.0 Ohms & 48.0 0hms \\
    \hline Y70F12 & 12.0 MH & 50.0 м M & 16.0 Ohms & 52.00 hms \\
    \hline Y70F14 & 14.0 MH & 50.0 MH & 14.50 has & 60.0 Ohms \\
    \hline Y70F14/43 & 14.0 MH & 43.0 MH & 14.5 0 hms & 48.0 0 hms \\
    \hline Y70F14/3 & 14.0 MH & 3.0 MH & 23.0 ohms & 3. 30 hms \\
    \hline Y70F 17 & 17.0 MH & 50.0 mH & 20.0 0hms & 60.0 h hms \\
    \hline Y70F18/43 & 18.0 MH & 43.0 MH & 21.0 Ohms & 48.0 0hms \\
    \hline Y70F 20/43 & 20.0 MH & 43.0 MH & 22.0 Ohas & 48.0 0hms \\
    \hline Y70F25 & 25.0 MH & 50.0 MH & 27.0 Ohms & 60.0 0hms \\
    \hline Y \(70 \mathrm{~F} 25 / 3\) & 25.0 MH & 3.3 MH & 27.0 Ohms & 4.00 hms \\
    \hline Y70F30 & 30.0 MH & 50.0 MH & 35.0 0hms & 60.0 Ohms \\
    \hline Y70F30/3 & 30.0 MH & 3.3 MH & 35.0 ohms & 4. 00 hms \\
    \hline \(n\) Plug & 30.0 MH & 3. 3 MH & 35.0 0 hms & 4. 0 Ohes \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline V6
    V3 & & & VERTICAL & SCAN & NING OUT & \(1 T R\) & ANSF & RME & RS \\
    \hline & & turns & & MOUNT. & & & MENSION & & SHIPPING \\
    \hline  & RAM & \begin{tabular}{l}
    ratio \\
    PRI/SEC
    \end{tabular} & PRIMARY IMPEDANCE & ING TYPE & mounting CENTERS & HEIGHT & widit & DEPTH & \begin{tabular}{l}
    WEIGHT \\
    IN IBS.
    \end{tabular} \\
    \hline & V301 & 10:1 & 19,0005 2 l 13 MADO & V1 & \(119 / 32 \times 2\) & \(31 / 16\) & \(21 / 2\) & \(21 / 2\) & \(21 / 2\) \\
    \hline & V302 & 8:1 & 19.000 SO 13 madg & \(\mathrm{V}_{2}\) & \(23 / 8 \times 15 / 8\) & \(29 / 16\) & \(27 / 8\) & \(21 / 4\) & \(21 / 2\) \\
    \hline & V303 & 10:1 & 19.000513 mad & \(\mathrm{V}_{1}\) & 1 19/32 \(\times 2\) & 3 1/16 & \(21 / 2\) & \(21 / 2\) & \(21 / 2\) \\
    \hline & V304 & 10:1 & \(18.000 \Omega \mathrm{Sa} 10 \mathrm{mADC}\) & v 1 & \(119 / 32 \times 13 / 4\) & \(31 / 16\) & \(21 / 2\) & \(21 / 4\) & 2 \\
    \hline & V305 & 10:1 & 14.000 215 MADG & v3 & \(31 / 8\) & \(21 / 4\) & 3 9/16 & \(13 / 16\) & 2 \\
    \hline & V306 & 44.6:1 & 11.250 215 MADG & V1 & \(119 / 32 \times 17 / 8\) & \(31 / 16\) & \(21 / 2\) & \(23 / 8\) & \(21 / 4\) \\
    \hline & V307 & 9:1 & 11.0005 19 MADC & V3 & \(31 / 8\) & \(21 / 4\) & 3 3/4 & \(31 / 4\) & \(11 / 2\) \\
    \hline & V308 & 11:1 & 15.000518 mADG & v3 & \(213 / 16\) & 2 & \(31 / 4\) & \(11 / 4\) & 1 \\
    \hline & V309 & 10:1 & 13,000S 22 MADC & v3 & \(213 / 16\) & 2 & \(31 / 4\) & 2 & \(11 / 4\) \\
    \hline & v310 & 10:1 & 18.000515 MADO & v3 & \(31 / 2\) & \(21 / 2\) & 4 & \(21 / 4\) & \(21 / 2\) \\
    \hline & v311 & 10:1 & 18.000510 mADO & V1 & \(119 / 32 \times 15 / 8\) & 3.1/16 & \(21 / 2\) & \(21 / 8\) & 2 \\
    \hline & V312 & 18:1 & \(27,500510 \mathrm{madg}\) & \(\checkmark 3\) & \(31 / 8\) & \(21 / 4\) & \(33 / 4\) & \(3 \quad 1 / 4\) & \(11 / 2\) \\
    \hline & V313 & 11.4:1 & 17.000S 20 MADC & V3 & \(213 / 16\) & 2 & \(3 \mathrm{l} / 4\) & \(15 / 8\) & 1 \\
    \hline
    \end{tabular}

    \section*{Acrosound*} Metra-Linear*
    
    \(\star\) Patented
    High Fidelity Output Transformers for Every Application!
    
    * All models arailable with additional line winding ( 125 and 500 ohms) at extra rost of \(\$ 6.00\) net for models with numbers up to T0-320 and \(\$ 10.00\) net for models To-330 and TO-350. Models with line winding are designated by model numbers ending in " 50 " For example. Model T0-300 with additional
    * All cases are furnished in silver grey hammerloid finish. 10 -inch color coded wire leads are brought out through case hottoms.
    Case type " \(A\) " monnts with hase flange. Case type " \(B\) '" has prorision fot either top or lootom mounting.

    \section*{ACRO PRODUCTS COMPANY \\ PHILADELPHIA 28, PA.}
    

    For filter and audio by-puse circuite Sealed aluminum tule with external insulating sleeve. \(3^{n}\) bare, tinned-copper or insulated leads at each end, except TCS styles which have solder lugs. For use up to \(85^{\circ}\) (' except types
    
    
    designated ( \(\dagger\) ).
    Single Scction
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & \begin{tabular}{l}
    Cap. \\
    Mfd.
    \end{tabular} & DC Wkg. Volts & \begin{tabular}{l}
    Size \\
    Dia. Length
    \end{tabular} & \[
    \begin{array}{r}
    \text { List } \\
    \text { Price }
    \end{array}
    \] \\
    \hline TC310 & 1000 & 3 & \(15 / 16 \times 13 / 4\) & \$1.70 \\
    \hline TC605 & 500 & 6 & \(13 / 10 \times 134\) & 1.65 \\
    \hline TC610 & 1000 & 6 & \(15 / 16 \times 2\) & 1.90 \\
    \hline TC1502 & 200 & 15 & \(13 / 18 \times 11 / 2\) & 1.40 \\
    \hline TC1505 & 500 & 15 & \(15 / 10 \times 2\) & 1.75 \\
    \hline TC22 & 10 & 25 & 7/16 \(\times 1.15 / 18\) & 1.00 \\
    \hline TC26 & 25 & 25 & 3/0 \(\times 1\) 1/10 & 1.00 \\
    \hline TC29 & 50 & 25 & \(9 / 16 \times 11 / 2\) & 1.10 \\
    \hline TC2501 & 100 & 25 & \(11 / 16 \times 13 / 4\) & 1.35 \\
    \hline TC2505 & 500 & 25 & \(11 / 16 \times 21 / 4\) & 2.30 \\
    \hline TC302 & 2 & 50 & 7/10 \(\times 15 / 10\) & . 90 \\
    \hline TC30 & 5 & 50 & \(9 / 10 \times 11 / 4\) & 1.00 \\
    \hline TC31 & 1 & 50 & \(9 / 1.111 / 4\) & . 90 \\
    \hline TC32 & 10 & 50 & 3/8×150 & 1.00 \\
    \hline TC36 & 25 & 50 & \(11 / 16 \times 11 / 4\) & 1.05 \\
    \hline TC39 & 50 & 50 & \(13 / 10 \times 11 / 4\) & 1.20 \\
    \hline TC3501 & 100 & 50 & \(11 / 10 \times 13 / 4\) & 1.40 \\
    \hline TC40 & 5 & 150 & 3/9× \(\times 1510\) & 1.40 \\
    \hline TC41 & 8 & 150 & \% \(\times 113 / 18\) & 1.05 \\
    \hline TC42 & 10 & 150 & 3/4* \(\times 113 / 1\) & 1.05 \\
    \hline TC43 & 12 & 150 & 3/6 \(\times 113 / 16\) & 1.10 \\
    \hline TC44 & 16 & 150 & \(11 / 16 \times 11 / 2\) & 1.15 \\
    \hline TC45 & 20 & 150 & 13/18 \(\times 1{ }^{1 / 2}\) & 1.20 \\
    \hline TC47 & 30 & 150 & \(13 / 16 \times 11 / 2\) & 1.30 \\
    \hline TC48 & 40 & 150 & \(15 / 16 \times 134\) & 1.35 \\
    \hline TC48 & 50 & 150 & 15/16 \(\times 134\) & 1.40 \\
    \hline TC482 & 80 & 150 & \(18 / 10 \times 2\) & 1.60 \\
    \hline TC495 & 150 & 150 & \(11 / 10 \times 21 / 4\) & 1.90 \\
    \hline TC50x & 5 & 250 & \(11 / 16 \times 11 / 4\) & 1.05 \\
    \hline TC51 & 8 & 250 & \(11 / 16 \times 13 / 4\) & 1.15 \\
    \hline TC52 & 10 & 250 & \(11 / 18 \times 13 / 4\) & 1.20 \\
    \hline TC53 & 12 & 250 & \(13 / 16 \times 13 / 4\) & 1.25 \\
    \hline TC54 & 16 & 250 & \(13 / 16 \times 134\) & 1.30 \\
    \hline TCE5 & 20 & 250 & \(13 / 16 \times 13 / 4\) & 1.35 \\
    \hline TC58 & 40 & 250 & \(11 / 10 \times 134\) & 1.55 \\
    \hline TC59 & 50 & 250 & \(11 / 10 \times 13 / 4\) & 1.70 \\
    \hline TC60 & 5 & 350 & \(11 / 16 \times 13 / 4\) & 1.05 \\
    \hline TC61 & 8 & 350 & \(13 / 16 \times 134\) & 1.20 \\
    \hline TC62 & 10 & \$350 & \(13 / 16 \times 13 / 4\) & 1.25 \\
    \hline TC63 & 12 & 350 & \(13 / 16 \times 13 / 4\) & 1.30 \\
    \hline TC64 & 16 & 350 & \(18 / 6 \times 13 / 4\) & 1.40 \\
    \hline TC65 & 20 & 350 & \(18 / 16 \times 13 / 4\) & 1.45 \\
    \hline TC68 & 60 & 350 & \(11 / 10 \times 21 / 4\) & 1.95 \\
    \hline TC70 & 5 & 450 & \(11 / 16 \times 134\) & 1.20 \\
    \hline TC71 & 8 & 450 & \(13 / 10 \times 13 / 4\) & 1.25 \\
    \hline TC72 & 10 & 450 & \(13 / 18 \times 13 / 4\) & 1.30 \\
    \hline TC73 & 12 & 450 & \(18 / 16 \times 13 / 4\) & 1.35 \\
    \hline TC74 & 16 & 450 & \(1510 \times 134\) & 1.10 \\
    \hline TC75 & 20 & 450 & \(11 / 16 \times 13 / 4\) & 1.55 \\
    \hline TC77 & 30 & 450 & \(11 / 16 \times 21 / 4\) & 1.70 \\
    \hline TC78 & 40 & 450 & \(11 / 16 \times 21 / 4\) & 1.80 \\
    \hline TC79 & 50 & 450 & \(11 / 16 \times 21 / 4\) & 2.10 \\
    \hline \(\dagger\) TC81 & 10 & 500 & \(13 / 16 \times 13 / 4\) & 1.36 \\
    \hline TC82 & 10 & 500 & \(11 / 10 \times 2{ }^{13 / 18}\) & 2.70 \\
    \hline \(\dagger\) TC83 & 20 & 500 & \(11 / 16 \times 13 / 4\) & 1.60 \\
    \hline \(\dagger\) TC84 & 30 & 500 & \(11 / 18 \times 21 / 4\) & 1.75 \\
    \hline TCP2 & 10 & 600 & \(11 / 16 \times 215 / 16\) & 2.95 \\
    \hline TC50025 & 250 & 50 & \(18 / 16 \times 13 / 4\) & 1.75 \\
    \hline TC308 & \multicolumn{2}{|l|}{\[
    \begin{aligned}
    & .5 Z @ 15750 \text { Cycles } \\
    & \text { 3 V.N.P. }
    \end{aligned}
    \]} & \(11 / 16 \times 2\) & 2.20 \\
    \hline TC420 & 1.5 \% & Cycles 4 V & \(11 / 16 \times 276\) & 3.60 \\
    \hline TC421 & 1.5\% (\%) & Cycles 6 V & \(11 / 16 \times 2\) & 3.00 \\
    \hline
    \end{tabular}

    Dual Common Negative
    \begin{tabular}{|c|c|c|c|c|}
    \hline TCD26 & 25-25 & 25 & \(13 / 16 \times 13 / 4\) & \$ 1.40 \\
    \hline TCD45 & 20-20 & 150 & \(13 / 16 \times 2\) & 1.65 \\
    \hline TCD47 & 30-30 & 150 & \(15 / 16 \times 13 / 4\) & 1.80 \\
    \hline TCD48 & 40-40 & 150 & \(11 / 16 \times 2\) & 1.85 \\
    \hline TCD485 & 40-20 & 150 & \(15 / 16 \times 13 / 4\) & 1.75 \\
    \hline TCD49 & \(50-50\) & 150 & \(11 / 16 \times 21 / 4\) & 2.10 \\
    \hline TCD497 & 50-30 & 150 & \(15 / 16 \times 2\) & 1.95 \\
    \hline TCD498 & 80-50 & 150 & \(11 / 16 \times 21 / 4\) & 2.35 \\
    \hline TCD5 2 & 10-10 & 250 & \(15 / 16 \times 2\) & 1.65 \\
    \hline TCD5 5 & 20-20 & 250 & \(11 / 16 \times 2\) & 1.85 \\
    \hline TCD62 & 10-10 & 350 & \(18 / 16 \times 2\) & 1.70 \\
    \hline TCD65 & 20.20 & 350 & \(11 / 16 \times 31 / 1\) & 2.25 \\
    \hline TCD71 & 8-8 & 450 & \(18 / 16 \times 2\) & 1.70 \\
    \hline TCD72 & 10-10 & 450 & \(11 / 16 \times 2\) & 1.85 \\
    \hline TCD74 & 15-15 & 450 & \(1116 \times 31 / 8\) & 2.20 \\
    \hline TCD75 & 20-20 & 450 & \(11 / 16 \times 31 / 8\) & 2.50 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Nutnber & Cap. Mfi. & \[
    \begin{aligned}
    & \text { DC Wkg. } \\
    & \text { Volts }
    \end{aligned}
    \] & \begin{tabular}{l}
    Size \\
    Dia. Iength
    \end{tabular} & List Price \\
    \hline TCS44 & 15-15 & 150 & 13/16 \(\times 23 / 6\) & \$2.00 \\
    \hline TCS45 & 20-20 & 150 & \(18 / 16 \times 23\) \% & 2.10 \\
    \hline TCS47 & 30.30 & 150 & 1110 \(\times 23\) & 2.25 \\
    \hline TCS48 & 40-40 & 1.70 & 1116 \(\times 27 /\) & 2.35 \\
    \hline TCS506 & 70.70 & 175 & \(11 / 18 \times 378\) & 3.60 \\
    \hline TCS5̃ & 10-10 & 250 & \(15 / 16 \times 23 / 6\) & 2.10 \\
    \hline TCA55 & 20-20 & 250 & \(11 / 16 \times 27 / 8\) & 2.35 \\
    \hline TCS61 & 8-8 & 350 & \(15 / 16 \times 23 / 6\) & 2.10 \\
    \hline TCS64 & 15-15 & 350 & \(11 / 10 \times 27 / 8\) & 2.75 \\
    \hline TCS71 & 8-8 & 450 & \(11 / 10 \times 23 / 6\) & 2.15 \\
    \hline TCS74 & 15-15 & 450 & \(11 / 16 \times 27 / 8\) & 2.75 \\
    \hline TCS75 & 20-20 & 450 & \(11 / 16 \times 31 / 2\) & 3.15 \\
    \hline
    \end{tabular}
    

    FP-WP Dry Elecirolytic Capacifors
    For use at ambient temperatures up to \(85^{\circ} \mathrm{C}\) in filter and by-pass circuits in radio, TV and industrial electronics. Sealed in aluminum cans with twist-prong, lug construction. FP types have Mallory exclusive Fabricated fates. WP impedance and minimum coupling between acctions. Separate anode terminals. Case is common cathode. For hardware, see page 11, Mallory Capacitors Section, of this catalog.
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & \begin{tabular}{l}
    Working \\
    Volts-DC
    \end{tabular} & \[
    \mathbf{D}^{\text {Size }} \mathrm{L}
    \] & 1,ist Price \\
    \hline WP510 & .-\%2 15550 cycles & 3 V & \(1 \times 2\) & 82.20 \\
    \hline W1P640 & 1.0Z/60 cycles & 3 V & \(13 \times 3\) & 4.00 \\
    \hline WP505 & \(102 / 30\) cycles & 3 V & \(3 \times 2\) & 2.00 \\
    \hline W Posis & 225 & 15 & \(3 / 4 \times 2\) & 1.75 \\
    \hline W Poiss & 1000 & 15 & \(1 \times 21 / 2\) & 2.55 \\
    \hline WPO41 & 2000 & 15 & \(13 \times 2 \times 2\) & 3.45 \\
    \hline WPO42 & ,3000 & 15 & \(1{ }^{3} 8 \times 3\) & 3.50 \\
    \hline W POL2 & 40 & 25 & \(3 / 4 \times 2\) & 1.35 \\
    \hline W1>05\% & 100 & 25 & \(1 \times 2\) & 1.60 \\
    \hline W POE7 & 500 & 25 & \(1 \times 21 / 2\) & 2.55 \\
    \hline W PO5\% & 1000 & 25 & \(136 \times 2\) & 3.55 \\
    \hline W Po83 & 4 & 50 & \(3 / 4 \times 2\) & 1.25 \\
    \hline W P065 & 50\% & 50 & \(136 \times 2\) & 2.65 \\
    \hline W Pobs & 1500 & 50 & \(13 \times 4\) & 3.85 \\
    \hline FP11:3 & 30 & 150 & 1/4 \(\times 2\) & 1.55 \\
    \hline FP115 & 50 & 150 & \(1 \times 2\) & 1.65 \\
    \hline FP116 & 100 & 150 & \(1 \times 212\) & 2.00 \\
    \hline FP116.5 & 120 & 150 & \(1 \times 3\) & 2.05 \\
    \hline FP117 & 150 & 150 & \(1 \times 3\) & 2.15 \\
    \hline FP118 & 200 & 150 & \(13 / 6 \times 21 / 2\) & 2.45 \\
    \hline Fll 19 & 300 & 150 & 139313 & 2.80 \\
    \hline FP125 & 15 & 250 & \(3 / 4 \times 2\) & 1.55 \\
    \hline Fil35 & 30 & 350 & \(1 \times 2\) & 1.90 \\
    \hline FP137 & 50 & 350 & \(1 \times 212\) & 2.10 \\
    \hline Fll38 & 80 & 350 & \(13 / 9 \times 21 / 2\) & 2.85 \\
    \hline FH140 & 125 & 350 & \(136 \times 3\) & 3.95 \\
    \hline FP142 & 10 & 450 & - \(3 / 4 \times 2\) & 1.55 \\
    \hline Fり143 & 15 & 450 & \(1 \times 2\) & 1.70 \\
    \hline FP144 & 20 & 450 & \(1 \times 2\) & 1.80 \\
    \hline FP145 & 30 & 450 & \(1 \times 21 / 2\) & 1.95 \\
    \hline FP146 & 40 & 450 & \(1 \times 21 / 2\) & 2.05 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{5}{|c|}{FP-WP-Duals} \\
    \hline FP149 & 80 & 450 & 13 \% \(\times 2{ }^{1} 2\) & \$3.05 \\
    \hline W1P204 & \(250-1000\) & 10.6 & \(13 \times 2\) & 2.85 \\
    \hline WP205 & \[
    \begin{aligned}
    & .5 Z-2.5 Z / \\
    & 15750 \mathrm{C}-60 \mathrm{C}
    \end{aligned}
    \] & 12-6V & \(1^{3}\) \% \({ }^{4}\) & 3.60 \\
    \hline WP200 & 1000-1000 & 15-15 & \(13 / 6 \times 2\) & 4.40 \\
    \hline WP201.1 & 40-40 & 25-25 & \(1 \times 2\) & 1.55 \\
    \hline WP202.1 & 50-50 & \(50-50\) & \(1 \times 2\) & 1.70 \\
    \hline WP206 & \(50-150\) & 150-25 & \(1 \times 21 / 2\) & 2.20 \\
    \hline FP208 & \(20-20\) & 150-150 & \(1 \times 2\) & 1.70 \\
    \hline FP211 & :30.30 & 150-150 & \(1 \times 2\) & 1.85 \\
    \hline FP210 & 40-20 & 150-150 & \(1 \times 2\) & 1.80 \\
    \hline FP212 & 40-40 & 150-150 & \(1 \times 2\) & 1.90 \\
    \hline F゙1213 & 50-30 & \(150-150\) & \(1 \times 21 / 2\) & 2.00 \\
    \hline FP214 & 50-50 & 150-150 & \(1 \times 21 / 2\) & 2.15 \\
    \hline FP214.5 & 75-75 & 150-150 & \(178 \times 2\) & 2.60 \\
    \hline FP2 16 & 80-40 & 150-150 & \(1 \times 3\) & 2.30 \\
    \hline FP215 & 125-100 & 150-150 & \(136 \times 21 / 2\) & 3.40 \\
    \hline FP216.1 & 200-5 & 150-150 & \(136 \times 21 / 2\) & 2.75 \\
    \hline FP216.3 & 200-150 & 150-150 & \(136 \times 4\) & 3.75 \\
    \hline FP216.4 & 200-200 & 150-150 & \(136 \times 4\) & 4.00 \\
    \hline FP217 & 20-20 & 250-250 & \(1 \times 2\) & 1.90 \\
    \hline FP221 & 40-40 & 250-250 & \(1 \times 3\) & 2.50 \\
    \hline FP217.7 & 150-150 & 250-250 & 1\% \(\times 4\) & 5.15 \\
    \hline N1217.9 & 75-75 & \(300-300\) & 1368 & 3.80 \\
    \hline FP218 & 120-20 & 300.300 & \(136 \times 3\) & 4.00 \\
    \hline Fl225 & 15-15 & 350-350 & \(1 \times 2\) & 2.25 \\
    \hline FP227 & 20-20 & 350-350 & \(1 \times 21 / 2\) & 2.30 \\
    \hline FP'27.3 & 30-30 & 350-350 & \(1 \times 3\) & 2.90 \\
    \hline F1P27.6 & 80-80 & 350-350 & 13 x 4 & 4.70 \\
    \hline F1229 & 35-100 & 400-50 & \(1 \times 3\) & 2.60 \\
    \hline
    \end{tabular}

    FP-WP-Duals-Continued from Preceding Page
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & Working Volta-IDC & \[
    \mathrm{D}^{\text {Size }} \mathrm{I}
    \] & List Price \\
    \hline FP229.3 & 75-75 & 400-400 & 13/8 \(\times 4\) & \$ \(\$ 4.85\) \\
    \hline FP229.6 & 50-100 & 450-50 & \(136 \times 21 / 2\) & 3.00 \\
    \hline FP244 & 80-50 & 450-50 & \(136 \times 3\) & 3.50 \\
    \hline FP230 & 20-50 & 450-250 & \(1 \times 3\) & 2.80 \\
    \hline FP235 & 20-80 & 450-350 & \(136 \times 21 / 2\) & 3.65 \\
    \hline FP550* & 10-80 & 450-400 & 1 畄×3 & 3.45 \\
    \hline W P230.9 & \(5-5\) & 450-450 & \(1 \times 2\) & 1.70 \\
    \hline FP2:31 & 10-10 & 450-450 & \(1 \times 2\) & 1.90 \\
    \hline FP234 & 20-20 & 450-450 & \(1 \times 3\) & 2.55 \\
    \hline FP237 & 30.30 & 450-450 & \(176 \times 21 / 2\) & 3.05 \\
    \hline FP238 & 40-40 & 450-450 & \(13 \times 3\) & 3.45 \\
    \hline FP239 & 50-40 & 450-450 & \(176 \times 3\) & 3.65 \\
    \hline FP240 \(\dagger \dagger\) & 50-50 & 450-450) & 1\% \(\times 3\) & 3.85 \\
    \hline FP245 & 80-10 & 450-450 & \(136 \times 3\) & 3.60 \\
    \hline FP245.3 & 80-30 & 450-450 & \(138 \times 4\) & 4.15 \\
    \hline FP250 & 40.80 & 475-200 & \(176 \times 21 / 2\) & 3.65 \\
    \hline FP255 & 20-100 & 475-300 & \(136 \times 3\) & 3.95 \\
    \hline FP258 & 15-15 & 475-475 & \(1 \times 21 / 2\) & 2.35 \\
    \hline FP259 & 30-10 & 475-475 & \(1 \times 3\) & 2.60 \\
    \hline FP260 & 40-10 & 475-475 & \(13 \times 3\) & 3.10 \\
    \hline FP262 & 40-40 & 475-475 & \(13 / 8 \times 3\) & 4.30 \\
    \hline FP263 & 60-40 & 475-475 & \(13 \% \times 4\) & 4.55 \\
    \hline FP266 & 80-50 & 475-475 & \(1{ }^{176} \times 4\) & 5.20 \\
    \hline FP277 & 60-80 & 500-150 & \(138 \times 3\) & 3.75 \\
    \hline FP280 & 40-50 & 500-200 & \(136 \times 21 / 2\) & 3.30 \\
    \hline FP284 & 30-30 & 500-500 & \(138 \times 21 / 2\) & 3.25 \\
    \hline FP288 & 40-40 & 500-500 & \(13 / 8 \times 3\) & 4.30 \\
    \hline
    \end{tabular}

    FP-WP-Triples
    \begin{tabular}{|c|c|c|c|c|}
    \hline WP520 & 40-40-40 & 25-25-25 & \(1 \times 2\) & \$2.15 \\
    \hline FP303 & 20-250-100 & 150-15-15 & 13 名 \(\times 2\) & 2.90 \\
    \hline FP312 & 100-50-25 & 150-50-25 & \(1 \times 3\) & 3.00 \\
    \hline WP302* & 15-15-1000 & 150-150-2 & \(1 \times 2\) & 3.00 \\
    \hline WP302.1 & 15-15-1200 & 150-150-2 & \(1 \times 2\) & 3.00 \\
    \hline FP302.7 & 80-30-300 & 150-150-10 & 13\% \(\times 2\) & 3.15 \\
    \hline FP306 & 40-20-20 & 150-150-25 & \(1 \times 2\) & 2.30 \\
    \hline FP307 & 40-20-100 & 150-150-25 & \(1 \times 21 / 2\) & 2.50 \\
    \hline FP304 & 40-20-200 & 150-150-25 & \(1 \times 21 / 2\) & 2.70 \\
    \hline FP310 & 40-40-20 & 150-150-25 & \(1 \times 21 / 2\) & 2.40 \\
    \hline FP314 & 40-40-200 & 150-150-25 & \(1 \times 3\) & 2.80 \\
    \hline FP309 & 50-30-100 & 150-150-25 & \(1 \times 21 / 2\) & 2.70 \\
    \hline FP311 & 50-50-20 & 150-150-25 & \(1 \times 3\) & 2.65 \\
    \hline FP311.2 \(\dagger\) & 20-20-20 & 150-150-150 & \(1 \times 2\) & 2.30 \\
    \hline FP311.4 \(\dagger\) & 40-20-20 & 150-150-150 & \(1 \times 21 / 2\) & 2.40 \\
    \hline FP311.5 \(\dagger\) & 40-40-40 & 150-150-150 & \(1 \times 3\) & 2.60 \\
    \hline FP311.7 \(\dagger\) & 80-40-20 & 150-150-150 & \(13 \times 2\) & 2.90 \\
    \hline FP311.9 \(\dagger\) & 120-120-40 & 150-150-150 & \(13 \times 3\) & 4.05 \\
    \hline FP313* & 30-20-20 & 200-200-25 & \(1 \times 2\) & 2.55 \\
    \hline FP318* & 90-90-20 & 200-200-50 & 13/8x 3 & 3.85 \\
    \hline FP319 & 80-40-50 & 250-150-50 & 17 \% \(\times 21 / 2\) & 3.30 \\
    \hline FP360* & 15-20-20 & 250-150-150 & \(1 \times 2\) & 2.40 \\
    \hline FP316* & 20-15-20 & 250-250-25 & \(1 \times 2\) & 2.35 \\
    \hline FP319.5 & 90-90-20 & 250-250-50 & \(13 / 8 \times 3\) & 4.60 \\
    \hline FP320 \(\dagger\) & 40-20-20 & 250-250-250 & 1\% x 2 & 2.90 \\
    \hline FP326 & 100-60-20 & 300-150-25 & 1363 & 4.20 \\
    \hline FP334* & 20-80-10 & 300-250-200 & \(13 / 5 \times 21 / 2\) & 3.45 \\
    \hline FP335 & 100-60-20 & \(300-250-250\) & \(13 \times 3\) & 4.90 \\
    \hline FP336 & 200-60-20 & 300-250-250 & \(13 / 8 \times 4\) & 5.80 \\
    \hline FP331 & 30-30-20 & 350-300-25 & \(1 \times 3\) & 3.15 \\
    \hline FP328 & 15-10-20 & 350-350-25 & \(1 \times 2\) & 2.50 \\
    \hline FP330 & 30-20-20 & 350-350-25 & \(1 \times 3\) & 3.10 \\
    \hline FP330.3 \(\dagger\) & 20-10-5 & 350-350-250 & \(1 \times 21 / 2\) & 2.55 \\
    \hline FP330.5 \(\dagger\) & 10-10-10 & 350-350-350 & \(1 \times 2\) & 2.40 \\
    \hline FP:330.7 & 30-20-10 & 350-350-350 & \(1 \times 3\) & 3.25 \\
    \hline FP331.3 & 80-60-60 & 350-350-350 & \(136 \times 4\) & 5.55 \\
    \hline FP333 & 10-50-30 & 400-350-25 & 13682 & 3.10 \\
    \hline FP333.8 & 80-20-10 & 400-400-350 & \(136 \times 3\) & 4.30 \\
    \hline FP342* & 40-40-130 & 450-150-50 & \(136 \times 2^{1 / 2}\) & 3.70 \\
    \hline FP:343 & 40-100-60 & 450-150-50 & 13 ¢ \({ }^{1}\) & 3.95 \\
    \hline FP:340 & 20-50-100 & 450-150-75 & \(13 \times 2\) & 3.40 \\
    \hline FP341 & 40-90-50 & 450-150-150 & \(136 \times 3\) & 4.00 \\
    \hline FP341.5 \(\dagger\) & 20-60-100 & 450-250-25 & \(13 / 8 \times 21 / 2\) & 3.65 \\
    \hline FP343.1 & 15-20-20 & 450-350-250 & \(1 \times 3\) & 2.95 \\
    \hline FP:343.4 \(\dagger\) & 20-15-15 & 450-350-350 & \(1 \times 3\) & 3.25 \\
    \hline FP343.6 & 20-40-10 & 450-350-350 & \(13 \times 1 \times{ }^{1 / 2}\) & 3.50 \\
    \hline FP343.9 & 10-30-150 & 450-400-5 & \(1 \times 3\) & 3.00 \\
    \hline FP:344.5 & 10-30-40 & 450-400-300 & \(136 \times 21 / 2\) & 3.65 \\
    \hline FP345.2 \(\dagger\) & 10-10-20 & 450-450-25 & \(1 \times 2\) & 2.40 \\
    \hline FP346.5 & 15-15-40 & 450-450-25 & \(1 \times 21 / 2\) & 2.75 \\
    \hline FP345.8 \(\dagger\) & 20-20-20 & 450-450-25 & \(1 \times 3\) & 3.05 \\
    \hline FP346 & 40-40-20 & 450-450-25 & \(138 \times 3\) & 3.95 \\
    \hline FP364 & 80-40-100 & 450-450-25 & \(13 \times 4\) & 5.10 \\
    \hline FP366 & 20-10-50 & 450-450-50 & \(1 \times 3\) & 2.85 \\
    \hline FP368 & 60-40-75 & 450-450-50 & \(136 \times 4\) & 4.60 \\
    \hline FP369.1 \(\dagger\) & 40-40-40 & 450-450-150 & \(136 \times 3\) & 4.15 \\
    \hline FP370t & 40-10-80 & 450-450-200 & \(13 \% \times 3\) & 3.90 \\
    \hline FP375 & 40-40-100 & 450-450-200 & 1\% 34 & 4.95 \\
    \hline FP376* & 10-10-40 & 450-450-250 & \(136 \times 21 / 2\) & 2.90 \\
    \hline FP375.8 \(\dagger\) & 10-10-10 & 450-450-450 & \(1 \times 21 / 2\) & 2.60 \\
    \hline FP376.1 \(\dagger\) & 15-15-10 & 450-450-450 & \(1 \times 3\) & 2.90 \\
    \hline FP376.3 & 20-10-10 & 450-450-450 & \(1 \times 3\) & 2.90 \\
    \hline
    \end{tabular}

    FP-WP-Triples-Continued
    \begin{tabular}{|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Capacity Mfd. & Working Volts-DC & \[
    \mathrm{D}^{\text {Size }} \mathrm{L}
    \] & List Price \\
    \hline FP376.5 & 20-20-20 & 450-450-450 & \(13 / 8 \times 21 / 2\) & \$3.60 \\
    \hline FP376.6 & 30-10-10 & 450-450-450 & \(136 \times 2\) & 3.15 \\
    \hline FP376.7 & 30-30-30| & 450-450-450 & \(13 \times 3\) & 4.45 \\
    \hline FP376.8 \(\dagger\) & 40-40-10 & 450-450-450 & \(13 \times 3\) & 4.15 \\
    \hline FP377 & 40-40-40 & 450-450-450 & \(1 \% \times 4\) & 4.90 \\
    \hline FP378 & 80-40-20 & 450-450-450 & \(1 \% \times 4\) & 5.40 \\
    \hline FP379 \({ }^{\text {* }}\) & 10-100-40 & 475-200-50 & \(13621 / 2\) & 3.35 \\
    \hline FP384 & 20-20-40 & 475-300-25 & \(13 \times 2\) & 3.10 \\
    \hline FP385 & 10-40-100 & 475-450-200 & 176 & 4.20 \\
    \hline FP386 & 10-10-5 & 475-475-25 & \(1 \times 21 / 2\) & 2.45 \\
    \hline FP387.1 & 10-10-150 & 475-475-50 & \(1 \times 3\) & 3.00 \\
    \hline FP391.1 & 20-20-60 & 475-475-450 & 17/8 \(\times 4\) & 4.85 \\
    \hline FP394 & 10-10-10 & 475-475-475 & \(1 \times 3\) & 2.70 \\
    \hline FP396 & 30-30-20 & 475-475-475 & 13/6 3 & 4.45 \\
    \hline FP396.2 & 40-10-10 & 475-475-475 & \(13 / 8 \times 21 / 2\) & 3.85 \\
    \hline FP397 & 40-35-10 & 475-475-475 & \(178 \times 3\) & 4.55 \\
    \hline FP398 & 10-40-40 & 500-450-450 & \(1368 \times 3\) & 4.15 \\
    \hline
    \end{tabular}

    FP-WP—Quads
    \begin{tabular}{|c|c|c|c|c|}
    \hline FP405 & 20-20-160-40 & 150-150-25-25 & \(138 \times 2\) & \$3.20 \\
    \hline FP407 & 30-20-20-200) & 150-150-150-10 & 1\% \(\times 2\) & 3.10 \\
    \hline FP408 & 60-40-20-200 & 150-150-150-10 & 136 x 2 & 3.45 \\
    \hline FP409 & 40-40-30-20 & 150-150-150-25 & \(13 / 8 \times 2\) & 3.10 \\
    \hline FP409.4 & 50-20-20-200 & 150-150-150-25 & 17682 & 3.50 \\
    \hline FP410 & 50-50-50-20 & 150-150-150-25 & \(13 / 8 \times 21 / 2\) & 3.55 \\
    \hline FP411 & 80-40-30-100 & 150-150-150-25 & 13 x \(21 / 2\) & 3.70 \\
    \hline FP4 11.3 & 80-40-40-20 & 150-150-150-25 & \(13 \times 21 / 2\) & 3.50 \\
    \hline FP411.5 & 100-90-60-200 & 150-150-150-25 & \(138 \times 3\) & 4.95 \\
    \hline FP411.7 & 125-125-40-100 & 150-150-150-25 & \(1 \% \times 4\) & 4.85 \\
    \hline FP412 & 100-80-60-40 & 150-150-150-150 & \(1 \% \times 3\) & 4.65 \\
    \hline FP4 12.2 & 40-40-50-80 & 250-250-150-50 & \(13 \times 21 / 2\) & 4.10 \\
    \hline FP417 & 100-40-80-20 & 300-50-25-25 & \(1 \% \times 21 / 2\) & 4.55 \\
    \hline FP418* & 120-20-100-20 & 300-250-30-25 & 1363 & 5.25 \\
    \hline FP418.3 & 120-20-100-20 & 300-250-50-25 & \(13{ }^{3} \times 4\) & 5.05 \\
    \hline FP419 & 200-20-100-20 & 300-250-50-25 & \(136 \times 4\) & 5.80 \\
    \hline FP423 & 40-40-40-40 & 300-250-250-25 & \(136 \times 21 / 2\) & 4.40 \\
    \hline FP4 19.7 & 60-40-20-50 & 300-300-300-25 & \(136 \times 3\) & 4.65 \\
    \hline FP420* & 40-40-20-10 & 300-300-300-300 & \(13 / 6 \times 21 / 2\) & 4.55 \\
    \hline FP414 & 15-80-40-200 & 350-200-200-25 & \(13 \% \times 3\) & 4.50 \\
    \hline FP4 19.3 & 40-40-20-20 & 350-350-350-25 & \(13 / 8 \times 3\) & 4.65 \\
    \hline FP419.4 & 100-10-200-30 & 300-300-150-150 & \(13 / 8 \times 4\) & 5.90 \\
    \hline FP419.9 & 15-15-15-50 & 350-350-350-50 & \(13 \times 2\) & 3.75 \\
    \hline FP420.2 & 50-40-40-160 & 350-350-350-50 & \(1 \% \times 4\) & 5.75 \\
    \hline FP420.6 & 80-40-100-20 & 400-400-50-25 & 1364 & 5.65 \\
    \hline FP421 & 5-5-50-80 & 400-400-300-250 & \(1 \% \times 3\) & 4.65 \\
    \hline FP422.1 \(\dagger\) & 20-80-20-50 & 450-200-200-50 & \(13 \times 21 / 2\) & 4.10 \\
    \hline FP422.7 & 60-80-40-20 & 450-250-250-150 & \(1^{3} \times 4\) & 5.65 \\
    \hline FP413X & 40-40-40-20 & 450-300-300-150 & 1\% \(\times 3\) & 4.90 \\
    \hline FP423.4 & 10-40-100-100 & 450-350-250-50 & \(1 \% \times 3\) & 5.55 \\
    \hline FP424.1 & 10-100-10-20 & 450-350-350-25 & \(13 \times 3\) & 5.20 \\
    \hline FP425* & 30-40-40-10 & 450-350-350-200 & \(13 \times 3\) & 5.15 \\
    \hline FP425.1 & 80-10-40-30 & 450-400-300-300 & 1384 & 5.80 \\
    \hline FP426 & 20-15-20-20 & 450-450-25-25 & \(13 / 8 \times 2\) & 3.45 \\
    \hline FP426.5 & 20-20-60-100 & 450-450-150-25 & \(13 / 6 \times 21 / 2\) & 4.25 \\
    \hline FP426.9 & 40-40-125-125 & 450-450-150-25 & \(13 / 8 \times 4\) & 5.70 \\
    \hline FP427.5 & 10-10-60-100 & 450-450-200-50 & \(138 \times 21 / 2\) & 3.85 \\
    \hline FP428 & 40-10-35-10 & 450-450-350-350 & \(13 / 8 \times 3\) & 4.60 \\
    \hline FP428.4 & 40-40-30-30 & 450-450-350-350 & 1364 & 5.90 \\
    \hline FP424 & 15-15-10-20 & 450-450-450-25 & 13/8 \({ }^{3} 2\) & 3.50 \\
    \hline FP432 & 40-10-10-250 & 450-450-450-25 & 1\% 3 & 4.70 \\
    \hline FP431 & 40-15-10-25 & 450-450-450-25 & \(13 / 8 \times 21 / 2\) & 4.10 \\
    \hline FP430.2 & 40-20-20-25 & 450-450-450-25 & 13 \% 3 & 4.60 \\
    \hline FP436 & 40-20-20-40 & 450-4.50-450-25 & 1\% \({ }^{3}\) & 4.65 \\
    \hline FP429 & 40-30-10-20 & 450-450-450-25 & 13/8 \(\times 3\) & 4.50 \\
    \hline FP430.6 & 40-40-40-40 & 450-450-450-25 & \(136 \times 4\) & 5.50 \\
    \hline FP430.9 & 60-40-40-16 & 450-450-450-25 & 13.3 4 & 6.00 \\
    \hline FP437 & 20-20-20-100 & 450-450-450-50 & \(13 \times 21 / 2\) & 4.55 \\
    \hline FP431.4 & 60-40-10-25 & 450-450-450-50 & \(1 \% \times 4\) & 5.25 \\
    \hline FP4:33 & 60-10-10-20 & 450-450-450-150 & 13/8 \(\times 3\) & 4.80 \\
    \hline FP432.4 & 40-40-30-10 & 450-450-450-200 & 13/6 \(\times 4\) & 5.35 \\
    \hline FP432.9 & 40-20-10-100 & 450-450-450-250 & \(1^{3 / 4} \times 4\) & 5.85 \\
    \hline WP433.6 & 5-5-5-5 & 450-450-450-450 & 13/62 & 3.00 \\
    \hline FP434 & 10-10-10-10 & 450-450-450-450 & \(1^{38} \times 2\) & 3.35 \\
    \hline FP434.5 & 20-10-10-10 & 450-450-450-4.50 & 1\% x 2 & 3.70 \\
    \hline FP444 & 20-20-20-20 & 450-450-450-450 & 1\% \(\times 3\) & 4.70 \\
    \hline FP444.4 & 30-15-15-15 & 450-450-450-450 & \(1 \mathrm{x} \times 3\) & 4.45 \\
    \hline FP444.8 & 30-30-20-20 & 450-450-450-450 & 1\% \(\times 3\) & 5.20 \\
    \hline FP444.9 & 30-30-30-15 & 450-450-450-450 & 1364 & 5.30 \\
    \hline FP445 & 35-35-10-5 & 450-450-450-4,50 & 1\% \({ }^{\text {\% }} 3\) & 4.60 \\
    \hline FP447 & 40-40-20-20 & 450-450-450-450 & 1364 & 5.55 \\
    \hline FP450 & 80-10-10-10 & 450-450-450-450 & 136 \({ }^{3} 4\) & 5.05 \\
    \hline FP453 & 20-40-80-100 & 475-350-200-100 & 13 x 4 & 5.45 \\
    \hline FP456 & 25-20-40-100 & 475-450-300)-50 & \(13 \times 3\) & 4.95 \\
    \hline FP456.5 & 10-60-30-125 & 475-450-400-50 & 13/64 & 5.55 \\
    \hline FP455 & 10-50-30-30 & 475-450-450-25, & 13683 & 4.75 \\
    \hline FP457* & 10-40-10-20 & 475-450-450-50 & \(13 / 6 \times 21 / 2\) & 3.95 \\
    \hline FP461 & 15-15-80-40 & 475-475-300-50 & 1\% x 3 & 4.80 \\
    \hline FP465* & 10-10-20-100 & 475-475-400-25 & 13\%2 & 3.70 \\
    \hline FP467 & 20-10-20-100 & 475-475-450-25 & \(13 / 8 \times 21 / 2\) & 4.20 \\
    \hline FP473 & 20-20-10-10 & 475-475-475-300 & \(13 / 8 \times 21 / 2\) & 4.30 \\
    \hline FP474 & 10-10-10-10 & 475-475-475-475 & 136 \(\times 2\) & 3.50 \\
    \hline FP476 & 40-20-10-10 & 475-475-475-475 & 1\% x 3 & 5.10 \\
    \hline
    \end{tabular}
    * See Table of Recommended Replacements for Modified and Discontinued FP and WP Types, page 11, Mallory Capacitors section, this catalog. \(\dagger \dagger\) FP240 recommended for photoflash applications. Can is ungrounded. \(\Delta\) pin should be used as ground.

    Mallory Page 2

    \section*{DRY ELECTROLYTIC CAPACITORS}

    \section*{PR MALLORY \＆CO．TNG OMDIANAPOLIS}
    

    \section*{Aluminum Can Threaded Nesk Dry Elestrolytis Capacitors}

    For replacement of wet and dry olectrolytic caparitors．IRS，RM and Hs have tlexible，inanlated leads．W1）and she have solder lug anode connertions；cathodes are comnerted to cuse
    \begin{tabular}{|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & \[
    \begin{aligned}
    & \text { Capacity } \\
    & \text { Mff. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Volts } \\
    & 1)
    \end{aligned}
    \] & \begin{tabular}{l}
    Size \\
    Dia．Length
    \end{tabular} & \[
    \begin{aligned}
    & \text { Dist } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline HS207 & 30 & 250 & \(1 \times 31 / 2\) & \＄2．05 \\
    \hline KN212 & 8 & 450 & \(1^{3} 8 \times 3\) & 2.20 \\
    \hline HS213 & & 450 & \(1 \times 23 / 4\) & 2.20 \\
    \hline HS214 & 12 & 450 & \(138 \times 3\) & 2.40 \\
    \hline HS2I5 & 12 & 450
    450 & \(1 \times 23 / 4\)
    \(1 \times 31 / 2\) & \％．40 \\
    \hline HS216
    HS217 & 16 & 450
    450 &  & 2.45 \\
    \hline KS219 & 20 & 4511 & \(1{ }^{1} 8 \times 3\) & 2.70 \\
    \hline HS22：3 & 30 & 450 & 136 & 3.00 \\
    \hline H5224 & 40 & 450 & \(1{ }^{\text {dis }} \times 3\) & 3.15 \\
    \hline H10684 & 10 & 450 & \(1 \times 3\) & 2.30 \\
    \hline HS691＊ & ， & 600 & \(148 \times 4\) & 2.85 \\
    \hline HS693＊＊ & 8 & 601 & \(1{ }^{3} 8 \times 4\) & 3.15 \\
    \hline 115696＊ & 20 & 600 & \(14 \times 41 / 4\) & 3.85 \\
    \hline KM262 & 8．3 & 450 & \(1^{\text {s }} \mathrm{y} \times\) x 3 & 3.00 \\
    \hline KM265 & 8－8－8 & 450 & 1 ／8 \(\times 4.1 / 4\) & 5.00 \\
    \hline SH638 & \＄－8 & 450 & \(1^{5} \times \times 23 / 4\) & \＄．00 \\
    \hline SH645 & 8－8 & 450 & \(1 \mathrm{~s} \times 2 \times 3\) & 3.00 \\
    \hline
    \end{tabular}
    ＊Will uperate at \(85^{\circ} \mathrm{C}\) ．Others opmate al \(45^{\circ} \mathrm{C}\) ．
    

    \section*{Cardboard Tubular Dry Electrolytic Capacitors}

    Idonomical，candronal tube，wax－sealed fitter and by－pass units．Have flexible．insulated bads out one end exezpt those marked（t） which have negative leade ont ophosite ende． All units（except TNII！）arts suppliar with mounting strap；itl additbou all units marked （ \(\dagger\) ）have special feret for vertical mounting．
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalug Number & Capacity Mfd． & Volts 110 & \[
    \text { I) Sine } 1 \text {. }
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { frice }
    \end{aligned}
    \] \\
    \hline \multicolumn{5}{|c|}{single seretion} \\
    \hline 心＇175 & 70 & 50 VAO & 7／8 \(\times 2.25\) & \＄1．25 \\
    \hline ST685 \(\dagger\) & 8 & 450 & \(13 / 16 \times 21 / 8\) & 1.25 \\
    \hline ST587t & 16 & 450 & \(7 / 8 \times 23 / 4\) & 1.40 \\
    \hline ST588 \(\dagger\) & 20 & 450 & \(1 \times 23 / 4\) & 1.55 \\
    \hline ST5\％8 \(\dagger\) & 30 & 450 & \(1 \times 31 / 4\) & 1.70 \\
    \hline ST645 & （i） & 450 & \(13 / 16 \times 333\) & 2.35 \\
    \hline ST845 & 80 & 450 & \(13 / 18 \times 43\) & \\
    \hline \multicolumn{5}{|c|}{Dual Common Negative} \\
    \hline TN1118 & 10－10 & 25－25 & \％88 \(\times 13 / 4\) & \＄1．40 \\
    \hline 2N501 & 250－1000 & 10－6 & \(11 / 16 \times 25\) & 2.80 \\
    \hline 2N509＊ & 20－20 & 150－150 & 7／6 \(\times 21 / 4\) & 1.65 \\
    \hline 2N513＊ & \(30-30\) & 150－150 & 7／8 \(\times 23 / 8\) & 1.80 \\
    \hline 2N514＊ & 40－20 & 150－150 & 7／8 \(\times 21 / 2\) & 1.75 \\
    \hline 2N611＊ & 40－40 & 150－150 & 16／16 \(\times 2.1 / 2\) & 1.85
    \(\mathbf{2 . 1 0}\) \\
    \hline \(2{ }^{2} 521 \dagger\) & \(50-50\) & 150－150 & \(1 \times 27 / 8\)
    \(11 / 633 / 8\) & 1.10
    3.20 \\
    \hline \(2 N 523\) & 100.100 & 150－150） & \(11 / 8 \times 33 / 8\) & 3.20
    2.20 \\
    \hline 2 N 525 & 30－30 & 200－200） & \(1 \times 258\)
    \(11 / 4 \times 2588\) & 2.20
    2.40 \\
    \hline 2N527 & \(50-75\)
    \(100-150\) & 250－50 & 11／4 \(\times 2.8\) & 2.40
    \(\mathbf{3 . 6 0}\) \\
    \hline 2N516＊＊ & 100－150 & 250－250 & \(1 / 8 \times 21 / 8\) & 1.60 \\
    \hline 2N531 & 40－40 & 300－300 & \(11 / 6 \times 33 / 8\) & 2.95 \\
    \hline 2 N 533 & 40－50 & 450－51） & \(11 / 8 \times 346\) & 2.50 \\
    \hline \(2 N 535\) & 30－60 & \(450-300\) & \(11 / 4 \times 33 / 8\) & 3.20 \\
    \hline 2N518† & 8 －8 & \(450-450\) & \(13 / 16 \times 23 / 4\) & 1.70 \\
    \hline \multicolumn{5}{|c|}{Dual Separate Section} \\
    \hline \(2 \mathrm{2} 556 \dagger\) & \(30-30\) & 150－150 & \(1 \times 23 / 4\) & \＄2．25 \\
    \hline \(28567 \dagger\) & 8－8 & \(450-450\) & \(11 / 18 \times 23 / 4\) & 2.15 \\
    \hline \(2 \mathrm{ES64} \dagger\) & 16－16 & 450－450 & \(11 / 4 \times 3 / 8\) & 2.80 \\
    \hline
    \end{tabular}

    Cardboard Tubular Dry Electrolytic Capacitore （Continued from Preceding Column）
    \begin{tabular}{|c|c|c|c|c|}
    \hline C：atalog Number & Capacity Mft． & Volts DC & \[
    \text { 1) } \mathrm{Size}_{1}
    \] & \[
    \begin{aligned}
    & \text { I ist } \\
    & \text { l'rice }
    \end{aligned}
    \] \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline 3N527＊ & 2（1－20－20） & 150）－150－25 & \(15 / 16 \times 21 / 4\) & \＄2．05 \\
    \hline はN53：＊ & －30－30－20 & 150）－160－25 & \(1 \times 238\) & 2.20 \\
    \hline ＇INI25＊ & 20－10－111 & \(150-150-150\) & \％／8 \(\times 23 / 1\) & 2.00 \\
    \hline ＇1N129 \(\dagger\) & 40－20－20 & 150－150－150 & \(18 / 16 \times 27 / 10\) & 2.26 \\
    \hline \＄N540 & 80－50－50 & 150－154）－150 & \(11 / 16 \times 31 / 2\) & 3.10 \\
    \hline 3N635 & 40－30－40 & 350－250－150 & \(13 / 16 \times 33 / 8\) & 3.30 \\
    \hline 3N537 & （30－50－100 & 450－150－25 & \(11 / 4 \times 31 / 8\) & 3.20 \\
    \hline \[
    3 N 539
    \] & 30－30－30 & 450－350－250 & \(17 / 6 \times 33 / 8\) & 3.75 \\
    \hline 3N541 & 40－20－10 & 450－450－450 & \(178 \times 13 \%\) & 3.55 \\
    \hline \multicolumn{5}{|c|}{＇Iriple Separate Section} \\
    \hline \[
    \begin{aligned}
    & 3 . i 579 \\
    & 3: 584
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 8-8-20 \\
    & 8-8-8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 450-450-25 \\
    & 450-450-450
    \end{aligned}
    \] & \(13 / 16 \times 27 / 8\)
    \(13 / 16 \times 27 / 8\) & \[
    \begin{array}{r}
    \$ 2.65 \\
    2.85
    \end{array}
    \] \\
    \hline
    \end{tabular}

    Luad Common Nekative
    \begin{tabular}{l|l|l|ll|l}
    \(4 N 72: 3\) & \(10-10-10-150\) & \(450-450-450-50\) & \(13 / 16 \times 33 / 8\) & \(\$ 3.60\) \\
    \(4 N 727\) & \(10-10-10-10\) & \(450-450-450-450\) & \(11 / 8 \times 336\) & 3.25 \\
    \hline
    \end{tabular}

    Quad Separate Section
    
    § Has bare tinnod leads out both ents．

    Plastic Cased High Capacity and Non－Polarized Electrolytic Capacitors

    HC types are for use with diry dise recti－ tiers，in such applicat ions as；movie equip－ ment and electric fence power supplies． NP types are nom－polarized for intermit－ tent Á service．
    \begin{tabular}{|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Cipacity Mid． & I）C Wkg． Volts & \[
    \text { (1) } \text { Size }^{\text {Sig }}
    \] & Lint Price \\
    \hline 1101020 & 2000 & 10 & \(1^{7 / 16} \times 13^{7} 16\) & \＄3．95 \\
    \hline HC10．40 & 4000 & 10 & \(1^{17}\) ic \(\times 3^{1 / 5}\) & 4.75 \\
    \hline 11010100 & 10100 & 10－15 & \(21 / 6 \times 4.8\) & 8.25 \\
    \hline HC1U6UA＊ & （1000） & 10 & \(11 / 2 \times 4 / 8\) & 5.55 \\
    \hline HC1520 & \(2001)\) & 16 & \(17 / 10 \times 33^{18}\) & 4.70 \\
    \hline 11C1540 & 4000 & 1.5 & \(113 / 16 \times 378\) & 5.50 \\
    \hline H（1560） & 8000 & 15 & \(112 / 16 \times 43\) & 6.30 \\
    \hline 1102060 & （id） 0 & 20．30） & \(21 / 16 \times 4 \%\) & 8.65 \\
    \hline 1102510 & 1000 & 25 & \(1^{7 / 16 \times 33}\) & 4.85 \\
    \hline 1102520 & 2000 & 25 & \(1^{13} 16 \times 33\) & 5.75 \\
    \hline HC2540 & 4000 & 25 & \(1^{13 / 16 \times 478}\) & 6.75 \\
    \hline 1104040 & 4000 & 40－60 & \(21 / 16 \times 43 / 8\) & 9.50 \\
    \hline 14C5005 & 500 & 50 & \(1^{7 / 66} \times 3\) 3／8 & 3.90 \\
    \hline 1105010 & 1000 & 54 & \(11 / 60 \times 334\) & 6.40 \\
    \hline 1105020 & 2000 & 50） & \(113 / 16 \times 4 \%\) & 8.75 \\
    \hline HC15010 & 1000 & 150 & \(21 / 16 \times 478\) & 10.50 \\
    \hline HC20005 & 500 & 200 & \(2^{1 / 16 \times 4} 4\) & 9.80 \\
    \hline 11C45003＊＊ & 300 & 450 & \(21 / 16 \times 43 / 8\) & 10.50 \\
    \hline FF45052＊＊ & 525 & 450 & \(21 / 16 \times 438\) & 22.50 \\
    \hline NP1225 & 200 & 125 & \(113 / 16 \times 478\) & 5.00 \\
    \hline NP1236 & 300 & 125 & 21／16 \(\times 47 / 6\) & 5.75 \\
    \hline NP1255 & 500 & 125 & \(21 / 6 \times 478\) & 7.50 \\
    \hline NP3003 & 15 & 300 & \(17 / 6 \times 336\) & 3.75 \\
    \hline NP3014 & 100 & 300 & \(113 / 6 \times 43 / 8\) & 6.75 \\
    \hline NP3025 & 200 & 300 & \(21 / 16 \times 43 / 18\) & 9.50 \\
    \hline NP4505 & 50 & 450 & \(113 / 6 \times 338\) & 7.50
    11.60 \\
    \hline NP4510 & 100 & 450 & 21／46 \(\times 43 / 8\) & 11.60 \\
    \hline
    \end{tabular}
    ＊Thim unit in Aluminum Case
    ＊＊Designed for Photothash Application

    Silverlytic Subminiafure Capacitors
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd． & \[
    \underset{\text { Volts }}{\text { DC }}
    \] & \[
    0^{\text {Size }}
    \] & List
    Prite \\
    \hline ALA－10A1 & 1 & 10 & 7／32 \(\times\) 有 & \＄2．20 \\
    \hline A1．A－5A2 & 2 & 5 & \(3 / 32 \times 3\) & 2.35 \\
    \hline ALA－4A4 & 4 & 4 & 7／22 \(\times\) 有 & 2.55 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog
    Number & Cap.
    Mid. & DC Wkg. & H \(w^{\text {Size* }}{ }_{\text {L }}\), & \(\xrightarrow[\substack{\text { list } \\ \text { Price }}]{\text { a }}\) \\
    \hline  & \[
    \begin{gathered}
    25 \\
    50 \\
    55 \\
    50 \\
    50 \\
    \hline 20 \\
    10 \\
    10 \\
    20 \\
    8 \\
    8
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 25 \\
    & \begin{array}{l}
    25 \\
    50 \\
    50 \\
    5150 \\
    150 \\
    \hline 500 \\
    300 \\
    500 \\
    \hline 600
    \end{array} \\
    & \hline 600
    \end{aligned}
    \] &  &  \\
    \hline
    \end{tabular}
    * H-Height; W-Width; L-Length; Y-Mounting Centers

    AC Motor Starting Capacitors
    PS type-round, moisture-proof. plastic case. For mounting accessories, see page 11 , Mallory Capacilors section, this catalog.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Mfd. New & lating Old & Volts AC & \[
    \text { I) }{ }_{\text {Size }}
    \] & List Price \\
    \hline PS2010** & 20 & 20-24 & 110 & \(1^{7 / 16} \times 1{ }^{3}\) & \$2.05 \\
    \hline PS2610* & 26 & 26-30 & 110 & \(17 / 16 \times 23 / 4\) & 2.10 \\
    \hline PS3210* & 32 & 32-36 & 110 & \(1^{7 / 16} \times 2 \times 23 / 9\) & 2.10 \\
    \hline PS3810** & 38 & \(38-42\) & 110 & \(17 / 16 \times 2{ }^{3}\) & 2.10 \\
    \hline PS4310** & 43 & 43-48 & 110 & \(17 / 16 \times 23 / 4\) & 2.10 \\
    \hline PS5310 & 53 & 53-60 & 110 & \(17 / 16 \times 33^{3}\) & 2.15 \\
    \hline PS7410 & 64
    70 & 64-72
    \(70-78\) & 110
    110 & \(17 / 16 \times 33^{3 / 8}\)
    \(17 / 16 \times 3{ }^{3 / 3}\) & 2.25
    2.40 \\
    \hline PS7510 & 75 & 75-84 & 110 & \(\begin{array}{ll}17 / 16 & \times \\ 17 & 3 \\ 3\end{array}\) & 2.40 \\
    \hline PS8610 & 86 & 86-96 & 110 & \(17 / 16 \times 3{ }^{16}\) & 2.65 \\
    \hline PS9710 & 97 & 97-107 & 110 & 17/16 \(\times 33^{3}\) & 2.80 \\
    \hline PS10810 & 108 & 108-120 & 110 & \(17 / 18 \times 33^{3}\) & 2.85 \\
    \hline PS12410 & 124 & 124-138 & 110 & \(17 / 16 \times 33^{3}\) & 2.95 \\
    \hline PS13010 & 130 & 130-157 & 110 & \(17 / 16 \times 33\) & 2.95 \\
    \hline PS14510 & 145 & 145-162 & 110 & \(17 / 18 \times 13^{3}\) & 3.20 \\
    \hline PS16110 & 161 & 161-180 & 110 & \(17 / 18 \times 18\) & 3.25 \\
    \hline PS19410 & 194 & 194-216 & 110 & \(17 / 16 \times 33^{3} 8\) & 3.90 \\
    \hline PS20010* & 200 & 200-210 & 110 & \(1^{13 / 16 \times 3} \times 3^{3} 8\) & 3.90 \\
    \hline PS21610 & 216 & 216.240 & 110 & \(1^{13 / 16 \times 3} \times 3\) & 4.05 \\
    \hline PS24310 & 243 & 243-270 & 110 & \(113 / 16 \times 3{ }^{3}\) & 4.70 \\
    \hline PS27010 & 270 & 270-300) & 110 & \(11316 \times 438\) & 4.75 \\
    \hline PS32410 & 324 & 324-360 & 110 & \(1^{131 / 18 \times 438}\) & 5.40 \\
    \hline PS34010 & 340 & 340-412 & 110 & \(113 / 16 \times 4^{3} 8\) & 5.55 \\
    \hline PS37810 & 378 & 378-420 & 110 & \(21 / 16 \times 438\) & 6.00 \\
    \hline PS43010 & 400 & 400-450 & 110 & \(21 / 16 \times 4{ }^{3}\) & 6.05 \\
    \hline PS48510 & 430
    485 & \(430-485\)
    \(485-540\) & 110
    110 & \(\underline{21 / 16 \times 43 \%}\) & 6.95
    7.60 \\
    \hline PS2520 & 25 & - 25 -30 & 220 &  & 7.60
    4.60 \\
    \hline PS3220 & 32 & 32-36 & 220 & \(17 / 18 \times 3^{3}\) 自 & 4.90 \\
    \hline PS3820 & 38 & 38-42 & 220 & \(1^{13 / 16 \times 3} 3\) & 5.30 \\
    \hline PS4320 & 43 & 43-48 & 220 & \(113 / 16 \times 3{ }^{3} \frac{18}{8}\) & 5.55 \\
    \hline PS5320 & 53 & 53-60 & 220 & \(113 / 16 \times 33 / 6\) & 5.75 \\
    \hline PS6420 & 64 & 64-72 & 220 & \(113 / 16 \times 4^{3 / 8}\) & 6.75 \\
    \hline PS7020 & 70 & \(70-78\) & 220 & \(21 / 16 \times 43 / 8\) & 7.00 \\
    \hline PS7520 & 75 & 75-84 & 220 & \(21 / 16 \times 4^{3 / 3}\) & 7.35 \\
    \hline PS8620 & 86 & 86-96 & 220 & \(21 / 18 \times 4{ }^{3}\) & 7.65 \\
    \hline
    \end{tabular}
    * Cases will not accommodate I'L caps and HB brackets.

    \section*{AC Mofor Running Capacitors}

    Have sealed metal cases. Non-inflammable oil inıpregnation. For continuous AC duty. Not suitable for DC. Capacity tolerance \(\pm 10 \mathrm{\%}\)
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Cap. Mfd. & Volts AC & \begin{tabular}{l}
    Size \\
    Dia. Length
    \end{tabular} & List Price \\
    \hline RP-3301 & 1 & 330 & \(13 \times 178\) & \$4.20 \\
    \hline RP-3302 & 2 & 330 & \(13.8 \times 33 / 16\) & 5.20 \\
    \hline RP-3303 & 3 & 330 & \(2 \times 236\) & 5.55 \\
    \hline RP-3304 & 4 & 330 & \(2 \times 278\) & 6.20 \\
    \hline RP-3305 & 5 & 330 & \(2 \times 338\) & 6.80 \\
    \hline RP-3306 & 6 & 330 & \(2 \times 378\) & 7.50 \\
    \hline RP-3307 & 7 & 330 & \(2 \times 4 \%\) & 7.90 \\
    \hline RP-3308 & 8 & 330 & \(2 \times 51 / 6\) & 8.35 \\
    \hline RP-3310 & 10 & 330 & \(21 / 2 \times 49\) & 8.55 \\
    \hline RP-3312 & 12 & 330 & \(21 / 2 \times 5 \%\) \% & 10.90 \\
    \hline RP-3315 & 15 & 330 & \(21 / 2 \times 61 / 16\) & 13.80 \\
    \hline
    \end{tabular}

    Plascap \({ }^{\circledR}\) _Plastic Tubular Paper Capacitors
    
    \begin{tabular}{c|c|c}
    \begin{tabular}{c} 
    Catalog \\
    Number
    \end{tabular} & \begin{tabular}{c} 
    Capacity \\
    Mfd.
    \end{tabular} & Dia. Lize \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|}
    \hline PT411 \\
    \hline PT412 \\
    \hline 1'T4122 \\
    \hline PT413 \\
    \hline PT413:3 \\
    \hline PT4147 \\
    \hline PT415 \\
    \hline PT40 \\
    \hline PT4015 \\
    \hline PT402 \\
    \hline PT4022 \\
    \hline P'r4025 \\
    \hline PT4047 \\
    \hline PT405 \\
    \hline PT 41 \\
    \hline
    \end{tabular}

    400 Volts DC
    .01
    .02
    .022
    .03
    .033
    .047
    .05
    .1
    .15
    .2
    .22
    .25
    .47
    .5
    1.0

    600 Volts DC
    \begin{tabular}{|c|c|c|c|}
    \hline & & & \\
    \hline PT621 & .001
    .002 & \(\begin{array}{llll}5 / 6 & \times & 1 \\ 5 / 6 & \times & 1\end{array}\) & \$0.25 \\
    \hline PT6222 & . \(00 \cdot 2 \cdot 2\) & 3/16 \(\times 1\) & . 25 \\
    \hline PT623 & . 003 & \(5 / 16 \times 1\) & .25 \\
    \hline PT6233 & .0033 & \(5 / 16 \times 1\) & . 25 \\
    \hline PT624 & . 004 & \(36 \times 1\) & . 25 \\
    \hline PT6247 & . 00.47 & \(38 \times 1\) & . 25 \\
    \hline PT625 & . 005 & 3611 & . 25 \\
    \hline PT626 & . 006 & 格 \(\times 1\) & . 25 \\
    \hline PT611 & . 01 & \(38 \times 11 / 4\) & . 30 \\
    \hline PT6115 & . 015 & \(3 / 8 \times 11 / 4\) & . 30 \\
    \hline PT612 & .02 & \(7 / 16 \times 11 / 4\) & . 30 \\
    \hline PT6122 & .0\%2 & \(7 / 16 \times 11 / 4\) & . 30 \\
    \hline PT613 & . 03 & \(1 / 2 \times 11 / 4\) & . 35 \\
    \hline PT6133 & .033 & \(1 / 2 \times 11 / 4\) & . 35 \\
    \hline PT614 & . 04 & \(1 / 2 \times 11 / 2\) & .35 \\
    \hline PT6147 & . 047 & \(1 / 2 \times 11 / 2\) & . 40 \\
    \hline PT615 & . 05 & \(1 / 2 \times 11 / 2\) & . 40 \\
    \hline PT616 & . 06 & \(1 / 2 \times 11 / 2\) & . 40 \\
    \hline PT601 & . 1 & 5/8 \(\times 1 \%\) & .45 \\
    \hline PT602 & . 2 & \(3 / 4 \times 21 / 4\) & .70 \\
    \hline PT6022 & . 22 & \(3 / 4 \times 21 / 4\) & .70 \\
    \hline PT6025 & . 25 & \(3 / 4 \times 21 / 4\) & .55 \\
    \hline PT6047 & . 47 & 7/8 \(\times 211 / 18\) & . 80 \\
    \hline PT605 & . 5 & \(13 / 18 \times 211 / 18\) & . 80 \\
    \hline PT61 & 1.0 & \(1 \times 3\) & 1.25 \\
    \hline \multicolumn{4}{|c|}{1600 Volts DC} \\
    \hline PT1621 & . 001 & 3/8 \(\times 1\) & \$0.55 \\
    \hline PT1622 & . 002 & \(3 / 8 \times 11 / 4\) & . 55 \\
    \hline PT16222 & . 0022 & \(3 / 8 \times 11 / 4\) & . 55 \\
    \hline PT1623 & . 003 & 3/8× \(11 / 4\) & . 55 \\
    \hline PT16233 & . 0033 & 7/6 \(611 / 4\) & . 55 \\
    \hline PT1624 & . 004 & 7/18 \(\times 11 / 4\) & . 55 \\
    \hline PT16247 & . 0047 & \(7 / 18 \times 11 / 4\) & . 55 \\
    \hline PT1625 & . 005 & 7/18 \(\times 11 / 4\) & . 55 \\
    \hline PT1626 & . 006 & \(1 / 2 \times 11 / 4\) & . 55 \\
    \hline PT1627 & . 007 & \(1 / 2 \times 11 / 4\) & . 55 \\
    \hline PT16275 & . 0075 & \(1 / 2 \times 11 / 4\) & . 55 \\
    \hline PT1628 & . 008 & \(1 / 2 \times 1 / 4\) & . 60 \\
    \hline PT1611 & . 01 & \(1 / 2 \times 11 / 2\) & . 60 \\
    \hline PT16115 & . 015 & \(5 \times 178\) & . 60 \\
    \hline PT1612 & . 02 & 5\% \(\times 17 / 8\) & . 60 \\
    \hline PT16122 & . 022 & \(5 \times 178\) & . 60 \\
    \hline PT1613 & . 03 & 5/8×178 & . 60 \\
    \hline PT1614 & . 04 & \(3 / 4 \times 21 / 4\) & .70 \\
    \hline PT1615 & .\(_{015}^{.05}\) & 3/4 \(\times 21 / 4\) & . 70 \\
    \hline PTD16115 & .015-.015 & 5/8×1\% & .80 \\
    \hline
    \end{tabular}
    

    \section*{Capacifor Selector}

    For determining correct capacity to use in making replacements of defective motor starting capacitors which have lost their identity. For checking capacity ranges from 25 to 645 mfd . \(110-125\) VAC.

    Catalog No. MSS-101 \$15.00 Net

    \section*{Paper, Oil, Wax Impregnated and Wax Filled Capacitors}
    

    Metal Cased Oil Impregnated Paper Capacitors

    For vibrator buffer, coupling and other electronic circuits where highest quality, tubular-type capacitors are required. Mineral oilimpregnated, heremetically sealed. metal-cased tubulars with external insulating sleeves. \(2 \% \%^{\prime \prime}\) leads. For operation at \(85^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & Working Volts IJC & \begin{tabular}{l}
    Size \\
    Dia. length
    \end{tabular} & 1.ist Jrice \\
    \hline OT 101 & . 01 & 600 & \(5 / 8 \times 13 / 16\) & \$0.95 \\
    \hline OT 103 & . 02 & 600 & 568 \(\times 13 / 16\) & 1.05 \\
    \hline 0 O106 & . 05 & 600 & \(11 / 15 \times 138\) & 1.10 \\
    \hline OT 110 & . 1 & 600 & \(11 / 16 \times 111 / 6\) & 1.25 \\
    \hline OT113 & . 25 & 600 & \(13 / 18 \times 21 / 8\) & 1.70 \\
    \hline OT116 & . 5 & 600 & \(11 / 16 \times 21 / 4\) & 2.20 \\
    \hline OT301 & . 01 & 1000 & 5/8 \(\times 13 / 16\) & 1.10 \\
    \hline OT303 & . 02 & 1000 & \(11 / 18 \times 13 / 8\) & 1.20 \\
    \hline OT306 & . 05 & 1000 & \(11 / 16 \times 23 / 16\) & 1.30 \\
    \hline OT310 & . 1 & 1000 & \(13 / 16 \times 23 / 16\) & 1.50 \\
    \hline OT370 & . 002 & 1600 & 5/8 \(\times 13 / 6\) & 1.20 \\
    \hline OT377 & . 003 & 1600 & \(56 \times 138\) & 1.20 \\
    \hline OT371 & . 005 & 1600 & 5/6 \(\times 1\) 1/8 & 1.20 \\
    \hline OT372 & . 008 & 1600 & 5/6 \(\times 1\) 1/8 & 1.20 \\
    \hline OT373 & . 01 & 1600 & \(11 / 16 \times 13 / 8\) & 1.20 \\
    \hline OT375 & . 015 & 1600 & \(11 / 16 \times 111 / 16\) & 1.25 \\
    \hline OT376 & . 02 & 1600 & \(11 / 16 \times 111 / 16\) & 1.30 \\
    \hline OT378 & . 03 & 1600 & \(11 / 16 \times 23 / 16\) & 1.30 \\
    \hline OT379 & . 04 & 1600 & \(11 / 16 \times 23 / 16\) & 1.30 \\
    \hline OT380 & . 05 & 1600 & \(11 / 16 \times 27 / 16\) & 1.40 \\
    \hline OT458 & . 0025 & 2000 & \(11 / 16 \times 13 / 6\) & 1.25 \\
    \hline OT459 & . 005 & 2000 & \(11 / 16 \times 111 / 6\) & 1.25 \\
    \hline OT460 & . 0075 & 2000 & \(11 / 15 \times 1\) \% & 1.25 \\
    \hline OT461 & . 01 & 2000 & \(11 / 15 \times 158\) & 1.25 \\
    \hline OT462 & . 0125 & 2000 & \(11 / 16 \times 178\) & 1.30 \\
    \hline OT463 & . 015 & 2000 & \(11 / 16 \times 1 / 8\) & 1.30 \\
    \hline OT464 & . 02 & 2000 & \(11 / 18 \times 2\) & 1.35 \\
    \hline OT465 & . 03 & 2000 & \(13 / 18 \times 2\) & 1.40 \\
    \hline OT466 & . 04 & 2000 & \(13 / 16 \times 2 \% 16\) & 1.40 \\
    \hline OT467 & . 05 & 2000 & \(13 / 16 \times 29 / 16\) & 1.45 \\
    \hline OT475 & . 006 & 2000 & \(11 / 16 \times 1{ }^{11 / 16}\) & 1.25 \\
    \hline
    \end{tabular}
    

    Oil Impregnated Cardboard Cased Tubular Paper Capacitors
    Ideal for auto set buffer circuits.
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & \begin{tabular}{l}
    Working \\
    Volts DC
    \end{tabular} & \begin{tabular}{l}
    Size \\
    Dia. Length
    \end{tabular} & List Price \\
    \hline OW635 & . 0005 & 6000 & 9/18 \(\times 13 / 4\) & 81.10 \\
    \hline OW621 & . 0001 & 6000 & \(11 / 18 \times 13 / 4\) & 1.10 \\
    \hline OW622 & . 002 & 6000 & \(27 / 32 \times 13 / 4\) & 1.10 \\
    \hline OW623 & . 003 & 6000 & \(1 \times 13 / 4\) & 1.15 \\
    \hline OW625 & . 005 & 6000 & \(27 / 32 \times 21 / 2\) & 1.15 \\
    \hline OW6275 & . 0075 & 6000 & \(15 / 16 \times 21 / 2\) & 1.20 \\
    \hline OW611 & . 01 & 6000 & \(11 / 32 \times 21 / 2\) & 1.20 \\
    \hline OW612 & . 02 & 6000 & \(11 / 32 \times 3\) & 1.25 \\
    \hline OW613 & . 03 & 6000 & \(11 / 4 \times 33 / 4\) & 1.25 \\
    \hline OW615 & . 05 & 6000 & \(13 / 8 \times 43 / 8\) & 1.75 \\
    \hline
    \end{tabular}

    Packaged in Individual Display Carton with Mounting Strap.
    
    

    \section*{Special Vibrator Buffer Capacitors}
    Intended for replacement of original vibrator buffer and hash suppressor capacitors of similar design.
    

    \footnotetext{
    * H-Height; W-Width; L-Length.
    }

    \section*{Miniałure Metal Tubular Capaciłors}
     For hearing aid, personal radio,
    and other uses where very small and other uses where very small
    size tubulars are desirable. Wax imsize tubulars are desirable. Wax imimpregnated ( 600 volt units) tubular capaciłors in minute hermetically sealed metal tubes with insulating sleeve. Tinned copper leads.
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & Working Volts 1)C & \begin{tabular}{l}
    Size \\
    I)ia. Length
    \end{tabular} & List Price \\
    \hline MT105* & . 001 & 100 & \({ }^{9} 32 \times 1 / 2\) & \$0.90 \\
    \hline MT107* & . 002 & 100 & \(9,32 \times 1 / 2\) & . 90 \\
    \hline MT115* & . 005 & 100 & 9/32 \(\times 1 / 2\) & . 90 \\
    \hline MT125* & . 01 & 100 & 19/64 \(\times 1 / 2\) & . 90 \\
    \hline MT127* & . 02 & 100 & 19/64 \(\times 11 / 16\) & . 95 \\
    \hline MT135* & . 05 & 100 & \(19 / 64 \times 11 / 16\) & . 95 \\
    \hline MT145* & . 1 & 100 & \(3 / 16 \times 13 / 4\) & 1.00 \\
    \hline MT605 \(\dagger\) & . 001 & 600 & \(9 / 32 \times 13 / 16\) & . 95 \\
    \hline MT607 \(\dagger\) & . 002 & 600 & \(8 / 32 \times 15 / 18\) & .95 \\
    \hline MT615 \(\dagger\) & . 005 & 600 & \(8 / 32 \times 15 / 16\) & .95 \\
    \hline MT625 \(\dagger\) & . 01 & 600 & \(21 / 64 \times 19\) & . 95 \\
    \hline
    \end{tabular}
    * Wax impregnated
    \(\dagger\) Oil impregnated

    Automotive Noise Suppression Capacitors
    

    Wax impregnated cartridges assembled in various style housings Type AG is hermetically sealed, provides low impedance and is ideal for extreme climatic conditions.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & \begin{tabular}{l}
    Cap. \\
    Mfd.
    \end{tabular} & Working Volts DC & \[
    \mathrm{D}^{\text {Size }} \mathbf{L}
    \] & \[
    \left\lvert\, \begin{gathered}
    \text { Signal } \\
    \text { Corps No. }
    \end{gathered}\right.
    \] & List Price \\
    \hline RF481 & . 5 & 50 & \(3 / 4 \times 13 / 8\) & & 80.90 \\
    \hline RF482 & 1.0 & 50 & 7/8 \(\times 1\) \% & & 1.15 \\
    \hline CA275X & 4.0 & 50 & \(2 \times 2 \times 1\) & & 3.00 \\
    \hline AS125 \(\ddagger\) & . 01 & 100 & . \(675 \times 18 / 16\) & CA-432 & 1.20 \\
    \hline AG442* & . 05 & 100 & \(38 \times 11 / 4\) & & . 80 \\
    \hline AG443 & . 05 & 100 & 7/16 \(\times 1316\) & & 1.00 \\
    \hline AS145 \(\ddagger\) & . 1 & 100 & . \(675 \times 13 / 8\) & CA-442 & 1.40 \\
    \hline AS165! & . 25 & 100 & \(3 / 4 \times 11 / 2\) & CA-452 & 1.50 \\
    \hline AS185 \(\ddagger\) & . 5 & 100 & \(1 \times 156\) & CA-462 & 1.75 \\
    \hline FM441 & . 5 & 100 & . \(675 \times 17 / 8\) & & . 85 \\
    \hline RF480 & . 5 & 100 & \(13 / 16 \times 15 / 16\) & & . 80 \\
    \hline AG450 & .5-. 5 & 100 & \(7 / 8 \times 2\) & & 1.50 \\
    \hline FM442 & . 5 & 160 & . \(675 \times 1\) /8 & & . 65 \\
    \hline AG444 & . 25 & 200 & \(5 / 8 \times 13 / 4\) & & . 60 \\
    \hline DL445X & . 4 & 200 & \(1 \times 23 / 6\) & & 2.25 \\
    \hline AM454 & . 5 & 200 & \(11 / 16 \times 2\) & & . 65 \\
    \hline AG451 & . 5 & 200 & \(3 / 4 \times 2\) & & . 65 \\
    \hline AG453 \(\dagger\) & . 5 & 200 & \(3 / 4 \times 2\) & & 1.50 \\
    \hline AG452 & 1.0 & 200 & \(1 \times 23 / 16\) & & .90 \\
    \hline AS525 \(\ddagger\) & . 01 & 500 AC-DC & . \(675 \times 1\) & CA-472 & 1.35 \\
    \hline AS545: & . 1 & \(500 \mathrm{AC}-1) \mathrm{C}\) & \(1 \times 21 / 2\) & CA-482 & 1.60 \\
    \hline AS565 \(\ddagger\) & . 25 & \(500 \mathrm{AC}-\mathrm{DC}\) & \(1 \times 21 / 2\) & CA-502 & 2.00 \\
    \hline
    \end{tabular}
    * For Midget Aircraft Motors.
    \(\dagger\) Has shielded lead.
    \(\ddagger\) Also marked with Signal Corps Number as shown.

    \section*{Steel-Cased, Oil-Filled Capacitors}
    

    For general use in aircraft, marine, qeophysical and industrial electronic equipment where extreme dependability under severe conditions is desired. Oil impregnated, single, dual, and triple section units boused in rugged, hermetically sealed, hot-tinned steel cases. Single sections have two terminals. Dual section units have three terminals with left terminal common, and both are internally insulated from case. Triple units have three terminals with common ground to case. All terminals protrude in a row on one long side of case
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & \begin{tabular}{l}
    Cap. \\
    Mfd.
    \end{tabular} & Working Volts DC & \[
    \mathrm{H} \quad \mathrm{~W} \stackrel{\substack{\text { Size } \\ \mathrm{I}}}{ } \text {, X }
    \] & \begin{tabular}{l}
    L.ist \\
    I'rice
    \end{tabular} \\
    \hline CB403 & . 25 & 400 & \(3 / 4 \times 7 / 8 \times 13 / 4 \times 21 / 8\) & \$2.26 \\
    \hline CB404 & . 5 & 400 & \(7 / 8 \times 1 \times 13 / 4 \times 21 / 8\) & 2.40 \\
    \hline CB405 & 1.0 & 400 & \(3 / 4 \times 13 / 4 \times 2 \times 236\) & 2.85 \\
    \hline CB406 & 2.0 & 400 & \(118 \times 2 \times 2 \times 238\) & 3.60 \\
    \hline CB602 & . 1 & 600 & \(3 / 4 \times 7 / 8 \times 13 / 4 \times 21 / 6\) & 2.65 \\
    \hline CB603 & . 25 & 600 & \(3 / 4 \times 1 \times 13 / 4 \times 21 / 8\) & 2.80 \\
    \hline CB604 & . 5 & 600 & 7/8 \(\times 11 / 4 \times 13 / 4 \times 21 / 8\) & 3.00 \\
    \hline CB605 & 1.0 & 600 & \(7 / 8 \times 13 / 4 \times 2 \times 236\) & 3.40 \\
    \hline CB1002 & . 1 & 1000 & \(3 / 4 \times 7 / 8 \times 13 / 4 \times 21 / 8\) & 2.85 \\
    \hline CB1003 & . 25 & 1000 & \(3 / 4 \times 11 / 4 \times 13 / 4 \times 21 / 8\) & 2.95 \\
    \hline CB1004 & . 5 & 1000 & \(7 / 8 \times 13 / 4 \times 2 \times 238\) & 3.20 \\
    \hline CBD403 & \(.25-.25\) & 400 & \(3 / 4 \times 11 / 4 \times 13 / 4 \times 21 / 8\) & 3.25 \\
    \hline CBD404 & .5-. 5 & 400 & \(3 / 4 \times 13 / 4 \times 2 \times 236\) & 3.75 \\
    \hline CBD602 & .1-.1 & 600 & \(3 / 4 \times 1 / 3 \times 13 / 4 \times 21 / 8\) & 3.35 \\
    \hline CBT403 & 3X. 25 & 400 & \(3 / 4 \times 13 / 4 \times 2 \times 236\) & 4.00 \\
    \hline CBT404 & 3X. 5 & 400 & \(1 \times 134 \times 2 \times 236\) & 4.75 \\
    \hline CBT602 & 3X . 1 & 600 & \(7 / 8 \times 1 \times 13 / 4 \times 21 / 8\) & 3.80 \\
    \hline
    \end{tabular}
    * H-Height; W-Width; L-Length; X-Mounting Centers.

    Uncased Wax Impregnafed Capacitors
    I)esigned for replacement of defective sections in large paper capacidipped for moisture protection. Capacity tolerance \(+20 \%-10 \%\).
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & \begin{tabular}{l}
    Cap. \\
    Mfd.
    \end{tabular} & Working Volts DC & \[
    \mathbf{W} \stackrel{\text { Size }^{*}}{\mathrm{~L}} \quad \mathbf{H}
    \] & List Price \\
    \hline UB351 & 1 & 200 & 1/2 \(\times 136 \times 21 / 8\) & \$1.00 \\
    \hline UB352 & 2 & 200 & \(13 / 16 \times 19 / 16 \times 21 / 8\) & 1.50 \\
    \hline UB353 & 4 & 200 & \(11 / 16 \times 21 / 16 \times 21 / 8\) & 2.60 \\
    \hline UB354 & 1 & 400 & \% \(/ 6 \times 15\) ¢ \(\times 21 / 8\) & 1.15 \\
    \hline UB355 & 2 & 400 & \(1 \times 13 / 4 \times 21 / 5\) & 1.80 \\
    \hline UB356 & 4 & 400 & \(15 / 16 \times 15 / 6 \times 436\) & 3.00 \\
    \hline UB357 & . 5 & 600 & \(1 / 2 \times 1368 \times 21 / 8\) & 1.05 \\
    \hline UB358 & 1 & 600 & \(13 / 16 \times 19 / 18 \times 21 / 8\) & 1.40 \\
    \hline UB359 & 2 & 600 & \(11 / 8 \times 21 / 8 \times 21 / 8\) & 2.10 \\
    \hline UB364 & 4 & 600 & \(11 / 16 \times 17 / 8 \times 41 / 4\) & 3.90 \\
    \hline UB362 & 1 & 1000 & \(3 / 6 \times 19 / 16 \times 43 / 8\) & 2.30 \\
    \hline UB363 & 2 & 1000 & \(11 / 8 \times 17 / 8 \times 4 \%\) & 3.80 \\
    \hline
    \end{tabular}
    * W - Width; L-Length; H-Height.

    Migh Yolfage
    Ceramic Copacitors-
    500 MMFD/
    20 MYDC
    I Jesigned for exact replacements as filters in high voltage circuits of television sets. The three capacitors have identical electrical characteristics and case styles, but differ in terminal arrangements. High quality ceramic dielectric materials and low loss plastic cases assure consistent operating results. Combinations of plain copper, internally threaded, slotted, or externally threaded studs are offered.
    \begin{tabular}{|c|c|c|}
    \hline Catalog Number & Stud Description & \begin{tabular}{l}
    [ist \\
    Price
    \end{tabular} \\
    \hline HV-20035 & Plain No. 6 copper, \(1 / 2^{\prime \prime}\) long equipped with universal adapter. & \multirow[t]{2}{*}{\$1.85} \\
    \hline HV-20035A & (1) Internally threaded for \(6-32 \mathrm{MS}\) with .187 flat. & \\
    \hline HV-20035B & \begin{tabular}{l}
    (2) Externally threaded for 6-32 MS with 187 flat \\
    (1) Internally threaded for 6-32 MS with .187 flat
    \end{tabular} & 1.85 \\
    \hline & (2) No. 6 gauge with \(1 / 18^{\prime \prime}\) slo & 1.85 \\
    \hline
    \end{tabular}

    \section*{Disc Ceramic Capacitors}
    

    Small physical size, rugged construction, and excellent electrical characteristics. These unique ca pacitors are parficularly suitable for replacement of molded mica and paper tubular units. They have dipped phenolic coating for maximum protection from moisture.

    600 Working Volts DC
    \begin{tabular}{l|l|l|l}
    \hline \multicolumn{1}{c|}{\begin{tabular}{c} 
    Catalog \\
    Number
    \end{tabular}} & \begin{tabular}{l} 
    Capacity \\
    \((m f d)\)
    \end{tabular} & \begin{tabular}{c} 
    Size \\
    Max. I)ia.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Hrice
    \end{tabular} \\
    \hline DC-521 & .001 & \(19 / 32\) & \(\$ 0.25\) \\
    DC-5215 & .0015 & \(19 / 32\) & .25 \\
    DC-522 & .002 & \(19 / 32\) & .30 \\
    DC-525 & .005 & \(19 / 32\) & .25 \\
    DC-511 & .01 & \(9 / 4\) & .25 \\
    DCD-521 & \(.001-.001\) & \(19 / 32\) & .40 \\
    DCD-5215 & \(.0015-.0015\) & \(19 / 32\) & .40 \\
    DCD-522 & \(.002-.002\) & \(19 / 32\) & .40 \\
    DCD-524 & \(.004-.004\) & \(3 / 4\) & .46 \\
    \hline
    \end{tabular}

    3000 Working Volts DC
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog Number & Capacity (mmfid.) & \begin{tabular}{l}
    Size \\
    Max. Dia.
    \end{tabular} & List I'rice \\
    \hline DC3054R7 & 4.7 & 3\% & \$0.50 \\
    \hline DC3056R8 & 6.8 & 38 & . 50 \\
    \hline DC3041 & 10 & 3/6 & .50 \\
    \hline DC30415 & 15 & \%/8 & . 50 \\
    \hline DC30422 & 22 & \(19 / 32\) & . 50 \\
    \hline DC30433 & 33 & 19/32 & . 50 \\
    \hline DC30447 & 47 & 19/32 & .50 \\
    \hline DC30456 & 56 & \(3 / 4\) & . 50 \\
    \hline DC30468 & 68 & 3/4 & . 50 \\
    \hline DC3031 & 100 & 3/9 & . 55 \\
    \hline DC30322 & 220 & 3/8 & . 60 \\
    \hline DC30333 & 330 & 3/8 & . 60 \\
    \hline DC30347 & 470 & 3/8 & . 65 \\
    \hline DC30368 & 680 & 3/8 & . 75 \\
    \hline DC3021 & 1000 & \(19 / 32\) & . 75 \\
    \hline DC30215 & 1500 & 19/32 & . 85 \\
    \hline DC30222 & 2200 & \(3 / 4\) & 1.05 \\
    \hline DC30233 & 3300 & \(3 / 4\) & 1.25 \\
    \hline
    \end{tabular}

    6000 W orking Volts DC
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog Number & Capacity (mmifd.) & \begin{tabular}{l}
    Size \\
    Max. Dia.
    \end{tabular} & \begin{tabular}{l}
    I, ist \\
    Price
    \end{tabular} \\
    \hline DC6054R7 & 4.7 & \(19 / 32\) & \$1.00 \\
    \hline DC6056 88 & 6.8 & 3/4 & 1.00 \\
    \hline DC604 1 & 10 & \(3 / 4\) & 1.00 \\
    \hline DC60415 & 15 & 19/32 & 1.00 \\
    \hline DC60422 & 22 & 3/4 & 1.00 \\
    \hline DC60318 & 180 & \(19 / 32\) & 1.00 \\
    \hline DC60322 & 220 & 19/32 & 1.00 \\
    \hline DC603:33 & 330 & 3/4 & 1.00 \\
    \hline
    \end{tabular}
    
    

    Mallory Ceramic Tubular Trimmers
    Have high quality, silvered, steatite tubes; screw adjustment; low minimums capacitance and tinned-copper leads. 500 wkg . V. D().
    \begin{tabular}{|c|c|c|c|c|}
    \hline Cat. No. & mmfd & Length of l3ody & Fig. No.* & List l'rice \\
    \hline (T565A & .5-3 & \(33_{6}{ }^{\prime \prime}\) & 1 & \$0.50 \\
    \hline CT565 & .5-3 & 59\% \({ }^{\prime \prime}\) & 1 & . 50 \\
    \hline ('551 & 1-4 &  & 1 & . 50 \\
    \hline
    \end{tabular}

    \section*{Stand-Off Ceramic Capacitors}

    Kecommended for the dual purpose of by-passing R.F. current to zround, and of mechanically supporting other cireuit elements. They are especially suited for VHF and (JHF applications because of their low inductance and high resonant frequency.
    \begin{tabular}{c|c|c|c|c}
    \hline Cat . No. & Cap. mmfd & Tolerance & Fig. No.* & List Frice \\
    \hline SC-521 & 1000 & \(20 \%\) & 2 & \(\mathbf{\$ 1 . 0 0}\) \\
    SC-535 & 500 & \(20 \%\) & 2 & \(\mathbf{1 . 0 0}\) \\
    \hline
    \end{tabular}

    \section*{Feed-Thru Ceramic Capacitor}

    A well built, sturdy, feed-thru capacitor used to by-pass R.F. to sroumd in feed-thru applications. Wire terminals are rugged and will serveras tie points for several connections for supporting other circuit elements, and are sufficiently long for point-to-point wiring.
    \begin{tabular}{c|c|c|c|c}
    \hline Cont. No. & Cap. mmfd & Tolerance & Fig. No. * & List Price \\
    \hline \(\mathbf{F C 5 2 1 5}\) & 1500 & \(20 \%\) & 3 & \(\$ 1.00\) \\
    \hline
    \end{tabular}

    \section*{Ceramic Trimmer Capacitors}
    

    Small, electrically stable capacitors for use in high frequency FM-TV circuits. Each capacitor consists of fired silvor electrodes on a ceramic rotor and base. They have a \(360^{\circ}\) rotor with a substantially constant capacity change and are completely sealed from dust and dirt. Single or dual units are available.

    Solder type lugs at each end of cat pacitor.
    Two clearance holes are provided in each capacitor for screw mounting.

    Single Units-Overall size \({ }^{21 / 32^{\prime \prime}} \times{ }^{27} 32^{\prime \prime} \times{ }^{3} 8^{\prime \prime}\) thick. Voltage Rating-600 VDC
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog No. & Cap. Range ( mmfd ) & Temperature Coefficient & list Price \\
    \hline ST-5515-Z & 1.5 to 7 & Zero & \$1.50 \\
    \hline ST-553-Z & 3 to 12 & Zero & 1.50 \\
    \hline ST-554-N & 4 to 30 & Neg. 500 Parts/Million/ \({ }^{\circ} \mathrm{C}\). & 1.50 \\
    \hline ST-557-N & 7 to 45 & Neg. 500 l'arts/Million \(/{ }^{\circ} \mathrm{C}\). & 1.50 \\
    \hline
    \end{tabular}

    Dual Units-Overall size \(1^{19} / 64^{\prime \prime} \times 7 / 0^{\prime \prime} \times 38^{\prime \prime}\) thick.
    Voltage Rating-600 VDC
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog No. & Cap. Range Each Section (mmfd) & Temperature Coefficient & 1.ist Price \\
    \hline DT-5515-Z & 1.5 to 7 & Zero & \$2.50 \\
    \hline DT-553-Z & 3 to 12 & Zero & 2.50 \\
    \hline DT-554-N & 4 to 30 & Neg. 500 l'arts/Million/ \({ }^{\circ} \mathrm{C}\). & 2.50 \\
    \hline DT-557-N & 7 to 45 & Neg. 500 l'arts/Million/ \({ }^{\circ} \mathrm{C}\). & 2.50 \\
    \hline
    \end{tabular}

    \section*{Fixed Ceramic Capacifors}
    (Voltage Rating-600 VDC)
    

    Mallory tubular, fixed, ceramic capacitors are manufactured in 3 types. UC is general purpose type for by-passing, coupling and other applications where a moderate capacitance change with temprature change can be tolerated. \(/ 2 T\) is zero temperature type, the nominal capacitance of which remains substantially constant over a temperature variation from \(-55^{\circ} \mathrm{C}\) to 8.5"(\% N"l is negative temperature type with a negative coefficient of 750 parts/million/degrees C. 'There capacitors are supplied with a dipped phenolic insulation for protection against moisture and have radialiy placed bare, tinnedcoppor leads approximately \(11 / 4^{\prime \prime}\) long.

    Voltage Rating-600VDC.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{4}{|c|}{General Purpose \(\pm 20 \%\) Tolerance} & \multicolumn{4}{|l|}{Zero Temperature Coefficient \(\pm 10 \%\) Tolerance} \\
    \hline Cat. No. & Capacity (rnmfd) & Size* & List Price & Cat. No. & Capacity
    \[
    (\mathrm{mmfd})
    \] & Size* & I.ist l'rice \\
    \hline UC-541 & 10 & 1 & \$0.25 & ZT-5675 & 75 & & \$0.75 \\
    \hline UC-5412 & 12 & , & . 25 & ZT-5615 & 1.5 & 1 & \$0.75 \\
    \hline UC-5415 & 15 & 1 & . 25 & ZT-553 & 3 & 1 & . 50 \\
    \hline UC-5418 & 18 & 1 & .25 & ZT-5533 & 3.3 & 1 & . 50 \\
    \hline UC-5422 & \({ }_{25}^{22}\) & 1 & . 25 & ZT-5547 & 4.7 & 1 & . 50 \\
    \hline UC-5427 & 27 & 1 & . 25 & ZT-555 & \({ }_{6}^{5} 8\) & 1 & . 50 \\
    \hline UC-5433 & 33 & 1 & . 25 & ZT-541 & 10.8 & 1 & . 50 \\
    \hline UC-5439 & 39 & 1 & .25 & ZT-542 & 20 & 1 & . 50 \\
    \hline UC-5447 & 47 & 1 & .25 & ZT-5425 & 25 & 2 & . 50 \\
    \hline UC-545 & 50 & 1 & .25 & ZT-5433 & 33 & 2 & . 50 \\
    \hline UC-5456 & 56 & 1 & .25 & ZT-545 & 50 & 3 & . 55 \\
    \hline UC-5468 & 68
    75 & 1 & . 25 & ZT-5475 & 75 & 3 & . 55 \\
    \hline \(\mathrm{UCS}_{\mathrm{UC}} \mathbf{C 5 4 7 5}\) & 75
    100 & 1 & . 25 & ZT-531 & 100 & 3 & . 55 \\
    \hline UC-5312 & 120 & 1 & . 25 & ZT-5315 & 150
    175 & 4 & . 60 \\
    \hline UC-5315 & 150 & 1 & . 25 & & & & \\
    \hline \(\mathrm{UC}_{\text {UC5322 }}\) & 220 & 1 & . 25 & \multicolumn{4}{|l|}{\multirow{5}{*}{Negative Temperature Coefficient 750 Parts/Million/ \({ }^{\circ} \mathrm{C}\) \(\pm \mathbf{1 0} \%\) Tolerance}} \\
    \hline UC-5325 & 250 & 1 & . 25 & & & & \\
    \hline UC-5327 & 270 & 1 & . 25 & & & & \\
    \hline UC-533 & 3100 & 1 & . 25 & & & & \\
    \hline UC.5333 & 330 & 1 & . 25 & & & & \\
    \hline UC-5339 & 390 & 1 & . 25 & & Capacity & & I,is1 \\
    \hline UC-5347 & 470 & 1 & . 25 & Cat. No. & (mmfd) & Size* & I'rice \\
    \hline UC-5356 & 560 & 1 & . 25 & NT-5.55 & 5 & 1 & \$0.50 \\
    \hline UC-5368 & 680 & 1 & . 25 & NT-541 & 10 & 1 & . 50 \\
    \hline UC-5375 & 780 & 2 & .25 & NT-5447 & 47 & 2 & . 50 \\
    \hline UC-521 & 1000 & 2 & . 25 & NT-5475 & 75 & 3 & .50 \\
    \hline UC-5212 & 1200
    1500 & \({ }_{2}^{2}\) & . 25 & NT-531 & 100 & 3 & .50 \\
    \hline UC-5218 & 1800 & 3 & . 25 & \multicolumn{4}{|c|}{\multirow[b]{3}{*}{* SIZE CHART}} \\
    \hline UC-522 & 2000 & 3 & .25 & & & & \\
    \hline UC-5222 & 2200 & 3 & .25 & & & & \\
    \hline UC-5227 & 2700 & 3 & .25 & Sizes & \multirow[t]{2}{*}{Diameter} & \multicolumn{2}{|r|}{\multirow[t]{2}{*}{Lengils}} \\
    \hline UC-523 & 31000 & 3 & . 25 & & & & \\
    \hline UC-5233 & 33300 & 3 & .25 & 1 & & \multicolumn{2}{|r|}{. 460} \\
    \hline UC-E240 & \(4 \mathrm{HOH}^{\text {¢ }}\) & 3 & . 25 & 2 & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{. 240}} & \multirow[t]{2}{*}{.710
    1.250} \\
    \hline UC-5247 & 4700 & 3 & .25 & 3 & & & \\
    \hline UC-525 & \(50 \% 0\) & 3 & . 30 & 4 & .315
    .415 & \multicolumn{2}{|l|}{} \\
    \hline
    \end{tabular}

    \section*{Mallory Noise Filters}
    

    Type X
    

    Type W
    

    Type Z
    

    Type Z8A
    

    Type LC
    

    Type LB

    For reducing or eliminating radio frequency interference caused by various electrical appliances.
    Type \(\mathbf{W}\) has dual capacitors housed in metal tubes. Common lead of capacitors connected to case, except WSP type which has shocklimiting capacitor from common lead to case. Designed for direct mounting. Type \(X\) has single and dual capacitors housed in round metal case, except X6 which is housed in rectangular plastic case. Designed for plug-in mounting. Type Z-Single and dual inductancecapacity filters housed in round metal container and designed for
    insertion between appliance and electrical outlet. Types Z6 and Z8 have terminal for return lead to ground of appliance. Type Z8A designed for direct mounting and is equipped with \(5^{\prime \prime}\) flexible leads. Type LC-combination inductance-capacity filter housed in rectangular metal case. Equipped with line cord and plug as well as outlet for appliance. Type LB-heavy duty choke-capacity, combination filters sealed in rectangular, standard, heavy-gauge metal cut-out boxes. Equipped with heavy, flexible insulated wire leads for splicing with house or motor wiring.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Amps & Volts & Size & Intensity or Degree of Interference & Source of Interference & List Price \\
    \hline W7 & & 110-220 AC-DC & 7/8x 2 & Light & Compressors, Sewing Machines, Vacuum Cleaners & \$1.35 \\
    \hline W9 & & 115-220 AC-DC & \(1 \times 3\) & Medium & Air-Conditioners, Dental Equipment, Fans, Signs & 1.75 \\
    \hline W11 & & 115-220 AC-DC & 13/63 & Severe & Grinders, Thermostats, Motors & 2.10 \\
    \hline W7SP & & 115-220 AC-DC & \(7 / 8 \times 2\) & Light & Adding Machines, Cash Registers, Dishwashers & 1.80 \\
    \hline W9SP & & 115-220 AC-DC & \(1 \times 258\) & Medium & Vacuum Cleaners, Washing Machines & 2.20 \\
    \hline \(\times 1\) & 5 & 110 & \(13 \times 134\) & Slight & Heating Pads, Radio Receivers & 1.60 \\
    \hline \(\times 3\) & 5 & 110-220 & \(13 \times 23 / 18\) & Medium & Barber Clippers, Hair Dryers (small) & 1.80 \\
    \hline X5 & 5 & 110-220 & 13/1823/18 & Medium & Floor Polishers, Refrigerators & 2.70 \\
    \hline X6 & 15 & 125 AC-DC & \(11 / 4 \times 2 \times 1\) & Light & Electric Razors, Food Mixers and Grinders & 1.60 \\
    \hline 22 & 3 & 110-220 & \(13 / 8 \times 213 / 16\) & Medium & Violet Ray, Radio Receivers, Barber Clippers & 2.20 \\
    \hline 24 & 3 & 110.220 & \(13 \times 213 / 18\) & Severe & Heating Pads, Humidifiers (plug type) & 2.50 \\
    \hline 26 & 3 & 110-220 & \(11 / 4 \times 31 / 4\) & Severe & Electric razors, Radio Receivers & 3.60 \\
    \hline 28 & 3 & 110-220 & \(11 / 8 \times 31 / 4\) & Severe & Sewing Machines, Hair Dryers (small) & 3.60 \\
    \hline 28A & 3 & 115-220 AC-DC & \(11 / 16 \times 23 / 4\) & Severe & Fans (plug type) Vacuum Cleaners & 3.00 \\
    \hline \({ }_{\text {LCE }}\) & 5 & 115-220 AC-DC & \(213 / 16 \times 31 / 16 \times 3918\) & Heavy & Air Conditioners, Cash Registers & 11.25 \\
    \hline LB10 & 10 & 115-220 AC-DC & \(2^{18 / 16 \times 31 / 16 \times 39}\) & Heavy & Dictating Machines, Ironing Machines & 15.00 \\
    \hline LB20 & 10 & 220
    220 & \(61 / 2 \times 61 / 2 \times 4\)
    \(101 / 4 \times 101 / 4 \times 6\) & Heavy & Sign Flashers, Oil Burners, Neon Signs & 17.50 \\
    \hline LB40 & 40 & 220 & \(12 \times 101 / 4 \times 6\) & Heavy & Motors, Sign Flashers & 58.75 \\
    \hline NF1-115 & 1 & \(115 \mathrm{AC}-500 \mathrm{DC}\) & \(13 / 4 \times 11 / 4 \times 7 / 8\) & & NF type filters are designed for professional- & 8.90 \\
    \hline NF3-220 & 3 & 220 AC & \(2 \times 13 / 4 \times 1\) & & industrial noise filtering problems. May be used & 13.20 \\
    \hline NF5-115 & 5 & 115 AC-500 DC & \(2 \times 134 \times 7 / 6\) & & in such applications as; electric motors, lighting & 7.30 \\
    \hline NF10-115 & 10 & 115 AC-500 DC & \(2 \times 2 \times 11 / 8\) & & systems, make and break relay systems and fans. & 9.75 \\
    \hline NF15-220 & 15 & 220 AC & \(2^{11 / 16 \times 21 / 2 \times 15 / 16}\) & & Should be installed and used exactly as suggested & 27.10 \\
    \hline NF25-230 & 25 & 230 AC & \(2 \times 2 \times 11 / 4\) & & on applicable instruction sheets. & 12.10 \\
    \hline
    \end{tabular}

    \section*{MALLORY TYPE "K" VITREOUS WIRE-WOUND POWER RHEOSTATS AND POTENTIOMETERS}

    Hinged-spring contact arm; low contact resistance; low wear; easy cleaning and brush replacement; antibacklash characteristic.

    See complefe line Mallory page 4 Potentiometers, Rheostats, Resistors Section
    

    \section*{Radio Frequency Choke Coil}

    General purpose radio frequency choke coils for all circuits. Hour-glass wound for low distributed capacity. Housed in compact insulating tubes. Two bare tinned copper wire leads, one at each end.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & Turns & Wire & Inductance* Microhearies & \begin{tabular}{l}
    Size \\
    Dia. Length
    \end{tabular} & List Price \\
    \hline RF581 & 90 & 16 & 25 & \(1 \times 1 / 2\) & \$0.60 \\
    \hline RF582 & 55 & 16 & 12 & \(1 \times 13 / 18\) & . 60 \\
    \hline RF583 & 55 & 12 & 12 & 18/18 \(\times 1\) \% & 1.25 \\
    \hline
    \end{tabular}
    * Measured at 2.5 mc .

    \section*{MALLORY PLASCAP!}

    Plasfic iubular capacitor with Moisture-Proof Construction.
    For complete description and listing see page 4, Mallory Capacitor section, this catalog.

    \section*{MICA CAPACITORS}

    \section*{PR. MALLORY \& CO., INC. INDIANAPOLIS}

    \section*{Mica Receiver Capacifors}
    

    Designed for use in radio, TV and industrial electronic circuits. Made with carefully selected mica and foil. Phenolic case with RTMA color coding for identification.
    

    High-Voltage Mica Capacifors for TV Replacement
    \(\pm \mathbf{2 0 \%}\) Cap. Tolerance
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & Capacity mmid & \begin{tabular}{l}
    Working \\
    Volts DC
    \end{tabular} & \[
    \text { W } \quad \begin{gathered}
    \text { Size } \\
    L
    \end{gathered}
    \] & H & \[
    \underset{\text { I'rice }}{\text { List }}
    \] \\
    \hline MCP53R3 & 3.3 & 3000 & 25/32 \(\times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 35 \\
    \hline MCP5̃0 & 5 & 3000 & \(1 \times 5\) & x 1/1/32 & . 35 \\
    \hline MCP410 & 10 & 3000 & \(1 \times 5\) & x 11/32 & . 35 \\
    \hline MCM422 & 22 & 2500 & 25/32 \(\times 7 / 16\) & \(\times^{7 / 32}\) & . 30 \\
    \hline MCM433 & 33 & 2500 & 2532 \(\times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 35 \\
    \hline MCL420 & 20 & 2000 & 25/32 \(\times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 35 \\
    \hline MCL427 & 27 & 2000 & 25/32 \(\times 7 / 16\) & \(\times^{7 / 32}\) & . 35 \\
    \hline MCL443 & 43 & 2000 & 2532 \(\times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 35 \\
    \hline MCL447 & 47 & 2000 & 25/32 \(\times 7 / 16\) & \(\times^{7 / 32}\) & . 30 \\
    \hline MCL450 & 50 & 2000 & 25/32 \(\times^{7 / 16}\) & \(\mathrm{x}^{7 / 32}\) & . 40 \\
    \hline MCL456 & 56 & 2000 & \(25 / 32 \times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 40 \\
    \hline MCL426 & 62 & 2000 & \(23 / 32 \times 7 / 16\) & \(\times^{7 / 32}\) & . 40 \\
    \hline MCL468 & 68 & 2000 & \(25 / 32 \times 7 / 16\) & \(\times^{7 / 32}\) & . 35 \\
    \hline MCL482 & 82 & 2000 & 25/32 \(\times 7 / 16\) & \(\times^{7 / 32}\) & .40) \\
    \hline MCL315 & 150 & 2000 & 23/32 \(\times 7 / 16\) & [7/32 & . 45 \\
    \hline MCL320 & 200 & 2000 & 25/32 \(\times 7 / 16\) & \(\times^{7 / 32}\) & . 60 \\
    \hline MCL325 & 250 & 2000 & 25/32 \(\times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 65 \\
    \hline MCL330 & 300 & 2000 & 25/32 \(\times 7 / 16\) & \(\times^{7 / 32}\) & . 70 \\
    \hline MCL339 & 391 & 2000 & \(25 / 32 \times 1 / 16\) & \(\times 7 / 32\) & . 85 \\
    \hline MCL347 & 470 & 2000 & \(13 / 16 \times 13 / 16\) & \(\times 11 / 32\) & . 90 \\
    \hline MCL350 & 500 & 2000 & \(13 / 16 \times 13 / 16\) & x 11/32 & .90 \\
    \hline MCK475 & 75 & 1500 & 25/32 \(\times 7 / 16\) & x 7/32 & .30 \\
    \hline MCK310 & 100 & 1500 & \({ }^{25} 32 \times 7 / 16\) & \(\times^{7 / 32}\) & .36 \\
    \hline MCK315 & 150 & 1500 & 25/32 \(\times\) x \(7 / 16\) & \(\times^{7 / 32}\) & . 35 \\
    \hline MCK318 & 180 & 1500 & 25/32 \(\times\) 7/16 & \(\times^{7 / 32}\) & . 35 \\
    \hline MCK322 & 220 & 1500 & 25/32 \(\times\) 7/16 & \(\times^{7 / 32}\) & . 40 \\
    \hline MCK327 & 270 & 1500 & \(25 / 32 \times 7 / 16\) & \(\times^{7 / 32}\) & . 45 \\
    \hline MCK333 & 330 & 1500 & 23/32 \(\times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 50 \\
    \hline MCK347 & 470 & 1500 & 25/32 \(\times 7 / 16\) & \(\mathrm{x}^{7 / 32}\) & . 60 \\
    \hline MCK368 & 680 & 1500 & \(1 \times\) 5\% & \(\times 11 / 32\) & . 65 \\
    \hline MCK382 & 820 & 1500 & \(1 \times\) \% & \(\times 11 / 32\) & . 75 \\
    \hline MCK210 & 1000 & 1500 & \(1 \times 5\) & x 11/32 & . 80 \\
    \hline MCK215 & 1500 & 1500 & \(1 \times 5\) & x 11/32 & 1.10 \\
    \hline MCK220 & 2000 & 1500 & \(1 \times 5\) & \(\times 11 / 32\) & 1.35 \\
    \hline MCK224 & 2400 & 1500 & \(1 \times 5 / 8\) & X 11/32 & 1.55 \\
    \hline
    \end{tabular}

    \section*{Mica Yransmitting Capacitors (Type MH)}
    

    For use in tranamitting and power amplifier circuits. Made with accurately gauged, high-quality, India mica io molded phenolic case.
    Teat volts are 200\% of WVDC. Case size \(13 \%^{\prime \prime} \times 110^{\circ}\) (minus terminals).
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & \begin{tabular}{l}
    Cap. \\
    Mfd.
    \end{tabular} & \begin{tabular}{l}
    Working \\
    Volts DC
    \end{tabular} & \begin{tabular}{l}
    'Test \\
    Volts 1)C
    \end{tabular} & Thickness & I.ist Price \\
    \hline M 4535 & .0001 & 600 & 1200 & 23/64 & \$1.20 \\
    \hline M \(\mathrm{H635}\) & . 0001 & 1200 & 2500 & 23/64 & 1.55 \\
    \hline MH735 & . 0001 & 2500 & 5000 & 23/64 & 1.80 \\
    \hline M H 545 & . 0005 & 600 & 1200 & 23/64 & 1.20 \\
    \hline MH645 & .0005 & 1200 & 2500 & \(23 / 64\) & 1.55 \\
    \hline MH745 & . 0005 & 2500 & 5000 & \(23 / 44\) & 2.40 \\
    \hline M \({ }^{\text {a }}\) 555 & . 001 & 600 & 1200 & 23/4, & 1.20 \\
    \hline M \({ }^{\text {ches }}\) & (\%) 1 & 1200 & 2500 & 23/64 & 1.80 \\
    \hline M H 755 & . 001 & 2500 & 5000 & \(23 / 64\) & 2.80 \\
    \hline M 1557 & . 002 & 600 & 1200 & 23/64 & 1.30 \\
    \hline M H657 & . 002 & 1200 & 2500 & \(23 / 64\) & 2.40 \\
    \hline MH757 & . 0022 & 2500 & 5000 & \({ }^{23 / 64}\) & 4.10 \\
    \hline MH565 & .005 & 600 & 1200 & 23\%4 & 1.50 \\
    \hline M \({ }^{\text {ch65 }}\) & .005 & 1200 & 2500 & 29\%64 & 3.30 \\
    \hline M 4765 & . 005 & 2500 & 5000 & 2\% \% 4 & 6.25 \\
    \hline M 4675 & . 01 & 600 & 1200 & 23/4. & 2.25 \\
    \hline M \(\mathrm{H675}\) & . 01 & 1200 & 2500 & \(29 / 64\) & 5.25 \\
    \hline MH577 & . 02 & 600 & 1200 & 29/64 & 3.05 \\
    \hline
    \end{tabular}

    Ask for them by name!

    Mallory Page 9
    

    Mica Transmitting Capacifors (Type MX)

    Ideal for amateur transmitting equipment. Mav also be used in coupling, tank and hy-pats circuit at currents within specified rating.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Cap. Mfd. & \begin{tabular}{l}
    Test \\
    Volts DC
    \end{tabular} & Max. Amps. & Freq. KC. & I.ist Price \\
    \hline MX855 & . 001 & 12,500 & \(\left(\begin{array}{r}9.0 \\ 10.0 \\ 11.0 \\ 12.0\end{array}\right.\) & 15000
    7500
    3750
    1875 & \$8.00 \\
    \hline M X857 & . 002 & 12,500 & \(\left(\begin{array}{l}9.0 \\ 12.0 \\ 13.0 \\ 15.0\end{array}\right.\) & 15000
    7500
    3770
    1876 & 11.00 \\
    \hline M X865 & . 005 & 10,000 & \(\left\{\begin{array}{l}10.0 \\ 13.0 \\ 14.0 \\ 15.0\end{array}\right.\) & 15000
    75000
    3750
    1875 & 14.50 \\
    \hline MX875 & . 01 & 7,000 & \(\left\{\begin{array}{l}10.0 \\ 13.0 \\ 15.0 \\ 15.0\end{array}\right.\) & 15000
    7500
    3750
    1875 & 15.23 \\
    \hline MX877 & . 02 & 3,500 & \(\left\{\begin{array}{l}10.0 \\ 13.0 \\ 17.0 \\ 17.0\end{array}\right.\) & 15000
    7800
    3750
    1875 & 18.00 \\
    \hline MX885 & . 05 & 3,500 & \(\left\{\begin{array}{l}11.0 \\ 14.0 \\ 16.0 \\ 18.0\end{array}\right.\) & 15000
    7500
    3750
    1875 & 18.50 \\
    \hline MX895 & . 1 & 2,000 & \(\left\{\begin{array}{l}11.0 \\ 14.0 \\ 16.0 \\ 18.0\end{array}\right.\) & \[
    \begin{gathered}
    15000 \\
    7500 \\
    3750 \\
    1875
    \end{gathered}
    \] & 18.50 \\
    \hline
    \end{tabular}

    Case Size: \(41 / 18^{\prime \prime} \times 234^{\prime \prime} \times 21 / 8^{\prime \prime}\) (Minus Terminals).
    Capacity tolerance \(\pm 20 \%\).

    \section*{Instructions for use of RETMA Color Code}

    Hold capacitor with arrow pointing to right. From left to right, that first dot shall always be white to indicate standard IRETMA molded mica capacitor. The second and third dots become the first two sie. nificant figures in the capacitance. The second row is read frons right to left. The lower right dot should be the multiplier. The louer second dot indicates the tolerance and the lower left dot iadicates the class.
    

    Example shown above \(=1300 \mathrm{mmfd} . \pm 2,500\) V.W.
    The key to color significance is as follows:
    \begin{tabular}{|c|c|c|c|c|}
    \hline Color & Sig. Fig. & Mult. & Tol. & Class. * \\
    \hline Hlack & 0 & 1 & \(\pm 20 \%\) & A \\
    \hline Jrown & 1 & 10 & & 8 \\
    \hline led
    Orange & \(\stackrel{2}{3}\) & 100
    1000 & \(\pm 2^{\text {con }}\) & C \\
    \hline Yellow & 3 & 1000
    1000 & \(\pm 3 \%\) & D \\
    \hline Green & 5 & & \(\pm 5 \%\) & \\
    \hline Hlue & 6 & & & \\
    \hline Violet & 7 & & & \\
    \hline Gray & 8 & & & \\
    \hline White
    Gold & 9 & & & J \\
    \hline Silver & & 0.1 & \(\pm 10\) & \\
    \hline
    \end{tabular}
    * Denotes various electrical characteristics,
    Voltage ratings vary with capacitance as shown in RMA Specifica.
    tion-April, 1946.

    \section*{Transmifting Capacitors (Type TX)}

    For radio, television, transmitting and all circuits requirine high voltage capacitors. ('ompact rectangular oil filled capacitors of sturdy construction. Capacity tolerance \(-10 \%\)
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Catalog Number & \begin{tabular}{l}
    Cap. \\
    Mfd.
    \end{tabular} & Working Volts D( & W & \begin{tabular}{l}
    Size* \\
    1.
    \end{tabular} & H & I.ist Irice \\
    \hline TX801 & I & 600 & 1 & \(\times 13 / 4\) & x 21/6 & \$5.20 \\
    \hline TX802 & 2 & 60\% & & \(\times 13\) & \(\times 2{ }^{\text {¢ }}\) & 6.50 \\
    \hline TX803 & 4 & 6 CN & & \(\times 1^{3}\) & \(\times 4^{1 / 3}\) & 8.50 \\
    \hline TX816 & 6 & 60 & 1318 & x \(2^{1 / 2}\) & \(\times 4{ }^{4} 6\) & 10.50 \\
    \hline TX817 & 10 & G010 & \(11 / 4\) & \(\times 3^{3}\) & \(\times 48\) & 14.00 \\
    \hline TX822 & . 5 & - 1000 & 1 & \(\times 13\) & x \(21 / 10\) & 4.55 \\
    \hline TX804 & 1 & 1000 & 1 & \(\times 13 \mathrm{i}\) & \(\times 2\) \% & 5.70 \\
    \hline TX805 & 2 & 1000 & 1 & \(\times 13 / 1\) & \(\times 37 / 8\) & 7.60 \\
    \hline TX8824 & 4 & 1000
    1000 & \(1^{31 / 16}\) & \(\times 21 / 2\) & x 4 \%
    \(\times 45\) & 9.60 \\
    \hline TX825 & 10 & 1000 & 13.4 & \(\times 3^{3}\) & \(\times 4{ }^{\text {x }}\) & 15.50 \\
    \hline TX807 & 1 & 1500 & \(1{ }^{4}\) & \(\times 13\). & + \(\times 41 / 4\) & 6.85 \\
    \hline TX808 & 2 & 15.00 & \(1{ }^{3} 16\) & \(\times 2^{1 / 2}\) & \(\times 4\) \% & 9.50 \\
    \hline TX809 & 4 & 1500 & \(11 / 2\) & \(\times 33\) &  & 12.75 \\
    \hline TX829 & 6 & 1500 & 134 & \(\times 3^{34}\) & \(\times 4^{46}\) & 15.75 \\
    \hline TX8:30 & 10 & 1500 & \(3^{3 / 15}\) & \(\times 3 \times 4\) & \(\times 4 \frac{1 \%}{6}\) & 23.00 \\
    \hline TX831 & . 25 & 2chor & , & 8134 & x \(21 / 10\) & 6.50 \\
    \hline TX832 & . & 2000 & & \(\times 13 / 4\) & x \(27 / 8\) & 6.90 \\
    \hline TX810 & , & 2000 & 1318 & \(\times 21 / 2\) & x 3 \({ }^{3} \mathrm{~m}\) & 8.40 \\
    \hline TX811 & 2 & 2000 & \(11 / 4\) & \(\times 334\) & \(\times 41 / 4\) & 9.95 \\
    \hline TX823 & 4 & 2000) & \(2^{1 / 4}\) & \(\times 3 \%\) & \(\times 434\) & 13.75 \\
    \hline TX833 & 6 & 2000 & \(3^{3 / 16}\) & \(\times 33\) & \(\times 4\) 㐌 & 18.00 \\
    \hline TX834 & 10 & 2000 & \(4 \% / 16\) & \(\times 33 / 4\) & \(\times 4\) \% & 28.50 \\
    \hline TK812 & 1 & 2500 & \(13 / 16\) & x \(2^{\frac{1}{2}}\) & \(\times 41 / 4\) & 12.25 \\
    \hline TX813 & 2 & 2500 & 1/3/ & x \(3^{23^{3}} 32\) & \(\times 4^{7 / 32}\) & 20.00 \\
    \hline TX835 & . 1 & 3000 & \(13 / 16\) & \(\times 21 / 2\) & - \(2^{3,6}\) & 12.75 \\
    \hline TX836 & . 25 & 3000 & \(13 / 16\) & \(\times 21 / 2\) & \(\times 3^{3 / 8}\) & 14.00 \\
    \hline TX837 & . 5 & 3000 & \(13 / 16\) & \(\times 2\) & \(\times 4 \%\) & 15.50 \\
    \hline TX814 & 1 & 38000 & 13/4 & \(\times 33\) & x \(4{ }^{5}\) & 18.75 \\
    \hline TX815 & 2 & :300) & \(33 / 18\) & \(\times 33 / 4\) & \(\times 498\) & 23.25 \\
    \hline TX838 & 4 & 3000 & 4916 & 8334 & \(x 51 / 2\) & 34.00 \\
    \hline TX839 & 1 & 4000 & 21/4 & & \(\times 434\) & 34.00 \\
    \hline TX827 & 2 & 4000 & 4916 & \(\times 33\) & \(\times 434\) & 43.00 \\
    \hline TX818 & 1 & 5000 & 51/6 & \(\times 31 / 2\) & \(\times 5.5\) & 39.00 \\
    \hline TX819 & 2 & 50001 & \(5{ }^{1 / 8}\) & \(\times 31 / 2\) & \(\times 9\) & 50.00 \\
    \hline TX820 & . 5 & 6000 & & \(\times 5.18\) & \(\times 31 / 2\) & 62.00 \\
    \hline TX821 & 1 & 6000 & \(3^{15}\) is & \(x 4^{13} 16\) & x \(6^{13 / 16}\) & 77.00 \\
    \hline
    \end{tabular}
    - W' Width; L-Length: H-Height.
    

    \section*{Transmitting Capacitors (Type TZ)}

    For filter and by-pass circuits in power amplifiers. television and transmitting ectuipment where compact round can units are desired. Capacity tolerance \(-10 \%+20 \%\). Do not use on \(A C\) ?
    \begin{tabular}{|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Capacity Mfd. & Working Volts DC & \begin{tabular}{l}
    Size \\
    Dia. Height
    \end{tabular} & List Price \\
    \hline TZ382 & 2.19 & 600 & \(138 \times 25\) & \$4.65 \\
    \hline T2383 & 4.0 & 600 & 1 \% \(8 \times 41 / 8\) & 6.20 \\
    \hline T2384 & 1.0 & t(1)O) & \(1^{3} 8 \times 2^{58}\) & 4.30 \\
    \hline TZ385 & 3.0 & 1000 & \(1{ }^{3} \mathrm{x} \times 4^{\prime \prime}\) & 5.45 \\
    \hline TZ389 & 4.0 & 1000 & \(2 \times 4\) & 7.25 \\
    \hline TZ386 & . 5 & 1.500 & \(1^{3}{ }^{8} \times 3^{1}{ }^{\text {a }}\) & 5.05 \\
    \hline T2387 & 1.0 & 1500 & \(2 \times 238\) & 5.45 \\
    \hline T7388 & 2.0 & 1500 & \(2 \times 4\) & 7.25 \\
    \hline TZ390 & 1.0 & 20100 & \(2 \times 3{ }^{1 / 4}\) & 6.83 \\
    \hline TZ391 & 2.0 & 2000 & \(2 \times 41 / 2\) & 7.60 \\
    \hline
    \end{tabular}

    TERMINAL HEIGHTS
    \begin{tabular}{|c|c|}
    \hline TX Capacitors & TZ Capacitors \\
    \hline 600 through \(2500 \mathrm{~V}-11 / 4\) & 600v-5 \\
    \hline & 1 and 2 mfd at \(1000 \mathrm{~V}-58\) \\
    \hline 3000 through 4000 -15 & . 5 and 1 mfd at \(1500 \mathrm{~V}-58\) \\
    \hline 5000 through \(6000 \mathrm{~V}-21 / 2\) & \({ }_{2}^{4} \mathrm{mfd}\) at \(1000 \mathrm{~V}-1{ }^{13}\) \\
    \hline & 1 mfd at \(2000 \mathrm{~V}-13\) \\
    \hline & 2 mfd at \(2000 \mathrm{~V}-13 \mathrm{~s}\) \\
    \hline
    \end{tabular}
    

    Type TH-Special clips for horizontal mount ing of any tubular or FP unit within the diameter range shown. Designed primarily to mount without tools under special chassis lances in original equipment; they may also be attached to chassis with \(5-32\) screw and nut in any \(1 / 8^{\prime \prime}\) hole.

    Type VR-Brackets for vertical mounting round units.
    \begin{tabular}{|c|c|c|c|}
    \hline Cat. No. & Description & Size & List Price \\
    \hline TH-13 & Spring clip for ' T C & 36 & \$0.05 \\
    \hline TH-15 & Spring clip for TC & 1/2 to 9/16 & . 05 \\
    \hline TH-17 & Spring clip for TC & 5, to \(11 / 16\) & . 05 \\
    \hline TH-19 & Spring clip for TC and FP & \(3 / 4\) to \(13 / 16\) & .05 \\
    \hline TH-21 & Spring clip for 'ГС. . . . . . & \(7 / 8\) to \(15 / 16\) & . 05 \\
    \hline TH-23 & Spring clip for TC and FP. & 1 to \(11 / 16\) & . 05 \\
    \hline TH-25 & Spring clip for TC and FP. & 13 s to \(1^{7 / 16}\) & .10 \\
    \hline VR-1 & Clamp for vertical mounting & 1 to \(11 / 16\) & .15 \\
    \hline VR-3 & Clamp for vertical mounting & \(13 / 8\) to \(17 / 16\) & 15 \\
    \hline VR-4 & Clamp for vertical mounting & \(11 / 2\) to \(19 / 16\) & .20 \\
    \hline VR-6 & Clamp for vertical mounting & \(13 / 4\) to \(113 / 16\) & . 25 \\
    \hline VR-8 & Clamp for vertical mounting & 2 to 21/16 & . 30 \\
    \hline VR-10 & Clamp for vertical mounting & 21/2 & . 35 \\
    \hline
    \end{tabular}
    

    \section*{Type "p" Hardware}

    Types PL and PL-A-Plastic end cap to protect terminals on HC, NP or P units when desired.
    Type HB-Horizontal bracket for mounting HC, NP or \({ }^{\prime}\) ' units, using end cap type P'L or PIA.
    \begin{tabular}{|c|c|c|c|}
    \hline Cat. No. & Description & Size & List Price \\
    \hline PL-3 & Plastic end cap For "On Motor" ( & 17/6 & \$0.20 \\
    \hline PL-6 & Plastic end cap \({ }^{\text {a }}\) For mounting & \(113 / 16\) & . 25 \\
    \hline PL-8 & Plastic end cap mounting & 21/16 & . 30 \\
    \hline PL-3A & Plastic end cap For "Off Motor" & 17/16 & . 20 \\
    \hline PL-6A & Plastic end cap For mounting & \(1^{13 / 16}\) & . 25 \\
    \hline PL-8A & Plastic end cap) mounting & 21/16 & . 30 \\
    \hline HB-4 & Horizontal bracket (plastic cases). & 33/6 & .30
    .35 \\
    \hline HB-8 & Horizontal bracket (plastic cases). & 43/6 & . 35 \\
    \hline
    \end{tabular}

    Type "MSU," P, HC and NP Hardware
    \begin{tabular}{|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Description & Size & List Price \\
    \hline 115-1 & Top Cap. & 1369 & \$0.20 \\
    \hline 116-1 & Top Cap. & 2 & . 20 \\
    \hline 118-1 & Bottom Cap. & 13\% & . 20 \\
    \hline 119-1 & Bottom Cap & 2 & . 20 \\
    \hline 121-1 & Bracket. & \(13 / 6 \times 31 / 4\) & . 35 \\
    \hline 122-1 & Bracket. & 13/6 \(\times 41 / 4\) & . 35 \\
    \hline 123-1 & Bracket & \(2 \times 31 / 8\) & . 35 \\
    \hline 124-1 & Bracket & \(2 \times 41 / 8\) & . 35 \\
    \hline
    \end{tabular}
    

    Type MP—Metal plates for grounded mounting of FP and WP capacitors.

    Type BP—Phenolic plates for insulated mounting of FP and WP capacitors.
    Type PS-Molded plastic sockets for plug-in mounting FP or WP capacitors. (Blank ear on capacitor should be removed to permit polarization with respect to socket.)
    Type MW-100-Special wrench for twisting mounting ears on FP or W'P capacitors.
    \begin{tabular}{|c|c|c|c|}
    \hline Cat. No. & Description & Size & List Price \\
    \hline M P-2 & Metal mounting wafer for FP. & 3/4 & \$0.05 \\
    \hline MP. 4 & Metal mounting wafer for FP. & & . 05 \\
    \hline MP-6 & Metal mounting wafer for FP & 138 & . 05 \\
    \hline BP-2 & Phenolic mounting wafer for FP. & 3/4 & . 05 \\
    \hline BP-4 & Phenolic mounting wafer for FP. & 1 & . 05 \\
    \hline BP-4A & Phenolic mounting wafer for FP ('To mount \(1^{\prime \prime}\) FP in chassis punched for \(13 / 8^{\prime \prime}\) wafer) & 1 & . 05 \\
    \hline BP. 6 & Phenolic mounting wafer for FP. & \(13 \times 8\) & . 05 \\
    \hline PS-4 & Plug-in socket for FP & & . 70 \\
    \hline PS-6 & Plug-in socket for FP. . . . . . . . & 138 & . 90 \\
    \hline PSC-4 & Retainer clamp for PS-4 socket. . & & . 10 \\
    \hline MW-100 & Mounting wrench for FP. ...... & & 1.75 \\
    \hline
    \end{tabular}

    \section*{Recommended Replacements for Modified and Discontinued FP and WP Types}
    (as listed on pages 1 and 2, Mallory Capacitor Section, this catalog)
    \begin{tabular}{|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Old Catalog } \\
    & \text { Number }
    \end{aligned}
    \] & Recommended Replacement & Old Catalog Number & Recommended Replacement \\
    \hline FP228 & FP227.3 & FP373 & FP385 \\
    \hline FP236 & FP260 & FP376* & FP396.2 \\
    \hline FP246X & FP266 & FP379* & FP385 \\
    \hline FP313* & FP330 & FP380 & FP343.4 \(\dagger\) \\
    \hline FP316* & FP334 3.1 & FP3889 & FP3875.8 \(\dagger\) \\
    \hline FP332 & FP345.2 \(\dagger\) & FP390 & FP376.1 \(\dagger\) \\
    \hline FP334* & FP333.8 & FP391 & FP391.1 \\
    \hline FP339 & FP345.8 \(\dagger\) & FP393 & FP376.8 \(\dagger\) \\
    \hline FP342* & FP342.5 & FP395 & \({ }_{\text {FPP369.1 }} \dagger\) \\
    \hline FP344 & FP344.5 &  & FP419.3 \\
    \hline FP345 & FP370 \({ }_{\text {FP3 }}{ }^{\text {¢ }}\) + \(\dagger\) & FPr420* & FP4418.3 \\
    \hline \({ }_{\mathrm{F} P 353}\) & FP343.6 & FP422 & FP423.4 \\
    \hline FP354 & FP311.2 \(\dagger\) & FP425* & FP432.4 \\
    \hline FP355 & FP311.4 \({ }^{\dagger}\) & \(\mathrm{FPP}^{427}\) & FP422.1 \(\dagger\) \\
    \hline FP356 & FP311.7 \(\dagger\) & FP457* & FP476 \\
    \hline FP357 & FP311.5 \(\dagger\) & FP465* & FP467 \\
    \hline FP358 & FP311.9 \(\dagger\) & FP471 & FP476 \\
    \hline FP360* & FP343.1 & FP550* & FP245 \\
    \hline FP363 & FP320 \(\dagger\) & WP032 & WPO42 \\
    \hline FP367 & FP3330.5 \(\dagger\) & WP302* & W P302.1 \\
    \hline FP369 & FP330.3 \(\dagger\) & & \\
    \hline
    \end{tabular}
    * Will be deleted from line when present stocks are exhausted.
    \(\dagger\) Change in catalog number only. No change in rating.

    \section*{METAL-CLAD AND TANTALYTIC* CAPACITORS}

    \author{
    
    }

    \section*{SUBMINIATURE METAL-CLAD TUBULAR CAPACITORS}
    subminature metal-cad tubular capacitors are awailable with Permafil solid dielectric for operation at \(+5^{5} \mathrm{C}\) and +125 C. Silicone end seals of all-welded construction provide maximum resistance to thermal and physical shock and permit soldering up to the bushing without danger of seal damage. Butt-welded leads can he supplied either axially or at right angles. Permatil mits combine small size and no liquid leakage with high insulation resistance and ability to withstand extreme temperature cycling.
    These units meet performance requirements of MlL-C\(2 \bar{A}\) and can be supplied in standard case sizes in either tab or extended foil designs. Ratings range from 10.001 to \(1.0 \mu^{\mathrm{P}}\) in voltages of 1610.2011 . 300. 400 , and fon d-c working.

    \section*{Write for Bulletin GEC. 987 .}
    

    \section*{FOR LOW-VOLTAGE USE}

    The Tantalytic capacitor is designed for certain directcurrent applications up to 150 WVDC where alumimm electrolytics and paper capacitors are not entirely satisfactory, and is suggested for use where superior characteristics and ultimate size reduction in the highquality electrolytic field are of prime importance.
    This capacitor is a tantalum-electrode electrolytic unit. similar in construction to an ahminum electrolytic capacitor, hut smaller in size because of the characteristics of the tantalum. The Tantalytic capacitor has lower leakage currents. longer shelf life. and a wider range of temperature operation ( -55 C to +85 C ). withont derating. than the conventional aluminum electrotytic capacitor. Tantalytic capacitors. in a wide range of ratings. are currently being used in telephone equipment and military conmmication and ordnance equipment.
    Write for Bulletin GEC-808.

    \section*{MICRO-MINIATURE TANTALYTIC CAPACITORS}

    Microminiature Tantalytic capacitors are desimned for low-voltage d-c applications where long shelf life. electrical stability and ultimate size reduction are of prime importance. Widely used in hearing aids and other subminiature assemblies employing transistors. microminiatures are rated as high as 4 volts. \(\delta \mu f\) in the in inch case: higher ratings can he achieved in the \(1 / 2\)-inch case. Capacitance tolerance for all units is \(-0 \%+200 \%\).
    The microminiature employs a tantalum anode enclosed in a silver case and impregnated with a nonacid electrolyte. A synthetic plug is roll-crimped into the end of the case and a solderable tin-coated nickel lead is lap-welded to the projecting tantalum anode lead. This permits connection up to the bushing. The case itself is the cathode and is equipped with a tin-coated nickel lead soldered to the case. The unit is of the polarized type.
    
    .

    \section*{PYRANOL CAPACITORS}

    \section*{CAPACITORS TO MEET MILITARY SPECIFICATION MIL-C-25A 100 to \(\mathbf{1 2 , 5 0 0}\) Volts D-c - 0.01 to 15 Microfarads}
    

    CP 53.54-Bathtub style CP 61, \(63,65,67,69\)-Miniature Rectangular

    Intended primarily for feeder. by-pass. and blocking purposes. these units are qualified for applications where the alternating-current component of the impressed voltage is small with respect to the direct-current rating.

    All case styles are available in Characteristics \(l l, E\), and \(r\). Single-section units are supplied with a capacitance tolerance of \(\pm 19\) per cent (K), and two- and three-section units with a capacitance tolerance of +20 per cent, - 10 per cent (V). Spade-lug and footed momnting brackets are available for use with capacitors on which the mounting bracket is not an integral part.

    In addition to their regular applications, these units may also be used at higher temperatures, with higher voltages for shortlife applications, and with a-c voltages. Write to the nearest G-E Apparatus Sales Office for Bulletin GEC-810.

    \section*{ENERGY-STORAGE DISCHARGE CAPACITORS}
    
    G.E light-duty energy-storage capacitors are made in a wide rance of ratings to fit practically every requirement of high-speed fash photography, as well as home and industrial weiders for light photography, as construction, hich-quality materials, and skillful design contribute to long life and efficient operation.
    Write for Bulletin GEA-4646.
    STANDARD RATINGS
    \begin{tabular}{c|c|c|c}
    \begin{tabular}{c} 
    Max. \\
    D.c volts
    \end{tabular} & \begin{tabular}{c} 
    Capacitance, \\
    Microfarads
    \end{tabular} & \begin{tabular}{c} 
    Max. \\
    D.c volts
    \end{tabular} & \begin{tabular}{c} 
    Capacitance, \\
    Microfarads
    \end{tabular} \\
    \hline 2000 & 28 & 4000 & 50 \\
    2500 & 14 & 4000 & 160 \\
    3000 & 60 & 5000 & 2550 \\
    3500 & 12.5 & 6000 & 55 \\
    4600 & 25,50 & 600 & 25 \\
    \hline
    \end{tabular}

    CAPACITOR NETWORKS
    
    

    These capacitor networks are designed for radar and industrial efuipment where the normal (exponential) capacitor discharge shape is not suitable and where an impulse having a definite energy content and duration is required.
    General Electric pioneered in the development of mineral-oil-treated paper dielectric capacitor net. works for air, sea, and land radar, and is a prime supplier for the government services. The products supplied vary from the miniature types in use with aircraft and guided missiles to the large designs for land-based radar.
    Write for Bulletin GEA-4996.

    \section*{PYRANOL CAPACITORS}

    \section*{STANDARD COMMERCIAL TYPES}

    For A-c and D-c Applications - Fixed Paper-dielectric Capacitors
    

    A-c/d-c dual-rated Pyranol capacitors for motors. controls, luminous-tube transiormers. electronic equipments, and other applications will reduce inventories, simplity design problems, and increase standardization. Capacitors in the voltage ranges 236 througn 660 volts, a-c, and 400 through 1500 volts, d-c, are now dual-rated and can be used for either a-c or d-c applications. Other a-c and d-c ratings available: 0.01 to 75 microfarads, 236 to 660 volts. a-c, and 400 to 100,000 volts, d-c.

    Because of the high dielectric strength, high permittivity, and exceptional stability of Pyranol. its use as a treating material has made possible a capacitor whieh is much smaller in size, and far superion to those formerly available.

    \section*{Design Advantages}
    (1) Units are small and compact. because of the use of Pyranol.
    (2) A wide range of ratings is available in rectangular, cylindrical. and oval cases.
    (3) Three styles of mounting brackets are available and are supplied separate from the units. Units may be operated in any position.

    Write to the nearest G-E Apparatus Sales Office for Bulletin GEC-809.

    \section*{STANDARD RATING RANGE}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{2}{|c|}{Rated Voltage 60 Cycles} & \multicolumn{4}{|c|}{Capacifance Ratıngs - Microfarads} \\
    \hline A. C & D-C & \[
    \begin{gathered}
    \text { Case Style } \\
    60
    \end{gathered}
    \] & \[
    \begin{gathered}
    \text { Case Style } \\
    70 \\
    \hline
    \end{gathered}
    \] & Fabricated Rectanaular & Cylindrical Motor Line \\
    \hline 236 & 400 & 2 & 4.16 & - & - \\
    \hline 330 & \(\overline{0}\) & - 25 & - 50 & 1-50 & 1.2-12 \\
    \hline 330 & 600 & 0.25-1 & 1.50 & & - \\
    \hline 440 & - & - & - & 28 & - \\
    \hline 440
    660 & 1000 & 0.1-0.5 & \(\stackrel{1.15}{-}\) & 2-6 & 二 \\
    \hline 660 & \[
    \begin{aligned}
    & 1500 \\
    & 2000 .
    \end{aligned}
    \] & 0.01-0.05 & 1.15 & - & - \\
    \hline - & 100.000 & - & 0.05-75 & - & - \\
    \hline
    \end{tabular}

    \section*{Case Style 70}
    

    Case Style 70 units with various types of terminals and removable mounting brackets
    'These Fyranol tixed paperdiclectric capacitors in Case style 70 are hermetically sealed in rectangular cases. 'lhis line includes standard ratings, ranging from very small units weighing only three ounces to large high voltage units weighing up to 175 uounds.
    All are of singlo-capacity construction, with a capacitance toloranco of \(\pm 10\) per cent. Dases are isolated and the two bushings are brought out through the cover. Units in 600 , 1000 -, and 1500 -volt ratings are available with either solder-lug terminals or with pillar-insulator terminals. All higher-voltage ratings have pillareinsulator terminals. These units may be operated in altitudes up to 7500 feet.
    Up to 600 volts d-c, bushings with solder-lug terminals are made of G-E silicone; above this rating, they are of phenolic-cup construction. Bushings with pillar- PYRANOL CAPACITORS

    \section*{Case Style 70 (Cont.)}
    insulator terminals are made of molded phenulic ur porcelain of the highest quality. All bushings arre thoruaghly bonded to the container lo provile a yer manent liquid-tight seal.

    All units can be supplied with removable mounting brackets. Both spade-lug and L-type are available. Brackets can be attached to either the top or the bottom of the units to permit umight or inverted mounting.
    Write to the nearest G-E Apparatus Sales Office for Bulletin GEC-809.
    STANDARD RATINGS
    \begin{tabular}{|c|c|}
    \hline Nominal Direct Voltage Rating & Capacitance Ratirgs, Microfarads \\
    \hline 2000 & \(0.10,0.25,0.50,1.0,2.0,4.0,6.0,8.0,10.0,12.0\) \\
    \hline 2500 & \(0.50,1.0,2.04 .0,10.0,20.0,25.0,55.0,75.0\) \\
    \hline 3000 & \(0.10,0.25,0.50,1.0,2.0,4.0,8.0,12.0,20.0,45.0,60.0\) \\
    \hline 4000 & \(0.10,0.25,0.50,1.0,2.0,4.0,6.0,7.0,13.0,20.0,30.0\) \\
    \hline 5000 & \(0.05,0.10,0.25,0.50,1.0,2.0,4.0,6.0,8.0,14.0,18.0\) \\
    \hline 6000 & \(0.10,1.0,2.0,4.0,5.0,10.0,14.0\) \\
    \hline 7500 & \(0.10,0.25,0.50,1.0,2.0,3.0,7.0,9.0\) \\
    \hline 10.000 & \(0.10,0.25,0.50,1.0,1.5,2.0,3.5,5.0\) \\
    \hline 12,500 & \(0.05,0.10,0.25,0.50,0.75,1.0,1.2,2.5,3.3\) \\
    \hline 15,000 & \(0.25,0.50,0.75,0.90,1.75,2.25\) \\
    \hline 20,000 & \(0.15,0.25,0.50,1.0,1.25,3.0\) \\
    \hline 25,000 & \(0.10,0.25,0.60,1.0\) \\
    \hline 30,000 & \(0.25,0.5,0.75\) \\
    \hline 40.000 & \(0.10,0.20,0.25,0.35\) \\
    \hline 50,000 & 0.17, 0.25 \\
    \hline 75,000* & 0.25 \\
    \hline 100,000* & 0.125 \\
    \hline
    \end{tabular}

    \footnotetext{
    *Mid-point connected to case
    }

    Case Style 60
    

    These small rectangular-case fixed-paper-dielectric units are of narrower width than the "bathtub" units, and will fit into a very restricted panel surface, where case height is not the limiting dimension. Removabletype mounting lugs are of very sturdy construction.

    These units have solder-lug terminals, and are available in either single- or dual-section construction for all circuit diagrams.

    The metallic containers are hermetically sealed. and of deep-drawn construction.

    Case Style 60 units have no brackets. but removable brackets of either the footed or spade-lug type can be supplied.

    \section*{CAPACITORS FOR OSCILLATOR TANK CIRCUITS}
    

    This line of fixed paper-dielectric capacitors has been developed primarily for grid and plate blocking service in the electronic oscillator circuits of hinh-flequency induction-heating equipments. They can also be used to ad:antage in other high-frequency oscil:ato circuits of a similar nature.

    G-E high-voltage paper-dielectric capacitors are of relatively high capacitance ( \(0.01 \mu \mathrm{f}\) ) for high-frequency units, yet they are more economical than conventional highfrequency units of considerably smaller capacitance values. They can, therefore. be applied with savings in cost as well as reduced losses and lower voltage drop across the capacitor.

    \section*{features}

    Hermetically sealed in metallic cases.
    Single-bushing construction for minimum size.
    Removable mounting brackets.
    Intcrinal lead connections arranged for minimum inductalnce.
    Write for Bulletin GEA-4388.

    STANDARD RATINGS
    \begin{tabular}{c|c}
    \hline \begin{tabular}{c} 
    D-c Voltage \\
    Rating
    \end{tabular} & \begin{tabular}{c} 
    Microfarad \\
    Rating
    \end{tabular} \\
    \hline 5000 & 0.01 \\
    \hline 15,000 & 0.01 \\
    \hline 20,000 & 0.01 \\
    \hline \(20,000^{*}\) & 0.01 \\
    \hline
    \end{tabular}
    * With cooling fins for higher current-
    carrying capacity.
    Capacitance tolerance \(\pm 10\) r,

    \title{
    SPRAGUE CAPACITORS
    }

    \section*{ATOM \({ }^{\circledR}\) ELECTROLYTICS}
    
    - The Smallest Dependable Dry Electrolytic-The Only Small Size Capacitor Designed For \(85^{\circ} \mathrm{C}\) \(\left(185^{\circ} \mathrm{F}\right.\) ) operation In Voltages To 450 WVDC
    - Whether For AC-DC Sets, Auto Radios, Home Radio-phono Combinations, Or TV Sets, The SPRAGUE Line Will Handle All Your Replacement Requirements-No Dual Inventory Problems
    - Small Enough To Fit Anywhere, Work Anywhere
    - Guaranteed To Have Low Leakage And Long Shelf Life
    - Will Withstand High Temperatures, High Ripple Currents, High Surge Voltages
    \begin{tabular}{l|l|l|l|l}
    \hline MF & WVDC & Diam. \(\times\) Length * & Cat. No. & List \\
    \hline
    \end{tabular}

    \section*{SINGLE UNITS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline 50 & 6 & 7/611/4 & TVA.1100 & \$.95 \\
    \hline 100 & 6 & \(1 / 2 \times 11 / 8\) & TVA.1101 & 1.20 \\
    \hline 250 & 6 & \(5 / 6 \times 11 / 6\) & TVA-1 102 & 1.35 \\
    \hline 500 & 6 & \(5 / 6 \times 23 / 6\) & TVA. 1103 & 1.55 \\
    \hline 1000 & 6 & \(11 / 6 \times 2316\) & TVA. 1104 & 1.90 \\
    \hline 1500 & 6 & \(13 / 16 \times 211 / 4\) & TVA-1105 & 2.10 \\
    \hline 2000 & 6 & \(13 / 6 \times 213 / 6\) & TVA-1106 & 2.30 \\
    \hline 100 & 12 & 96\% \(\times 136\) & TVA-1130 & 1.20 \\
    \hline 250 & 12 & \(5 / 8 \times 111 / 6\) & TVA-1131 & 1.45 \\
    \hline 500 & 12 & \(31 / 4 \times 11 / 16\) & TVA. 1132 & 1.70 \\
    \hline 1000 & 12 & \(13 / 6 \times 23 / 16\) & TVA-1133 & 2.25 \\
    \hline 100 & 15 & 5/6 \(\times 136\) & TVA-1160 & 1.25 \\
    \hline 250 & 15 & \(5 / 8 \times 111 / 6\) & TVA. 1161 & 1.55 \\
    \hline 500 & 15 & \(11 / 6 \times 236\) & TVA. 1162 & 1.75 \\
    \hline 1000 & 15 & \(7 / 6 \times 236\) & TVA-1163 & 2.30 \\
    \hline 2 & 25 & \% \(1 / 11 / 4\) & TVA. 1201 & . 90 \\
    \hline 5 & 25 & \(2 / 8 \times 11 / 4\) & TVA. 1203 & 1.00 \\
    \hline 10 & 25 & \(3 / 6 \times 11 / 4\) & TVA-1204 & 1.00 \\
    \hline 25 & 25 & \(3 / 6 \times 11 / 4\) & TVA. 1205 & 1.00 \\
    \hline 50 & 25 & \(9 \% \times 11 / 6\) & TVA. 1206 & 1.10 \\
    \hline 100 & 25 & 9/6× \(\times 1116\) & TVA. 1207 & 1.35 \\
    \hline 250 & 25 & \(3 / 4 \times 1116\) & TVA. 1208 & 1.70 \\
    \hline 500 & 25 & 7/ \(\times 23\) & TVA-1209 & 2.30 \\
    \hline 1 & 50 & 1/6 \(\times 11 / 4\) & TVA-1300 & . 90 \\
    \hline 2 & 50 & \(8 / 6 \times 11 / 4\) & TVA. 1301 & . 90 \\
    \hline 5 & 50 & \(3 / 2 \times 11 / 4\) & TVA.1303 & 1.00 \\
    \hline 10 & 50 & \(3 / 6 \times 11 / 4\) & TVA-1304 & 1.00 \\
    \hline 25 & 50 & 3/6 1764 & TVA-1306 & 1.05 \\
    \hline 50 & 50 & 96x \(\times 111 / 6\) & TVA-1308 & 1.20 \\
    \hline 100 & 50 & 3/1 \(\times 111 / 16\) & TVA.1310 & 1.40 \\
    \hline 150 & 50 & 1/4 \(\times 1116\) & TVA.1311 & 1.55 \\
    \hline 250 & 50 & \(15 / 6 \times 111 / 16\) & TVA-1312 & 1.75 \\
    \hline 4 & 150 & \(3 / 2 \times 11 / 4\) & TVA-1402 & 1.00 \\
    \hline 8 & 150 & \(3 / 6 \times 13 / 4\) & TVA. 1405 & 1.05 \\
    \hline 10 & 150 & \(1 / 6 \times 11 / 4\) & TVA-1406 & 1.05 \\
    \hline 12 & 150 & \(3 / 6 \times 13 / 4\) & TVA. 1407 & 1.10 \\
    \hline 16 & 150 & \%6 \(\times 111 / 16\) & TVA-1409 & 1.15 \\
    \hline 20 & 150 & \(96 \times 111 / 6\) & TVA-1410 & 1.20 \\
    \hline 30 & 150 & 5/2×111/6 & TVA-1412 & 1.30 \\
    \hline 40 & 150 & 1/4 \(\times 111 / 16\) & TVA-1413 & 1.35 \\
    \hline 50 & 150 & \(13 / 6 \times 111 / 6\) & TVA-1414 & 1.40 \\
    \hline 80 & 150 & \% \(\times 1156\) & TVA-1418 & 1.60 \\
    \hline 100 & 150 & \(7 / 1 \times 23 / 16\) & TVA-1420 & 1.75 \\
    \hline 150 & 150 & \(1 \times 236\) & TVA-1422 & 1.90 \\
    \hline 4 & 250 & \(3 / 4 \times 15\) & TVA-1501 & 1.00 \\
    \hline 8 & 250 & \(1 / 2 \times 15 / 8\) & TVA-1503 & 1.15 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & w VDC & Diam. \(\times\) Length \({ }^{\text {* }}\) & Cot. No. & List \\
    \hline 10 & 250 & 9/16 \(\times 11116\) & TVA. 1504 & \$1.20 \\
    \hline 12 & 250 & \%6× 11116 & TVA. 1505 & 1.25 \\
    \hline 16 & 250 & \(5 / 8 \times 1116\) & TVA. 1507 & 1.30 \\
    \hline 20 & 250 & \(11 / 16 \times 111 / 4\) & TVA. 1508 & 1.35 \\
    \hline 30 & 250 & \(11 / 4 \times 236\) & TVA-1510 & 1.45 \\
    \hline 40 & 250 & \(3 / 4 \times 23 / 16\) & TVA.1511 & 1.55 \\
    \hline 4 & 350 & \(1 / 2 \times 15\) & TVA-1601 & 1.05 \\
    \hline 8 & 350 & 5/8×1116 & TVA-1603 & 1.20 \\
    \hline 10 & 350 & \(11 / 14 \times 111 / 4\) & TVA. 1604 & 1.25 \\
    \hline 12 & 350 & 11/6× \(\times 111 / 6\) & TVA. 1605 & 1.30 \\
    \hline 16 & 350 & \(31 / 4 \times 11 / 16\) & TVA. 1607 & 1.40 \\
    \hline 20 & 350 & \(13 / 16 \times 111 / 16\) & TVA. 1608 & 1.45 \\
    \hline 30 & 350 & \(13 / 16 \times 23 / 16\) & TVA-1610 & 1.65 \\
    \hline 40 & 350 & \(7 / 8 \times 27 / 16\) & TVA. 1611 & 1.75 \\
    \hline 60 & 350 & \(1 \times 2 \% 16\) & TVA.1613 & 1.95 \\
    \hline 2 & 450 & 7/6 \(\times 15\) & TVA.1701 & 1.10 \\
    \hline 4 & 450 & \% \(16 \times 1116\) & TVA-1702 & 1.15 \\
    \hline 8 & 450 & \(11 / 16 \times 111 / 6\) & TVA-1704 & 1.25 \\
    \hline 10 & 450 & \(11 / 6 \times 111 / 16\) & TVA-1705 & 1.30 \\
    \hline 12 & 450 & \(3 / 4 \times 1116\) & TVA-1706 & 1.35 \\
    \hline 16 & 450 & \(3 / 4 \times 23 / 16\) & TVA-1708 & 1.40 \\
    \hline 20 & 450 & \(31 / 4 \times 23 / 4\) & TVA-1709 & 1.55 \\
    \hline 30 & 450 & \(7 / 6 \times 23 / 4\) & TVA.1711 & 1.70 \\
    \hline 40 & 450 & \% \(\times 2116\) & TVA-1712 & 1.80 \\
    \hline 50 & 450 & \(7 / 6 \times 336\) & TVA-1713 & 2.10 \\
    \hline 80 & 450 & \(1 \times 311 / 6\) & TVA-1716 & 2.80 \\
    \hline 10 & 475 & \(3 / 4 \times 15 / 6\) & TVA-1802 & 1.35 \\
    \hline 20 & 475 & \(7 / 8 \times 27 / 16\) & TVA-1804 & 1.60 \\
    \hline 8 & 500 & \(7 / 111 / 6\) & TVA-1902 & 1.30 \\
    \hline 16 & 500 & \(13 / 4 \times 23 / 16\) & TVA-1905 & 1.50 \\
    \hline 20 & 500 & \(1 \times 2314\) & TVA-1906 & 1.60 \\
    \hline
    \end{tabular}

    DUAL UNITS
    (COMMON NEGAYIVE- 3 LEADS)
    \begin{tabular}{|c|c|c|c|c|}
    \hline 10.10 & 25.25 & 7/6×11/6 & TVA-2210 & \$1.40 \\
    \hline 10.10 & 50.50 & 7/6 \(\times 1 \%\) & TVA-2315 & 1.40 \\
    \hline 8.8 & 150.150 & \% \(\times 1 \%\) & TVA-2415 & 1.50 \\
    \hline 16.16 & 150.150 & \% \(\times 1 \%\) & TVA-2420 & 1.80 \\
    \hline 20.12 & 150.150 & \% \(\times 1 \%\) & TVA-2425 & 1.60 \\
    \hline 20-20 & 150.150 & 7/8×11/16 & TVA-2428 & 1.65 \\
    \hline 30.20 & 150.150 & \(7 / 6 \times 1116\) & TVA-2421 & 1.70 \\
    \hline 30-30 & 150.150 & 7/6 \(\times 11111\) & TVA-2434 & 1.80 \\
    \hline 40-20 & 150.150 & \(7 \times 111 / 6\) & TVA-2438 & 1.75 \\
    \hline 40-30 & 150.150 & \(7 / 6 \times 115 / 16\) & TVA. 2442 & 1.80 \\
    \hline 40.40 & 150.150 & \(7 / 8 \times 115 / 6\) & TVA-2445 & 1.85 \\
    \hline 50.30 & 150.150 & \% \(\times 115 / 6\) & TVA-2450 & 1.95 \\
    \hline 50.50 & 150.150 & \(7 / 182 \%\) & TVA-2453 & 2.10 \\
    \hline
    \end{tabular}
    "Add \(1 / 6^{\prime \prime}\) to diameter and \(y_{0} 0^{\prime \prime}\) to length to ollow for outer insulating tube.

    \section*{SPRAGUE CAPACITORS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Diam. \(\times\) Length \({ }^{\text {* }}\) & Cat. No. & List \\
    \hline 80-30 & 150-150 & 7/8 \(\times 27 / 6\) & TVA-2460 & \$2.20 \\
    \hline 20-20 & 250-250 & \% \(\times 1\) 15/6 & TVA-2515 & 1.85 \\
    \hline 40-10 & 250-250 & \(7 / 4 \times 23 / 6\) & TVA-2520 & 2.05 \\
    \hline 80.10 & 250-250 & \(15 / 6 \times 33 / 6\) & TVA-2525 & 2.55 \\
    \hline 8-8 & 450.450 & 7/8 \(\times 111 / 6\) & TVA. 2720 & 1.70 \\
    \hline 10-10 & 450.450 & \% \(\times 115 / 6\) & TVA.2722 & 1.85 \\
    \hline 16.8 & 450.450 & \(7 / 9 \times 23 / 16\) & TVA-2725 & 2.00 \\
    \hline 20.20 & 450.450 & \(7 / 1 \times 25 / 6\) & TVA-2730 & 2.50 \\
    \hline 30.30 & 450.450 & \(1 \times 3316\) & TVA-2735 & 3.00 \\
    \hline 40.40 & 450.450 & \(1 \times 315 / 16\) & TVA-2740 & 3.40 \\
    \hline
    \end{tabular}

    DUAL UNITS
    (SEPARATE SECTIONS-4 LEADS)
    \begin{tabular}{|c|c|c|c|c|}
    \hline & & & & \\
    \hline 20.20 & 150-150 & \(1 \times 23 / 4\) & TU-220 & 2.05 \\
    \hline 40-20 & 150.150 & \(11 / 6 \times 25 / 6\) & TU-420 & 2.20 \\
    \hline 16.16 & 250.250 & \(1 \times 27 /\) & TU-216 & 2.20 \\
    \hline 8.8 & 450.450 & \(11 / 6 \times 33\) & TU. 88 & 2.15 \\
    \hline 16-16 & 450.450 & \(13 / 2 \times 31 / 2\) & TU. 1616 & 2.80 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Diam.xLength * & Cat. No. & List \\
    \hline \multicolumn{5}{|c|}{TRIPLE UNITS} \\
    \hline 20-20-20 & 150-150-25 & 7/6 \(\times 17 / 6\) & TVA-3415 & \$2.05 \\
    \hline 30-30-100 & 150-150-12 & \(7 / 3 \times 15 / 16\) & TVA-3419 & 2.30 \\
    \hline \(40 \cdot 30-20\) & 150-150-25 & \% \(1 / 1515\) & TVA-3423 & 2.20 \\
    \hline 40.40-100 & 150-150-25 & 1/6 \(\times 27 / 6\) & TVA-3427 & 2.45 \\
    \hline 50-30-20 & 150-150-25 & \(7 / 8 \times 23 / 6\) & TVA-3430 & 2.35 \\
    \hline 50-30-200 & 150.150-25 & \(1 \times 23 / 16\) & TVA-3433 & 2.75 \\
    \hline 50-50-20 & 150-150-25 & \(15 / 6 \times 23 / 4\) & TVA-3436 & 2.50 \\
    \hline 20-20-20 & 150.150-150 & \(7 / 8 \times 11 / 6\) & TVA-3440 & 2.20 \\
    \hline 30-30-30 & 150.150.150 & \(7 / 9 \times 23 / 4\) & TVA-3444 & 2.35 \\
    \hline 40-30-20 & 150.150.150 & 1/8 \(\times 23 / 6\) & TVA.3448 & 2.35 \\
    \hline 40.40-40 & 150.150-150 & \(1 \times 27 / 6\) & TVA-3451 & 2.45 \\
    \hline 80-40-20 & 150-150-150 & \(1 \times 215 / 4\) & TVA.3455 & 2.75 \\
    \hline 12-12-20 & 450.450-25 & \(1 \times 27 / 8\) & TVA-3716 & 2.30 \\
    \hline
    \end{tabular}
    "Add \(1 / \mathrm{K}^{\prime \prime}\) to diameter and \(1 / \mathrm{s}^{\prime \prime}\) to length to ollow for outer insuloting fube.

    \section*{SCREWBASE ELECTROLYTICS}

    Type PLS-Capacitor sections have separate positive leads and common negative lead
    Type LS-Positive terminal is lug connection, can is negative terminal
    Type SC-For use where high peaks may occur . . . lug connection is positive, can is negative
    Type CL-Same as Type SC, but with can insulated from Sections . . . Separate positive and negative leads
    Type WR-Designed to replace wet electrolytics... Will withstand extremely high A.C ripples ... Has lug terminal
    Type AP-For high voltage applications. . . Sections are connected in series ... Insulated leads
    \begin{tabular}{|c|c|c|c|}
    \hline MF & Dia. \(\times\) length & Cat. No. & List \\
    \hline \multicolumn{2}{|l|}{TYPE PLS-450 WVDC,} & 525 V & Surge \\
    \hline 4 & \(13 \times 2 \% 6\) & PLS. 4 & \$2.00 \\
    \hline 8 & \(13 \times 23 / 6\) & PLS-8 & 2.20 \\
    \hline 12 & \(13 / 2 \times 27 / 6\) & PLS. 12 & 2.40 \\
    \hline 16 & \(13 / 8 \times 27 / 6\) & PLS-16 & 2.45 \\
    \hline 20 & \(13 / 2 \times 27 / 6\) & PLS-20 & 2.70 \\
    \hline 25 & \(13 / 8 \times 37 / 6\) & PLS-25 & 2.90 \\
    \hline 30 & \(13 / 2 \times 376\) & PLS-30 & 3.00 \\
    \hline 40 & \(13 / 2 \times 315 / 6\) & PLS-40 & 3.15 \\
    \hline \(4+8\) & \(13 / 8 \times 215 / 6\) & PLS-48 & 2.95 \\
    \hline \(8+8\) & \(11 / 2 \times 215 / 6\) & \({ }^{\text {PLS-88 }}\) & 3.00 \\
    \hline \(8+16\) & \(11 / 2 \times 215 / 6\) & PLS-816 & 3.30 \\
    \hline \(16+16\) & \(11 / 2 \times 315 / 6\) & PLSS 216 & 3.55 \\
    \hline \(8+8+8\) & \(11 / 2 \times 2{ }^{15 / 6}\) & PLS-888 & 5.00 \\
    \hline TYPE & LS-450 WVDC, & 525 V & Surge \\
    \hline 8 & \(13 / 2 \times 215 / 6\) & 15.8 & 2.20 \\
    \hline 12 & \(13 \times 215 / 16\) & LS-12 & 2.40 \\
    \hline 16 & \(13 / 2 \times 215 / 6\) & LS-16 & 2.45 \\
    \hline 20 & \(13 / 8 \times 213 / 16\) & LS-20 & 2.70 \\
    \hline 25 & \(13 / 2 \times 37 / 6\) & tS-25 & 2.90 \\
    \hline 30 & \(13 / 9 \times 37 / 6\) & tS-30 & 3.00 \\
    \hline 40 & \(13 / 2 \times 315 / 6\) & LS. 40 & 3.15 \\
    \hline \(8+8\) & \(13 \times 21 / 4\) & LS-88 & 3.00 \\
    \hline
    \end{tabular}
     MF Dia. \(\times\) Length Cat. No. List

    \section*{TYPE SC-475 WVDC, 600 V Surge}
    

    TYPE WR-500 WVDC, 600 V Surge
    \begin{tabular}{rlll}
    \hline 8 & \(13 / 6 \times 313 / 6\) & WR-8 & 2.85 \\
    16 & \(13 / 2 \times 47 / 6\) & WR-16 & 3.30 \\
    25 & \(11 / 2 \times 57 / 6\) & WR-25 & 3.75 \\
    \hline
    \end{tabular}

    \section*{TYPE AP-600 WVDC, 800 V Surge}
    \begin{tabular}{rrrr}
    \hline 4 & \(1 \times 47 / 6\) & \(A P-46\) & 2.95 \\
    8 & \(13 \times 47 / 6\) & \(A P-86\) & 3.15 \\
    16 & \(1 / 2 \times 47 / 6\) & \(A P-16\) & 3.75 \\
    \hline
    \end{tabular}

    \title{
    SPRAGUE CAPACITORS
    }

    \section*{TVL TWIST-LOK* ELECTROLYTICS}
    
    - Especially Designed for Tough TV and Radio Replacement Applications
    - Hermetically Sealed in Aluminum Cans for Long Life and Dependable Performance
    - Stand Up Under Extremely High Temperatures and High Surge Voltages as well as in High Ripple Selenium Rectifier Circuirs
    - Easy to Mount-A Twist of the Tabs Locks Unit Firmly in Place
    - Furnished Complete with Bakelite and Metal Mounting Plates
    - Designed for \(85^{\circ} \mathrm{C}\left(185^{\circ} \mathrm{F}\right)\) Operation, Up to 450 Working Volts D-C
    \begin{tabular}{l|l|l|l}
    \hline MF & WVDC & Diam. \(\times\) Length & Cat. No. \\
    List
    \end{tabular}

    \section*{SINGLE UNITS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline .5s@15.75 KC & 3N.P. & \(1 \times 2\) & TVL-1010 & \$2.10 \\
    \hline 12@60 CPS & 3N.P. & \(13 / 8 \times 21 / 2\) & TVL. 1015 & 3.20 \\
    \hline 1012@30 CPS & 3N.P. & \(3 / 4 \times 2\) & TVL-1020 & 2.20 \\
    \hline 2000 & 6 & \(13 / 8 \times 2\) & TVL-1115 & 2.55 \\
    \hline 3000 & 10 & \(13 / 2 \times 21 / 2\) & TVL-1140 & 2.90 \\
    \hline 1000 & 15 & \(1 \times 21 / 2\) & TVL-1165 & 2.55 \\
    \hline 2000 & 15 & \(13 / 6 \times 2\) & rVL-1168 & 3.45 \\
    \hline 3000 & 15 & \(13 \times 3\) & TVL. 1170 & 3.50 \\
    \hline 40 & 25 & \(3 / 4 \times 2\) & TVL-1210 & 1.35 \\
    \hline 100 & 25 & \(3 / 4 \times 2\) & TVL-1215 & 1.60 \\
    \hline 500 & 25 & \(1 \times 2\) & TVL-1220 & 2.55 \\
    \hline 1000 & 25 & \(13 \times 2\) & TVL-1230 & 3.55 \\
    \hline 150 & 50 & \(3 / 4 \times 21 / 2\) & TVL-1320 & 1.80 \\
    \hline 500 & 50 & \(13 / 8 \times 21 / 2\) & TVL-1330 & 2.65 \\
    \hline 20 & 150 & \(1 \times 2\) & TVL-1405 & 1.45 \\
    \hline 30 & 150 & \(1 \times 2\) & TVL.1408 & 1.55 \\
    \hline 40 & 150 & \(1 \times 2\) & TVL-1412 & 1.60 \\
    \hline 50 & 150 & \(1 \times 2\) & TVL-1415 & 1.65 \\
    \hline 80 & 150 & \(1 \times 21 / 2\) & TVL-1420 & 1.85 \\
    \hline 80 & 150 & \(13 / 1 \times 2\) & TVL. 1421 & 1.85 \\
    \hline 100 & 150 & \(1 \times 21 / 2\) & TVL-1423 & 2.00 \\
    \hline 120 & 150 & \(1 \times 31 / 2\) & TVL-1425 & 2.15 \\
    \hline 140 & 150 & \(1 \times 3\) & TVL. 1428 & 2.15 \\
    \hline 150 & 150 & \(13 / 8 \times 3\) & TVL-1430 & 2.15 \\
    \hline 200 & 150 & \(13 / 8 \times 4\) & TVL-1431 & 2.45 \\
    \hline 300 & 150 & \(13 / 8 \times 31 / 2\) & TVL-1434 & 2.80 \\
    \hline 40 & 200 & \(1 \times 2\) & TVL-1460 & 1.70 \\
    \hline 15 & 250 & \(1 \times 2\) & TVL-1505 & 1.55 \\
    \hline 20 & 250 & \(1 \times 2\) & TVL-1509 & 1.60 \\
    \hline 30 & 250 & \(1 \times 2\) & TVL. 1516 & 1.70 \\
    \hline 40 & 250 & \(1 \times 2\) & TVL-1519 & 1.80 \\
    \hline 50 & 250 & \(1 \times 21 / 2\) & TVL. 1522 & 1.95 \\
    \hline 60 & 250 & \(1 \times 3\) & TVL. 1525 & 2.05 \\
    \hline 80 & 250 & \(1 \times 31 / 2\) & TVL-1530 & 2.15 \\
    \hline 100 & 250 & \(1 \times 3\) & TVL. 1535 & 2.70 \\
    \hline 150 & 250 & \(13 / 2 \times 21 / 2\) & TVL-1540 & 3.10 \\
    \hline 15 & 300 & \(1 \times 2\) & TVL. 1560 & 1.60 \\
    \hline 30 & 300 & \(1 \times 2\) & TVL-1563 & 1.75 \\
    \hline 50 & 300 & \(1 \times 21 / 2\) & TVL-1567 & 2.05 \\
    \hline 60 & 300 & \(1 \times 3\) & TVL-1570 & 2.10 \\
    \hline 80 & 300 & \(1 \times 31 / 2\) & TVL-1573 & 2.55 \\
    \hline 100 & 300 & \(1 \times 4\) & TVL-1578 & 2.90 \\
    \hline 125 & 300 & \(13 / 6 \times 31 / 2\) & TVL-1580 & 3.50 \\
    \hline 150 & 300 & \(13 \times 31 / 2\) & TVL-1584 & 3.50 \\
    \hline 30 & 350 & \(1 \times 21 / 2\) & TVL-1617 & 1.90 \\
    \hline
    \end{tabular}
    * Trademark
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Diam. \(\times\) Length & Cat. No. & List \\
    \hline 40 & 350 & \(1 \times 2\) & TVL-1621 & \$2.00 \\
    \hline 50 & 350 & \(1 \times 3\) & TVL- 1622 & 2.10 \\
    \hline 80 & 350 & \(13 \times 3\) & TVL. 1630 & 2.85 \\
    \hline 125 & 350 & \(13 / 2 \times 31 / 2\) & TVL-1638 & 3.95 \\
    \hline 10 & 400 & \(1 \times 2\) & TVL-1655 & 1.50 \\
    \hline 20 & 400 & \(1 \times 2\) & TVL. 1660 & 1.75 \\
    \hline 80 & 400 & \(1 \% \times 3\) & TVL. 1675 & 2.95 \\
    \hline 10 & 450 & \(1 \times 2\) & TVL.1705 & 1.55 \\
    \hline 15 & 450 & \(1 \times 2\) & TVL-1709 & 1.70 \\
    \hline 29 & 450 & \(1 \times 2\) & TVL-1714 & 1.80 \\
    \hline 30 & 450 & \(1 \times 21 / 2\) & TVL-1720 & 1.95 \\
    \hline 40 & 450 & \(1 \times 3\) & TVL.1725 & 2.05 \\
    \hline 80 & 450 & \(13 / 8 \times 21 / 2\) & TVL.1735 & 3.05 \\
    \hline 125 & 450 & \(13 / 8 \times 4\) & TVL.1760 & 3.85 \\
    \hline 3) & 475 & \(1 \times 3\) & TVL-1810 & 2.00 \\
    \hline \(4)\) & 475 & \(13 / 8 \times 2\) & TVL-1820 & 2.50 \\
    \hline 93 & 475 & \(13 / 8 \times 31 / 2\) & TVL-1850 & 3.50 \\
    \hline 10 & 500 & \(1 \times 2\) & TVL-1940 & 1.70 \\
    \hline
    \end{tabular}

    \section*{.5!@15.75 KC.}
    

    \footnotetext{
    The MASTER - 2uth Edition
    }
    
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Diam. \(\times\) length & Cat. No. & List \\
    \hline 10-10 & 300-300 & \(1 \times 2\) & TVL-2565 & \$1.75 \\
    \hline 15-15 & 300-300 & \(1 \times 2\) & TVL-2568 & 1.90 \\
    \hline 40-40 & 300-300 & \(13 / 2 \times 21 / 2\) & TVL-2575 & 3.00 \\
    \hline 60-60 & 300-300 & \(13 / 182\) & TVL-2579 & 3.40 \\
    \hline \(80-40\) & 300-300 & \(13 / 18 \times 21 / 2\) & TVL-2582 & 3.55 \\
    \hline 80.60 & 300-300 & \(13 \times 31 / 2\) & TVL-2584 & 3.70 \\
    \hline 80-80 & 300-300 & \(11 / 4 \times 31 / 2\) & TVL-2585 & 4.05 \\
    \hline 120-20 & 300-300 & \(13 / 1831 / 2\) & TVL-2588 & 4.00 \\
    \hline \(120-40\) & 300-300 & \(13 / 8 \times 31 / 2\) & TVL-2589 & 4.35 \\
    \hline 20-30 & 350-250 & \(1 \times 3\) & TVL-2615 & 2.30 \\
    \hline 40.10 & 350-250 & \(1 \times 3\) & TVL-2617 & 2.45 \\
    \hline 60.80 & 350-250 & \(13 / 2 \times 31 / 2\) & TVL-2618 & 3.45 \\
    \hline 30-30 & 350.300 & \(1 \times 31 / 2\) & TVL-2621 & 2.65 \\
    \hline 20-20 & 350-350 & \(1 \times 3\) & TVL-2626 & 2.30 \\
    \hline 30-20 & 350-350 & \(1 \times 31 / 2\) & TVL-2627 & 2.60 \\
    \hline 80.80 & 350-350 & \(13 \times 4\) & TVL-2635 & 4.70 \\
    \hline 90.40 & 350-350 & \(13 \times 3\) & TVL-2637 & 4.30 \\
    \hline 40-100 & 400.50 & \(13 \times 2\) & TVL-2653 & 2.70 \\
    \hline 60.80 & 400-250 & \(13 / 2 \times 4\) & TVL-2657 & 3.90 \\
    \hline 15-15 & 400-400 & \(1 \times 21 / 2\) & TVL-2660 & 2.25 \\
    \hline 30.10 & 400-400 & \(1 \times 3\) & TVL-2663 & 2.35 \\
    \hline 60-60 & 400.400 & \(1 \% \times 4\) & TVL-2668 & 4.40 \\
    \hline 80.10 & 400-400 & \(11 / 2 \times 31 / 2\) & TVL-2672 & 3.40 \\
    \hline 80-20 & 400.400 & \(13 \times 3\) & TVL-2673 & 3.65 \\
    \hline 80-40 & 400-400 & \(13 / 2 \times 4\) & TVL-2675 & 4.10 \\
    \hline 120.40 & 400-400 & \(13 / 2 \times 4\) & TVL-2679 & 5.25 \\
    \hline 80-10 & 450.25 & \(13 / 8 \times 3\) & TVL-2705 & 3.40 \\
    \hline 10.100 & 450-50 & \(1 \times 21 / 2\) & TVL-2708 & 2.05 \\
    \hline 80-50 & 450-50 & \(13 \times 3\) & TVL-2710 & 3.50 \\
    \hline 20.100 & 450-100 & \(13 / 2 \times 2\) & TVL-2713 & 2.90 \\
    \hline 20.80 & 450-350 & \(13 / 6 \times 31 / 2\) & TVL-2730 & 3.65 \\
    \hline 40-10 & 450-350 & \(13 \times 21 / 2\) & TVL-2735 & 2.60 \\
    \hline 10-10 & 450-450 & \(1 \times 2\) & TVL-2750 & 1.90 \\
    \hline 15-10 & 450-450 & \(1 \times 21 / 2\) & TVL-2752 & 2.25 \\
    \hline 15.15 & 450.450 & \(1 \times 21 / 2\) & TVL-2753 & 2.25 \\
    \hline 20-20 & 450-450 & \(1 \times 3\) & TVL-2755 & 2.55 \\
    \hline 30.30 & 450-450 & \(13 / 1 \times 21 / 2\) & TVL-2759 & 3.05 \\
    \hline 40.40 & 450-450 & \(13 / 6 \times 3\) & TVL-2764 & 3.45 \\
    \hline 60.40 & 450-450 & \(13 / 1 \times 31 / 2\) & TVL-2770 & 3.95 \\
    \hline 80-10 & 450.450 & \(13 / 2 \times 3\) & TVL-2776 & 3.60 \\
    \hline 80-30 & 450-450 & \(13 / 2 \times 4\) & TVL-2777 & 4.20 \\
    \hline 20-100 & 475.300 & \(13 / 2 \times 31 / 2\) & TVL-2810 & 3.95 \\
    \hline \(40-40\) & 475-475 & \(13 \times 3\) & TVL-2830 & 4.30 \\
    \hline 80.40 & 475-475 & \(13 \times 4\) & TVL-2850 & 5.05 \\
    \hline 40-50 & 500-200 & \(1 \% \times 3\) & TVL-2920 & 3.35 \\
    \hline
    \end{tabular}

    \section*{TRIPLE UNITS}
    \begin{tabular}{c|c|ll|l|l|}
    \hline \(1500-1500-1500\) & \(3-3-3\) & 1 & \(\times 31 / 2\) & TVL-3015 & 6.00 \\
    \(20-20-20\) & \(25-25-25\) & 1 & \(\times 2\) & TVL-3210 & 1.95 \\
    \(40-40-40\) & \(25-25-25\) & 1 & \(\times 2\) & TVL-3230 & 2.15 \\
    \(30-30-30\) & \(50-50-50\) & 1 & \(\times 2\) & TVL-3320 & 2.15 \\
    \(20-250-100\) & \(150-15-15\) & \(13 / 2 \times 2\) & TVL-3403 & 2.90 \\
    \(100-50-25\) & \(150-50-25\) & 1 & \(\times 3\) & TVL-3407 & 3.00 \\
    \(30-20-100\) & \(150-150-6\) & 1 & \(\times 2\) & TVL-3412 & 2.40 \\
    \(20-20-20\) & \(150-150-25\) & 1 & \(\times 2\) & TVL-3415 & 2.20 \\
    \(30-20-20\) & \(150-150-25\) & 1 & \(\times 2\) & TVL-3417 & 2.25 \\
    \(30-30-20\) & \(150-150-25\) & 1 & \(\times 2\) & TVL-3419 & 2.30 \\
    \(40-20-20\) & \(150-150-25\) & 1 & \(\times 21 / 2\) & TVL-3422 & 2.30 \\
    \(40-30-20\) & \(150-150-25\) & 1 & \(\times 2\) & TVL-3424 & 2.35 \\
    \(40-30-25\) & \(150-150-25\) & 1 & \(\times 21 / 2\) & TVL-3425 & 2.35 \\
    \(50-30-100\) & \(150-150-25\) & 1 & \(\times 3\) & TVL-3427 & 2.70 \\
    \(50-50-20\) & \(150-150-25\) & 1 & \(\times 3\) & TVL-3430 & 2.65 \\
    \(20-20-20\) & \(150-150-150\) & 1 & \(\times 21 / 2\) & TVL-3433 & 2.30 \\
    \(30-30-10\) & \(150-150-150\) & 1 & \(\times 2\) & TVL-3435 & 2.35 \\
    \(40-20-20\) & \(150-150-150\) & 1 & \(\times 21 / 2\) & TVL-3437 & 2.40 \\
    \(40-40-40\) & \(150-150-150\) & 1 & \(\times 31 / 2\) & TVL-3440 & 2.60 \\
    \(50-50-50\) & \(150-150-150\) & 1 & \(\times 3\) & TVL-3442 & 3.00 \\
    \(80-80-80\) & \(150-150-150\) & \(13 \times 3\) & TVL-3446 & 3.75 \\
    \(120-80-40\) & \(150-150-150\) & \(13 \times 31 / 2\) & TVL-3448 & 3.80 \\
    \(200-100-60\) & \(150-150-150\) & \(13 / \times 31 / 2\) & TVL-3450 & 4.55 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Diam. \(\times\) Length & Cat. No. & Lis \\
    \hline 70.70.20 & 250-250-50 & \(13 / 8 \times 3\) & TVL-3470 & \$3.90 \\
    \hline 100-10-40 & 200-200-50 & \(13 \times 2\) & TVL-3475 & 3.15 \\
    \hline -15-15-20 & 250-250-25 & \(1 \times 2\) & TVL-3510 & 2.35 \\
    \hline 30-30-20 & 250-250-25 & \(1 \times 3\) & TVL-3513 & 2.80 \\
    \hline 40-20-10 & 250-250-150 & \(13 \times 2\) & TVL-3517 & 2.75 \\
    \hline 80-80-60 & 250-250-200 & \(13 \times 31 / 2\) & TVL-3525 & 4.50 \\
    \hline 15-15-10 & 250-250-250 & \(1 \times 2\) & TVL-3530 & 2.45 \\
    \hline 30-15-10 & 250-250-250 & \(1 \times 21 / 2\) & TVL-3534 & 2.70 \\
    \hline 40-20-20 & 250-250-250 & \(1 \times 31 / 2\) & TVL-3540 & 2.90 \\
    \hline 100-60-20 & 300-150-25 & \(13 \times 3\) & TVL-3560 & 4.20 \\
    \hline 100.60-20 & 300-250-250 & \(13 / 8 \times 4\) & TVL-3562 & 4.90 \\
    \hline 200-60-20 & 300-250-250 & \(13 \times 4\) & TVL-3563 & 5.50 \\
    \hline 20-20-20 & 300-300-25 & \(1 \times 21 / 2\) & TVL-3565 & 2.75 \\
    \hline 40-15-20 & 300-300-25 & \(1 \times 3\) & TVL-3570 & 2.95 \\
    \hline 40-20-20 & 300-300-25 & \(13 / 8 \times 2\) & TVL-3573 & 3.10 \\
    \hline 100-10-60 & 300-300-50 & \(13 / 2 \times 21 / 2\) & TVL-3574 & 4.05 \\
    \hline 200-20-10 & 300-300-100 & \(13 / 8 \times 4\) & TVL-3575 & 4.90 \\
    \hline 10-10-15 & 300-300-250 & \(1 \times 2\) & TVL-3578 & 2.45 \\
    \hline 10-10-10 & 300-300-300 & \(1 \times 2\) & TVL-3580 & 2.40 \\
    \hline 80-40-40 & 300-300-300 & \(13 \times 31 / 2\) & TVL-3583 & 4.75 \\
    \hline 120-50-40 & 300-300-300 & \(13 \times 4\) & TVL-3585 & 5.85 \\
    \hline 4-100-40 & 350-25-25 & \(\times 2\) & TVL-3603 & 2.25 \\
    \hline 10.50-100 & 350-150-50 & \(1 \times 31 / 2\) & TVL-3608 & 2.85 \\
    \hline 125-5-100 & 350-200-75 & \(13 / 1 \times 31 / 2\) & TVL-3610 & 5.30 \\
    \hline 20-30-20 & 350-250-25 & \(1 \times 3\) & TVL-3612 & 2.80 \\
    \hline 30-20-10 & 350-250-250 & \(1 \times 31 / 2\) & TVL-3615 & 3.00 \\
    \hline 20-40-10 & 350-300-150 & \(1 \times 31 / 2\) & TVL-3619 & 3.15 \\
    \hline 30-30-20 & 350-300-25 & \(1 \times 3\) & TVL-3620 & 3.15 \\
    \hline 40-20-10 & 350-300-200 & \(13 / 8 \times 2\) & TVL-3623 & 3.30 \\
    \hline 10-10-20 & 350-350-25 & \(1 \times 2\) & TVL-3628 & 3.25 \\
    \hline 30-20-100 & 350-350-75 & \(13 \times 21 / 2\) & TVL-3629 & 4.00 \\
    \hline 15-10-20 & 350-350-25 & \(1 \times 21 / 2\) & TVL-3630 & 2.50 \\
    \hline 15-15-20 & 350-350-25 & \(1 \times 21 / 2\) & TVL-3632 & 2.70 \\
    \hline 20-5-30 & 350-350-25 & \(1 \times 2\) & TVL-3633 & 2.45 \\
    \hline 20-10-20 & 350-350-25 & \(1 \times 21 / 2\) & TVL-3634 & 2.53 \\
    \hline 30-20-20 & 350-350-25 & \(1 \times 31 / 2\) & TVL-3636 & 3.10 \\
    \hline 10-5.30 & 350-350-50 & \(1 \times 2\) & TVL-3637 & 2.20 \\
    \hline 10-5-150 & 350-350-50 & \(1 \times 3\) & TVL-3638 & 2.70 \\
    \hline 60.40-20 & 350-350-350 & \(13 / 2 \times 4\) & TVL-3640 & 4.25 \\
    \hline 80-60-60 & 350-350-350 & \(13 / 2 \times 4\) & TVL-3642 & 5.55 \\
    \hline 90-40-20 & 350-350-350 & \(13 \times 4\) & TVL-3645 & 5.25 \\
    \hline 60-40-20 & 400-300-25 & \(13 / 1 \times 31 / 2\) & TVL-3663 & 20 \\
    \hline 10-40-10 & 400-300-150 & \(13 / 2 \times 2\) & TVL-3665 & 2.90 \\
    \hline 10-50-30 & 400-350-25 & \(1 \times 31 / 2\) & TVL-3670 & 3.10 \\
    \hline 100-10-20 & 400-350-50 & \(13 \times 31 / 2\) & TVL-3672 & 4.50 \\
    \hline 15-15-40 & 400-400-25 & \(1 \times 3\) & TVL-3675 & 2.80 \\
    \hline 20-20-20 & 400-400-25 & \(1 \times 3\) & TVL-3678 & 2.85 \\
    \hline 20-10.40 & 400-400-50 & \(1 \times 3\) & TVL-3682 & 2.65 \\
    \hline 80-40-150 & 400-400-50 & \(13 / 8 \times 4\) & TVL-3684 & 5.25 \\
    \hline 20-10-10 & 400-400-350 & \(1 \times 3\) & TVL-3687 & 2.70 \\
    \hline 10-10-10 & 400-400-400 & \(\times 21 / 2\) & TVL-3690 & 2.40 \\
    \hline 30-100-25 & 450-25-25 & \(13 \times 2\) & TVL-3703 & 2.95 \\
    \hline 80-100-20 & 450-50-50 & \(11 / 8 \times 3\) & TVL-3704 & 4.25 \\
    \hline 40-40-130 & 450-150-50 & \(13 / 8 \times 3\) & TVL-3706 & 3.70 \\
    \hline 40-90-50 & 450-150-150 & \(1 \% \times 3\) & TVL-3708 & 4.00 \\
    \hline 20-80-50 & 450-200-50 & \(13 / 8 \times 21 / 2\) & TVL-3709 & 3.40 \\
    \hline 20-60-100 & 450-250-25 & \(13 / 8 \times 21 / 2\) & TVL-3711 & 3.65 \\
    \hline 10-80-80 & 450-250-250 & \(13 / 84\) & TVL-3712 & 4.15 \\
    \hline 20-40-10 & 450-250-250 & \(13 / 9 \times 2\) & TVL-3713 & 3.15 \\
    \hline 30-10-10 & 450-300-150 & \(1 \times 3\) & TVL-3714 & 2.95 \\
    \hline 10-100-20 & 450-300-300 & \(13 / 2 \times 3\) & TVL-3715 & 4.35 \\
    \hline 20-15-10 & 450-300-300 & \(1 \times 31 / 2\) & TVL-3716 & 2.85 \\
    \hline 10.10-20 & 450-350-25 & \(1 \times 21 / 2\) & TVL-3719 & 2.30 \\
    \hline 60-80-20 & 450-400-250 & \(13 / 4\) & TVL-3720 & 5.45 \\
    \hline 10.10-50 & 450-350-25 & \(1 \times 3\) & TVL-3721 & 2.40 \\
    \hline 20,80-100 & 450-350-50 & \(13 / 2 \times 31 / 2\) & TVL-3722 & 4.50 \\
    \hline 30-40-50 & 450-350-25 & \(1 \times 4\) & TVL-3723 & 3.70 \\
    \hline 15-20-20 & 450-350-250 & \(13 / 2 \times 2\) & TVL. 3724 & 2.95 \\
    \hline 60-20-20 & 450-350-350 & \(13 / 2 \times 31 / 2\) & TVL-3725 & 4.30 \\
    \hline 10-30-30 & 450-400-300 & \(13 \times 21 / 2\) & TVL-3726 & 3.35 \\
    \hline 20-80-10 & 450-350-350 & \(13 / 2 \times 3\) & TVL-3727 & 4.25 \\
    \hline 4-40-40 & 450-400-300 & \(13 \times 21 / 2\) & TVL. 3728 & 4.60 \\
    \hline
    \end{tabular}

    \title{
    SPRAGUE CAPACITORS
    }

    TVL TWIST-LOK ELECTROLYTICS, continued
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline MF & WVDC & Dia. \(\times\) Leng & th Cat. No. & List & MF & WVDC & Dia. \(\times\) Len & Cot. No. & List \\
    \hline 10.10-10 & 450-450-25 & \(1 \times 21 / 2\) & TVL. 3729 & \$2.40 & 40-40-20.10 & 300-300-300-300 & \(13 / 8 \times 31 / 2\) & & \\
    \hline 10-10-20 & 450-450-25 & \(1 \times 21 / 2\) & TVL-3731 & 2.40 & 60.40-10-10 & 300-300-300-300 & \(13 / 18\) & TVL.4583 & \(\$ 4.55\)
    4.55 \\
    \hline 15-15-20 & 450-450-25 & \(1 \times 3\) & TVL-3733 & 2.70 & 60.40-10.10 & 300-300-300-300 & \(13 / 8 \times 21 / 2\) & TVL-4583 & 4.55 \\
    \hline 20-10-20 & 450-450-25 & \(1 \times 3\) & TVL-3735 & 2.70 & 20-150-80-20 & 350-150-150-25 & \(13 / 8 \times 3\) & TVL-4603 & 4.55 \\
    \hline 20-15-20 & 450-450-25 & \(1 \times 31 / 2\) & TVL-3737 & 2.90 & 20.100.100.10 & 350-200-200.100 & \(13 / 2 \times 4\) & TVL-4604 & 5.00 \\
    \hline 20.20-20 & 450-450-25 & \(1 \times 3\) & TVL. 3739 & 3.05 & 40-40-20-20 & 350-300-300-25 & \(13 / 1831 / 2\) & TVL. 4605 & 4.50 \\
    \hline 30-30-20 & 450.450 .25 & \(13 / 8 \times 21 / 2\) & TVL. 3741 & 3.55 & 40-10-100-25 & 350-350-25-25 & \(13 / 8 \times 2\) & TVL-4606 & 3.75 \\
    \hline 30-30-125 & 450.450-25 & \(13 \times 3\) & TVL. 3743 & 3.95 & 60-4-100.40 & 350-350-25-25 & \(13 / 18 \times 21 / 2\) & TVL. 4607 & 3.80 \\
    \hline 80-10-125 & 450-450-25 & \(13 / 8 \times 31 / 2\) & TVL-3745 & 4.45 & 60-40-60-20 & 350-350-200-150 & \(13 / 8 \times 31 / 2\) & TVL. 4609 & 5.05 \\
    \hline 80.40-100 & 450-450-25 & \(13 \times 4\) & TVL-3746 & 5.05 & 10-10-10-10 & 350-350-300-300 & \(13 \times 2\) & TVL-4612 & 3.10 \\
    \hline 10-10-40 & 450-450-50 & \(1 \times 21 / 2\) & TVL-3749 & 2.50 & 20-10-5-10 & 350-350-350-25 & \(13 \times 2\) & TVL-4620 & 3.10 \\
    \hline 20-10-50 & 450-450-50 & \(1 \times 3\) & TVL-3751 & 2.85 & 40-20-5-10 & 350-350-350-25 & \(13 / 1 \times 21 / 2\) & TVL-4621 & 3.80 \\
    \hline 30-15-150 & 450-450-50 & \(13 / 8 \times 3\) & TVL-3753 & 3.70 & 40-40-30-10 & 350-350-350-25 & \(13 \times 3\) & TVL-4622 & 4.95 \\
    \hline 40.10 .40 & 450-450-50 & \(13 / 8 \times 21 / 2\) & TVL. 3754 & 3.25 & 90-30-5-100 & 350-350-350-75 & \(13 / 8 \times 31 / 2\) & TVL-4625 & 6.15 \\
    \hline 60-40-75 & 450-450-50 & \(13 / 8 \times 4\) & TVL-3756 & 4.65 & 40-40-40-150 & 350-350-350-50 & \(13 / 8 \times 4\) & TVL-4628 & 5.65 \\
    \hline 80-20.100 & 450.450.50 & \(13 \times 4\) & TVL-3757 & 4.80 & 60-25-25-100 & 350-350-350-50 & \(13 / 2 \times 31 / 2\) & TVL-4630 & 5.15 \\
    \hline 40.40.40 & 450-450-150 & \(13 / 8 \times 31 / 2\) & TVL-3758 & 4.15 & 100-10-10-20 & 350-350-350-50 & \(13 / 2 \times 31 / 2\) & TVL-4632 & 5.15 \\
    \hline 40-10-80 & 450-450-200 & \(13 \times 3\) & TVL-3761 & 3.90 & 100-40-30-50 & 350-350-350-50 & \(13 / 6 \times 4\) & TVL-4634 & 6.55 \\
    \hline 40-10-100 & 450-450-200 & \(13 / 2 \times 31 / 2\) & TVL-3762 & 4.15 & & & & TVL-4637 & 5.50 \\
    \hline 40.40-60 & 450-450-200 & \(13 / 1831 / 2\) & TVL-3763 & 4.45 & \[
    \begin{aligned}
    & 40.120 .10 .150 \\
    & 10.100-10.100
    \end{aligned}
    \] & \(400-250-250.50\)
    \(400-300-75.25\) & \(13 \times 4\) & TVL-4637 & 5.90 \\
    \hline 40-40-100 & 450-450-200 & \(13 / 8 \times 4\) & TVL-3764 & 4.95 & 10.100-10.100 & 400-300-75-25 & \(13 / 2 \times 31 / 2\) & TVL. 4638 & 4.70 \\
    \hline 15-10-120 & 450-450-300 & \(13 / 1 \times 31 / 2\) & TVL-3765 & 4.70 & \[
    30-40 \cdot 50 \cdot 200
    \] & 400-300-250-150 & \(13 / 8 \times 4\) & TVL-4640 & 6.00 \\
    \hline 15-15-10 & \(450-450.300\) & \(1 \times 31 / 2\) & TVL. 3766 & 2.85 & \[
    80-40-20-10
    \] & 400-300-300-300 & \(13 \times 4\) & TVL-4641 & 5.55 \\
    \hline 15-5-15 & 450-450-350 & \(1 \times 3\) & TVL-3768 & 2.85 & 20-10-10-20 & 400-350-200.25 & \(13 / 2 \times 2\) & TVL-4652 & 3.20 \\
    \hline 20.20-60 & 450.450-350 & \(13 / 8 \times 31 / 2\) & TVL-3770 & 5.05 & 40-10-80-10 & 400-350-250-250 & \(13 \times 4\) & TVL-4657 & 4.65 \\
    \hline 40-10-10 & 450.450 .350 & \(1 \% \times 3\) & TVL-3772 & 3.30 & 80.40-10.10 & 400-350.350-25 & \(13 / 1 \times 4\) & TVL. 4659 & 5.30 \\
    \hline 10-10-10 & 450-450-450 & \(1 \times 3\) & TVL. 3776 & 2.60 & 10-10-25-25 & 400-400-25-25 & \(13 / 8 \times 2\) & TVL. 4662 & 2.80 \\
    \hline 15-15-10 & 450.450-450 & \(1 \times 31 / 2\) & TVL-3778 & 2.95 & 50-25-100-20 & 400.400-50.25 & \(13 / 8 \times 3\) & TVL-4663 & 4.65 \\
    \hline 20-20-20 & 450-450-450 & \(13 \times 21 / 2\) & TVL. 3780 & 3.60 & 10.10.40-10 & 400.400-200-50 & \(13 / 8 \times 2\) & TVL-4664 & 3.20 \\
    \hline 30-30-30 & 450.450 .450 & \(13 / 1 \times 31 / 2\) & TVL-3782 & 4.35 & 20-20-20-20 & 400-400-400-25 & \(13 / 18 \times 21 / 2\) & TVL-4667 & 3.85 \\
    \hline 40.40-10 & 450.450.450 & \(13 / 8 \times 31 / 2\) & TVL-3785 & 4.15 & 80.40-30-40 & 400-400-400-25 & \(13 / 2 \times 4\) & TVL-4670 & 5.95 \\
    \hline 40-40-20 & 450.450 .450 & \(13 / 2 \times 3\) & TVL-3786 & 4.45 & 40-35-10-10 & 400.400.400.400 & \(13 / 6 \times 3\) & TVL-4673 & 4.45 \\
    \hline 40-40-40 & 450-450-450 & \(13 / 8 \times 31 / 2\) & TVL-3787 & 4.90 & 80-10-10-10 & 400.400-400-400 & \(13 / 8 \times 31 / 2\) & TVL. 4675 & 4.70 \\
    \hline 60-20-20 & 450-450-450 & \(13 / 8 \times 3\) & TVL-3789 & 4.60 & 80-25-10-10 & 400.400-400-400 & \(13 / 4 \times 4\) & TVL-4680 & 5.25 \\
    \hline 60-30-10 & 450-450-450 & \(13 / 2 \times 3\) & TVL. 3790 & 4.50 & 10-80-40-100 & & & & \\
    \hline 80-40-10 & 450-450-450 & \(13 / 6 \times 4\) & TVL. 3792 & 5.05 & 10-80-40-100 & \[
    \begin{aligned}
    & 450-200-200-50 \\
    & 450-200-200-50
    \end{aligned}
    \] & \(13 / 8 \times 3\)
    \(13 / 6 \times 3\) & TVL-4700
    TVL-4701 & 4.25
    4.10 \\
    \hline 10-100.40 & 475-200-50 & \(13 / 1 \times 21 / 2\) & TVL. 3800 & 3.35 & 40-40-40-20 & 450-250-250.25 & \(13 / 2 \times 3\) & TVL-4702 & 4.55 \\
    \hline 20-50-20 & 475-50-25 & \(1 \times 3\) & TVL-3801 & 2.75 & 10.40-40-100 & 450-300-250-50 & \(13 / 8 \times 31 / 2\) & TVL-4703 & 4.40 \\
    \hline 40.40-100 & 475-250-50 & \(13 / 8 \times 3\) & TVL-3802 & 4.30 & 10.100-20.20 & 450-300-300.200 & \(13 / 2 \times 3\) & TVL-4704 & 5.05 \\
    \hline 20-20-40 & 475-300-25 & \(1 \% \times 2\) & TVL-3805 & 3.10 & 10.10-60-100 & 450-300-200-50 & \(13 / 8 \times 3\) & TVL. 4705 & 3.80 \\
    \hline 40.80-10 & 475-300.300 & \(13 / 8 \times 31 / 2\) & TVL-3806 & 4.80 & 10-100-10-20 & 450-350-350-25 & \(13 / 8 \times 3\) & TVL-4706 & 5.20 \\
    \hline 10.4 .40 & 475-350-250 & \(13 / 8 \times 2\) & TVL-3807 & 2.75 & 10.60-40-25 & 450-350-350.25 & \(13 / 6 \times 4\) & TVL-4707 & 4.60 \\
    \hline 40.40 .25 & 475-400-50 & \(1 \% \times 3\) & TVL-3813 & 4.30 & 20.15-15.20 & 450-350-350.25 & \(13 / 8 \times 21 / 2\) & TVL-4708 & 3.80 \\
    \hline 10-45-100 & 475-450-50 & \(13 / 8 \times 3\) & TVL-3815 & 3.65 & 5-60.50-20 & 450-400-350-25 & \(13 / 0 \times 31 / 2\) & TVL. 4709 & 5.05 \\
    \hline 20-10-100 & 475-475-50 & \(13 / 8 \times 2\) & TVL-3817 & 3.25 & 80-10-30-40 & 450-400-300-150 & \(13 / 8 \times 4\) & TVL-4710 & 5.25 \\
    \hline 20-20-60 & 475-475-400 & \(13 / 8 \times 31 / 2\) & TVL-3820 & 4.80 & 20-80-50-100 & 450-350-350-50 & \(13 / 6 \times 4\) & TVL-4711 & 6.00 \\
    \hline 10-10-10 & 475-475-475 & \(1 \times 3\) & TVL-3835 & 2.70 & 20.15-20.20 & 450-450-25-25 & \(13 / 8 \times 2\) & TVL.4712 & 3.45 \\
    \hline 30-30-20 & 475-475-475 & \(13 / 8 \times 3\) & TVL-3840 & 4.45 & 10-10.60.100 & 450-450-200-50 & \(13 / 8 \times 3\) & TVL.4713 & 3.85 \\
    \hline 40-30-30 & 475.475.475 & \(13 / 2 \times 4\) & TVL-3843 & 5.15 & 35-25-20-100 & 450-450-200-50 & \(13 / 8 \times 3\) & TVL. 4714 & 4.65 \\
    \hline 20-40-100 & 500-300-25 & \(13 / 8 \times 21 / 2\) & TVL-3908 & & 20.20-30-30 & 450.450-300-300 & \(13 / 6 \times 31 / 2\) & TVL-4715 & 4.50 \\
    \hline 10-40-40 & 500-450-450 & \(13 / 8 \times 31 / 2\) & TVL-3911 & 4.15 & \(10-10-10.50\)
    \(40-10-35.10\) & 450-450-300-25 & \(13 / 8 \times 2\) & TVL. 4716 & 3.15 \\
    \hline \multicolumn{5}{|c|}{\multirow{3}{*}{QUADRUPLE UNITS}} & \(40-10-35-10\)
    \(40-40-30-30\) & \(450-450-350-350\)
    \(450-450-350-350\) & \(13 / 8 \times 31 / 2\)
    \(13 \times 4\) & TVL-4718 & 4.60 \\
    \hline & & & & & 10-10-10-20 & 450-450-450-25 & 13 & & \\
    \hline & & & & & 30-30-10.125 & 450-450-450-25 & \(13 \times 3\) & TVL-4725 & 4.70 \\
    \hline 30-30-30-40 & 150-150-150-25 & \(13 / 6 \times 2\) & TVL-4415 & 3.10 & 40-10-10-250 & 450-450-450-25 & \(13 \times 3\) & TVL-4726 & 4.70 \\
    \hline 40-40-30-20 & 150-150-150-25 & \(13 / 8 \times 2\) & TVL-4420 & 3.10 & 40-15-10-20 & 450-450-450.25 & \(13 / 8 \times 3\) & TVL-4729 & 4.10 \\
    \hline 50.50-50-20 & 150-150-150-25 & \(13 / 8 \times 2\) & TVL-4425 & 3.55 & 40-20-20-40 & 450-450-450-25 & \(13 / 8 \times 3\) & TVL-4732 & 4.65 \\
    \hline 60.60-10-60 & 150-150-1 50-25 & \(13 / 8 \times 2\) & TVL-4428 & 3.50 & 40-30-10-20 & 450-450-450-25 & \(13 / 1 \times 31 / 2\) & TVL-4734 & 4.50 \\
    \hline 40-20-10-20 & 200-200-200-25 & & TVL-4470 & 3.20 & \(40.40-10-20\)
    \(40-40-40-40\) & \(450-450-450-25\)
    \(450.450 .450-25\) & \(13 / 8 \times 31 / 2\) & TVL-4736 & 4.70 \\
    \hline & & \(11 / \times 2\) & TVL-4470 & 3.20 & \(40-40-40-40\)
    \(20-20.20 .100\) & 450-450-450-25 & \(13 / 8 \times 4\) & TVL-4739 & 5.50 \\
    \hline 00-40-10-100 & 250-250-250-50 & \(13 / 3 \times 31 / 2\) & TVL-4516 & 5.15 & 20-20-20-100 & \(450-450.450 .50\) & \(13 / 8 \times 21 / 2\) & TVL-4740 & 4.55 \\
    \hline 80-60-40-20 & 250-250-250-150 & \(13 / 8 \times 4\) & TVL-4524 & 5.10 & 30-30-15-30 & 450-450-450.50 & \(13 \times 3\) & TVL-4742 & 4.55 \\
    \hline 00-40-80-20 & 300-50-25-25 & \(13 / 3 \times 3\) & & & \(40.40-10-25\)
    \(40-40.10 .100\) & 450-450-450.50 & \(13 / 8 \times 31 / 2\) & TVL-4745 & 4.70 \\
    \hline 0-200-140-30 & 300-150-150-150 & \(13 / 2 \times 31 / 2\) & TVL-4559 & 5.10 & 10-10-10-10 & 450-450-450-100 & \(13 / 2 \times 31 / 2\) & TVL-4747 & 5.55 \\
    \hline 00-10-200-30 & 300-300-150-150 & \(13 \times 4\) & TVL-4561 & 5.90 & \(10.10-10-10\)
    \(60.10-10.20\) & \(450-450-450-150\)
    \(450-450-450-150\) & \(13 / 1 / 2\)
    \(1 \% \times 3\) & TVL-4750 & 3.15 \\
    \hline 20-20-20-100 & 300-250-25-30 & \(13 / 6 \times 31 / 2\) & TVL.4562 & 5.25 & 35-15-10-20 & \(450-450-450-150\)
    \(450-450-450-200\) & \(13 / 1 \times 3\)
    \(13 / 8 \times 31 / 2\) & TVL-4753 & 4.55
    4.60 \\
    \hline 50-20-10-250 & 300-300-250-50 & \(13 / 8 \times 4\) & TVL-4564 & 6.05 & 10-10-10-10 & \(450.450-450-450\) & \(13 / 6 \times 31 / 2\)
    \(1 \% \times 2\) & TVL-4755 & 4.60
    3.35 \\
    \hline 10.10-10-20 & 300-300-300-25 & \(13 \times 2\) & TVL-4565 & 2.95 & 20-10-10.10 & 450.450 .450 .450 & 13\% \(\times 21 / 2\) & TVL-4761 & 3.35
    3.70 \\
    \hline \(60 \cdot 40-20.50\)
    \(40.40-40.20\) & 300-300-300-25 & \(13 / 8 \times 31 / 2\) & TVL-4570 & 4.70 & 20-20-20-20 & 450-450-450-450 & \(13 \times 3\) & TVL-4763 & 4.70 \\
    \hline \(40 \cdot 40-40-20\)
    \(40-20-10 \cdot 10\) & \(300 \cdot 300-300-150\)
    \(300-300-300-300\) & \(13 / 1 \times 3\) & TVL-4575 & 4.90 & 30-15-15-15 & 450-450-450-450 & \(13 / 6 \times 3\) & TVL-4766 & 4.45 \\
    \hline 40-20-10-10 & 300-300-300-300 & \(13 / 8 \times 2\) & TVL-4578 & 3.95 & 30-30-15-10 & 450-450-450-450 & \(13 / 8 \times 31 / 2\) & TVL-4769 & 4.70 \\
    \hline
    \end{tabular}

    \title{
    SPRAGUE CAPACITOAS
    }
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Dia. \(\times\) Length & Cat. No. & List \\
    \hline 35-35-10-5 & 450.450.450.450 & \(13 / 8 \times 31 / 2\) & TVL-4771 & \$4.60 \\
    \hline 40-40-30-30 & 450.450-450-450 & \(13 / 3 \times 4\) & TVL. 4774 & 8.05 \\
    \hline 70-10-10-5 & 450-450-450-450 & \(13 / 8 \times 3\) & TVL-4780 & 4.75 \\
    \hline 20-40-100-80 & 475-300-50-25 & \(13 / 8 \times 3\) & TVL-4800 & 4.45 \\
    \hline 20-80-20-10 & 475-300-300-300 & \(13 / 8 \times 31 / 2\) & TVL. 4801 & 5.00 \\
    \hline 10-100-10-100 & 475-300-300-25 & \(13 / 8 \times 31 / 2\) & TVL-4802 & 4.90 \\
    \hline 10-30-5-80 & 475-350-350-50 & \(13 / 1 \times 21 / 2\) & TVL-4803 & 3.70 \\
    \hline 10-40-100-10 & 475-400-50-25 & \(13 / 2 \times 21 / 2\) & TVL 4804 & 4.00 \\
    \hline 10-40.4-100 & 475-400-350.50 & \(13 \times 21 / 2\) & TVL. 4805 & 4.05 \\
    \hline 10-10-80-50 & 475-450-200-60 & \(13 \times 3\) & TVL-4806 & 3.85 \\
    \hline 25-20-20-100 & 475-450-300-50 & \(13 \times 3\) & TVL-4809 & 4.60 \\
    \hline 10-60-30-125 & 475-450-400-50 & \(13 \times 4\) & TVL-4811 & 5.55 \\
    \hline 10.50-30-30 & 475-450-450-25 & \(13 \times 3\) & TVL-4813 & 4.75 \\
    \hline 15-15-80-40 & 475-475-300-50 & \(13 \times 3\) & TVL-4815 & 4.80 \\
    \hline 40-10-4.40 & 475-475-350-300 & \(13 / 6\) & TVL.4817 & 4.95 \\
    \hline 10-5-80-40 & 475-47-450-50 & \(13 / 1 \times 31 / 2\) & TVL-481 & 4.90 \\
    \hline
    \end{tabular}
    \begin{tabular}{c|l|l|l|r} 
    MF & WVDC & Dia. \(\times\) Length & Cat. No. & List \\
    \hline \(40-20-10-10\) & \(475.475 .475-25\) & \(13 \times 3\) & TVL-4822 & \(\$ 4.85\) \\
    \(20-20-10-10\) & 475.475 .475 .300 & \(1 \% \times 21 / 2\) & TVL-4826 & 4.30 \\
    \(50-30-10-20\) & \(475.475-475-300\) & \(13 / 631 / 2\) & TVL-4827 & 5.60 \\
    \(10-10-10-10\) & 475.475 .475 .475 & \(1 \% \times 2\) & TVL-4830 & 3.50 \\
    \(40-20-10-10\) & \(475-475-475-475\) & \(1 \% \times 3\) & TVL-4840 & 5.10 \\
    \hline
    \end{tabular}

    \section*{INSULATING TUBES}

    These closed-top black insulating sleeves are made of tightly fitting Kraftboard. Order with capacitors as required.
    \begin{tabular}{|c|c|c|c|}
    \hline Cot. No. & Description & Cat. Na. & Description \\
    \hline HKT. 1 & For \(1^{\prime \prime} \times 2^{\prime \prime}\) can & HKT.6 & For \(1 \%^{\prime \prime} \times 21 / 2^{\prime \prime}\) can \\
    \hline HKT-2 & For 1" \(\times 21 / 2^{\prime \prime}\) can & HKT-7 & For 11/" \(\times 3^{\prime \prime}\) " can \\
    \hline HKT-3 & For 1" \(\times 3\) " can & HKT-8 & For \(11 /{ }^{\prime \prime} \times 31 / 2^{\prime \prime}\) can \\
    \hline HKT.4 & For 1" \(\times 4^{\prime \prime}\) ", can & HKT. 9 & For \(13 /{ }^{\prime \prime} \times 4^{\prime \prime}\) con \\
    \hline HKT-5 & For \(13 / 3^{\prime \prime} \times 2^{\prime \prime}\) can & & \\
    \hline
    \end{tabular}

    \section*{PE OCTAL-BASE ELECTROLYTICS}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline MF & WVDC & Dia, \(\times\) Length & Cat. No. & List & \\
    \hline 100 & 350 & \(13 \times 3\) & PE. 1636 & \$5.85 & 6系系 \\
    \hline 10 & 450 & \(13 / 2 \times 21 / 2\) & PE-1705 & 4.05 & \\
    \hline 20 & 450 & \(15 / 2 \times 21 / 2\) & PE-1714 & 4.30 & \\
    \hline 40 & 450 & \(13 \times 21 / 2\) & PE-1725 & 4.55 & 0 O8 ज \\
    \hline 80 & 450 & \(13 \times 31 / 2\) & PE-1730 & 5.55 & \\
    \hline 20.20 & 150-150 & \(13 / 2 \times 21 / 2\) & PE-2415 & 4.20 & \\
    \hline 40-40 & 150-150 & \(15 / 8 \times 21 / 2\) & PE-2428 & 4.40 & \\
    \hline 10-10 & 450-450 & \(15 / 2 \times 21 / 2\) & PE-2750 & 4.40 & - For Broadcast Amplifiers, Police Radio, and Other \\
    \hline 20-20 & 450-450 & \(1 \% \times 21 / 2\) & PE-2755 & 5.05 & Applications where Rapid Changing of Capacitors is Desired \\
    \hline 40-40 & 450-450 & \(13 \times 21 / 2\) & PE-2764 & 5.95 & - Will Fit Standard Octal Base Tube Sockets \\
    \hline 10-10-10 & 450-450-450 & \(13 / 2 \times 21 / 2\) & PE-3776 & 5.10 & - Hermetically Sealed in Metal Cans for Long Life \\
    \hline 20-20-20 & 450-450-450 & \(13 / 8 \times 3\) & PE-3780 & 8.10 & - Will Stand Up under High Temperatures, High \\
    \hline 30-30-10-20 & 450-450-450-50 & \(13 \times 31 / 2\) & PE-4741 & 6.85 & Ripple Currents, High Surge Voltages \\
    \hline
    \end{tabular}

    \section*{HLV high capacitance electrolytics}
    
    - Especially Designed for Filter Circuits in Motion Picture Amplifiers and Other Critical High GairAmplifier Equipment
    - Compact Construction for Greater Utility
    - Hermetically Sealed in Aluminum Cans
    - Have Outer Insulating Cardboard Tube
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Dia. \(\times\) Length & Cat. No. & List \\
    \hline 500 & 6 & \(1 \times 21 / 4\) & HLV-506 & \$3.05 \\
    \hline 1000 & 6 & \(13 / 1 \times 21 / 4\) & HLV-106 & 3.40 \\
    \hline 1500 & 6 & \(13 / 8 \times 23 / 4\) & HLV-156 & 3.60 \\
    \hline 2000 & 6 & \(13 / 6 \times 31 / 4\) & HLV-206 & 3.80 \\
    \hline 500 & 12 & \(13 / 2 \times 21 / 4\) & HLV-5012 & 3.20 \\
    \hline 1000 & 12 & \(13 / 8 \times 21 / 4\) & HLV-1012 & 3.75 \\
    \hline 1500 & 12 & \(13 / 8 \times 23 / 4\) & HLV-1512 & 3.95 \\
    \hline 2000 & 12 & \(13 / 8 \times 31 / 4\) & HLV-2012 & 4.15 \\
    \hline 500 & 15 & \(13 / 8 \times 21 / 4\) & HLV. 5015 & 3.25 \\
    \hline 1000 & 15 & \(13 / 8 \times 21 / 4\) & HLV-1015 & 3.80 \\
    \hline 1500 & 15 & \(13 / 8 \times 31 / 4\) & HLV-1515 & 4.00 \\
    \hline 2000 & 15 & \(11 / 2 \times 33 / 4\) & HLV-2015 & 4.70 \\
    \hline 500 & 25 & \(13 / 2 \times 21 / 4\) & HLV. 525 & 3.80 \\
    \hline 1000 & 25 & \(13 / 4 \times 31 / 4\) & HLV-1025 & 4.80 \\
    \hline 2000 & 25 & \(13 / 4 \times 41 / 4\) & HLV-2025 & 5.75 \\
    \hline
    \end{tabular}

    \title{
    SPRAGUE CAPACITORS
    }

    \section*{CERA-MITE* CERAMIC CAPACITORS}
    
    - Tiny, Tough, Dependable In Every Application
    - Low Self-inductance Of Silvered Flat-plate Design Means Very High By-pass Efficiency In All TV Circuits
    - Flat-plate Construction Permits Higher Selfresonant Frequency Than Tubular Ceramic Or Molded Mica Capacitors
    - Tough Moisture-proof Coating Protects Against Short-circuiting And Assures Good Performance Under Severe Conditions Of Humidity And Vibration
    - Cera-mite Capacitors Easily Fit Into Tight Spaces, Even Across Subminiature Tube Sockets
    - Designed For \(85^{\circ} \mathrm{C}\left(185^{\circ} \mathrm{F}\right)\) Continuous Operation

    \section*{GENERAL APPLICATION TYPES}
    - Excellent Where Temperature Coefficient Is Not Important, Such As By-pass and Coupling Applications
    deal For Replacing Older Types Of General Application Capacitors Such as Molded Micas, Tubular Ceramics, and Paper Tubulars
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline MMF & Cat. No. & List & MMF & Cot. No. & List & MMF & Cat. No. & List & MMF & Cat. No. & List & MMF & Cat. No. & Lis? \\
    \hline 00 & VDC (plat & & 47 & 5GA-Q47 & \$.25 & 4000 & 5GA-D4 & \$. 25 & 100 & WVDC (p & es) & 3.3 & 15GAB-V33 & \$.30 \\
    \hline & lerance \(\pm 20\) & & 50 & 5GA-Q5 & . 25 & 4300 & 5GA-D43 & . 30 & Stid. To & Wvoc & & 4.7 & 15GAB-V47 & 30 \\
    \hline 470 & 3GAB-T47 & \(\$ .35\) & 56 & 5GA-Q56 & . 25 & 4700 & 5GA.D47 & . 30 & & OGAB-V47 & & 6 & 15GAB-V6 & 30 \\
    \hline & & & 68 & 5GA-Q68 & . 25 & 5000 & 5GA-D5 & . 30 & ather & 10 GAB & & 7.5 & 15GAB-V75 & . 30 \\
    \hline 1000 & 3GAB-D1 & . 35 & 75 & 5GA-Q75 & . 25 & \multicolumn{3}{|l|}{\multirow[t]{4}{*}{\begin{tabular}{l}
    1000 WVDC (discs) \\
    Std. Tolerances: thru \(680 \mathrm{MMF} \pm 10 \%\), thru 3300 MMF \(\pm 20 \%\). thre \(10,000 \mathrm{MMF}\) MRC
    \end{tabular}}} & & & & & & \\
    \hline 2200 & 3GAB-D22 & . 45 & 82 & 5GA-Q82 & . 25 & & & & & 10GAB-V47 & \$.30 & 10 & 15GAB-Q1 & .30
    30 \\
    \hline 4700 & 3GAB-D47 & . 45 & 91 & 5GA-Q91 & . 25 & & & & 10 & 10GAB-Q1 & 30 & 12 & 15 GAB -Q12
    15 GAB -Q15 & . 30 \\
    \hline . 01 MF & 3GAB-S1 & . 65 & 100 & 5GA-T1 & . 25 & & & & 18 & 10GAB-Q18 & . 30 & 18 & 15 GAB -Q18 & . 30 \\
    \hline . 022 & 3GAB-S22 & . 65 & 120 & GA-T12 & . 25 & \multicolumn{3}{|r|}{\multirow[t]{2}{*}{4.7 10GA-V47 \$.30}} & 22 & 10GAB-Q22 & . 30 & 20 & \(15 \mathrm{GAB}-\mathrm{Q}^{2}\) & . 30 \\
    \hline \multirow[t]{2}{*}{. 047} & \multirow[t]{2}{*}{3GAB-S47} & \multirow[t]{2}{*}{. 70} & 130 & 5GA-T13 & . 25 & & & & 25 & 10GAB-Q25 & . 30 & 22 & 15GAB-Q22 & 30 \\
    \hline & & & 150 & 5GA-T15 & . 25 & 10 & 10GA-Q1 & . 30 & 33 & 10GAB-Q33 & . 30 & 33 & 15 GAB -Q33 & . 30 \\
    \hline . 1 & 3GAB-PI & . 75 & 180 & 5GA.T18 & . 25 & 15 & 10GA-Q15 & . 30 & 39 & 10GAB-Q39 & . 30 & 47 & 15GAB-Q47 & . 30 \\
    \hline . 15 & 3GAB-P15 & . 80 & 0 & 5GA-T2 & . 25 & 18 & 10GA-Q18 & . 30 & 47 & 10GAB-Q47 & . 30 & 56 & 15 GAB -Q56 & 30 \\
    \hline \multicolumn{3}{|l|}{\multirow[t]{2}{*}{\begin{tabular}{l}
    400 WVDC (discs) \\
    Std. Talerance \(\pm 20 \%\)
    \end{tabular}}} & 220 & 5GA.T22 & . 25 & 22 & 10GA-Q22 & . 30 & 68 & 10GAB-Q68 & . 30 & 62 & 15GAB-Q62 & . 30 \\
    \hline & & & 0 & 5GA-T24 & . 25 & 27 & 10GA-Q27 & . 30 & 75 & 10GAB-Q75 & 30 & 68 & 15GAB-Q68 & . 30 \\
    \hline 10 & 4GA-Q1 \$.25 & \$.25 & 250 & 5GA-T25 & . 25 & 33 & 10GA-Q33 & . 30 & & & & 82 & 15GAB-Q82 & . 35 \\
    \hline 15 & 4GA-Q15 & . 25 & \multirow[t]{2}{*}{300} & \multirow[t]{2}{*}{5GA-T3} & \multirow[t]{2}{*}{. 25} & 39 & 10GA-Q39 & . 30 & 100 & 10GAB-T1 & . 30 & 100 & 15GAB-TI & . 35 \\
    \hline 22 & 4GA-Q22 & . 25 & & & & 47 & 10GA-Q47 & . 30 & 120 & 10GAB-T12 & . 30 & 150 & 15 GAB -T15 & . 35 \\
    \hline 33 & 4GA-Q33 & . 25 & 330 & 5GA.T33 & . 25 & 75 & 5 & .30
    .30 & 150 & 10GAB-T15 & . 30 & 180 & 15GAB-T18 & . 35 \\
    \hline 47 & 4GA-Q47 & . 25 & 350 & 5GA-T35 & . 25 & \multirow[t]{2}{*}{82} & \multirow[t]{2}{*}{10GA-Q82} & \multirow[t]{2}{*}{} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 180 \\
    & 200
    \end{aligned}
    \]} & 10GAB-T18 & . 30 & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 220 \\
    & 300
    \end{aligned}
    \]} & 15 GAB -T22 & . 35 \\
    \hline 68 & 4GA-Q68 & . 25 & 60 & 5GA-T36 & . 25 & & & & & 10GAB-T2 & . 30 & & 15GAB-T3 & . 35 \\
    \hline 100 & 4G & & 390 & 5GA-T39 & . 25 & 100 & 10GA-TI & . 30 & \[
    \begin{aligned}
    & 200 \\
    & 220
    \end{aligned}
    \] & \multirow[t]{2}{*}{10GAB-T25} & . 30 & 330 & 15GAB-T33 & . 35 \\
    \hline 150 & 4GA-T15 & & 400 & 5GA-T4 & . 25 & 120 & 10GA-T12 & . 30 & 250 & & . 30 & 390 & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 15 \mathrm{GAB}-\mathrm{T} 39 \\
    & 15 \mathrm{GAB}-\mathrm{T} 47
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & .35 \\
    & .35
    \end{aligned}
    \]} \\
    \hline 220 & 4GA-T22 & . 25 & 470 & 5GA-T47 & . 25 & 150 & 10GA-T15 & . 30 & 70 & 10GAB-T27 & 30 & 470 & & \\
    \hline 330 & \multicolumn{2}{|l|}{4GA-T33 . 25} & 00 & 5GA-T5 & 5 & O & 10GA-TI & . 30 & 300 & 10GAB-T3 & 0 & \multicolumn{3}{|l|}{2000 WVDC (discs)} \\
    \hline 470 & \multicolumn{2}{|l|}{4GA-T47} & & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { 5GA-T6 } \\
    & \text { 5GA-T68 }
    \end{aligned}
    \]} & . 25 & 220 & 10GA-T22 & . 30 & 330 & 10GAB-T33 & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & .30 \\
    & .30
    \end{aligned}
    \]} & \multicolumn{3}{|l|}{\multirow[t]{4}{*}{\begin{tabular}{l}
    Sid. Tolerances: \\
    thru 5 MMF \(\pm .5 M M F\), thru \(82 \mathrm{MMF} \pm 10 \%\), thru \(1000 \mathrm{MMF} \pm 20 \%\). thru 6000 MMF MRC
    \end{tabular}}} \\
    \hline \multicolumn{3}{|l|}{\multirow[t]{2}{*}{\begin{tabular}{l}
    500 WVDC (discs) \\
    Sid. Tolerance \(\pm 20 \%\)
    \end{tabular}}} & 680 & & . 25 & & & . 30 & 390 & 10GAB-T39 & & & & \\
    \hline & & & 750 & GA-T75 & . 25 & 250 & 10GA-T25 & . 30 & 470 & 10GAB-T47 & 30 & & & \\
    \hline 5 & 5GA-V5 & \$.25 & 800 & 5GA-T8 & . 25 & 70 & 10GA-T27 & . 30 & 0 & 10GAB-T5 & . 30 & & & \\
    \hline 6 & 5GA-V6 & . 25 & 820 & 5GA-T82 & . 25 & 300 & 10GA-T3 & . 30 & 560 & 10GAB-T56 & 50 & 3.3 & 20GA-V33 & \$.35 \\
    \hline 7.5 & 5GA-V75 & . 25 & & & & 0 & 10GA-T33 & . 30 & 680 & 10 HKB -T68 & & 5 & 20GA-V5 & . 35 \\
    \hline \multirow[t]{2}{*}{8} & \multirow[t]{2}{*}{5GA} & \multirow[t]{2}{*}{. 25} & 1000 & 5GA-D1 & . 25 & 390 & 10GA-T39 & . 30 & 1000 & 10HKB-D1 & . 50 & 7.5 & 20GA-V75 & . 35 \\
    \hline & & & 1200 & 5GA-D12 & . 25 & 470 & 10GA-T47 & . 30 & 1200 & \(10 \mathrm{HKB}-\mathrm{D} 12\) & . 50 & \multicolumn{3}{|r|}{7.5 20GA-V75 . 3} \\
    \hline 10 & \multicolumn{2}{|l|}{5GA-Q1 . 25} & 1300 & 5GA-D13 & . 25 & 500 & 10GA.T5 & . 30 & 1500 & 10HKB-D15 & . 50 & 10 & OGA-Q1 & . 35 \\
    \hline 12 & 5GA.Q12 & . 25 & 1500 & 5GA-D15 & . 25 & 560 & 10GA-T56 & . 50 & 2200 & 10HKB-D22 & . 50 & 12 & 20GA-Q12 & . 35 \\
    \hline 15 & 5GA-Q15 & . 25 & 1600 & 5GA-D16 & . 25 & 680 & 10GA-T68 & . 50 & 3300 & 10HKB-D33 & . 50 & 15 & 20GA-Q15 & . 35 \\
    \hline 18 & 5GA-Q18 & . 25 & 1800 & 5GA-D18 & . 25 & 000 & 0GA-DI & . 50 & 4700 & 1 10 HKB-D47 & . 50 & 8 & 20GA-Q18 & . 35 \\
    \hline 20 & 5GA-Q2 & . 25 & 2000 & 5GA-D2 & . 25 & 1200 & 10GA-D12 & . 50 & & & & 20 & 20GA-Q2 & . 35 \\
    \hline 22 & 5GA-Q22 & . 25 & & & & 1500 & 10GA-DI 5 & & \multirow[t]{2}{*}{} & * \(10 \mathrm{HKB}-\mathrm{S} 1\) & . 60 & 22 & 20GA-Q22 & . 35 \\
    \hline 25 & 5GA.Q25 & . 25 & 2200 & 5GA-D22 & . 25 & 2200 & 10GA-D22 & 0 & & *10HKB-S15 & 1.10 & 33 & 20GA-Q33 & . 35 \\
    \hline \multirow[t]{2}{*}{27} & \multirow[t]{2}{*}{5GA-Q27} & \multirow[t]{2}{*}{. 25} & 2500 & 5GA-D25 & . 25 & & & 0 & \[
    .022
    \] & \multirow[t]{2}{*}{* 10 HKB -S22} & \multirow[t]{2}{*}{1.35} & \multirow[t]{2}{*}{39} & 20GA-Q39 & . 35 \\
    \hline & & & 2700 & 5GA-D27 & . 25 & 4700 & 10 & & \multicolumn{3}{|l|}{\multirow[b]{2}{*}{1500 WVDC (plates)}} & & 20GA-Q47 & \multirow[t]{2}{*}{. 35} \\
    \hline 30 & 5GA-Q3 & . 25 & 3000 & 5GA-D3 & . 25 & & *10HK-D68 & . 60 & & & & 47 & 20GA-Q56 & \\
    \hline 33 & 5GA-Q33 & . 25 & 3300 & 5GA-D33 & . 25 & \multirow[t]{2}{*}{\[
    \begin{array}{r}
    6800 \\
    10000
    \end{array}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { *10HK-D68 } \\
    & \text { *10HK-S1 }
    \end{aligned}
    \]} & . 60 & \multicolumn{3}{|l|}{\multirow[t]{2}{*}{Std. Tolerances: thru 4.7 MMF \(\pm .5 \mathrm{MMF}\), all others \(+20 \%\)}} & \multirow[t]{2}{*}{62
    68} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & \text { 20GA-Q62 } \\
    & \text { 20GA-Q68 }
    \end{aligned}
    \]} & \multirow[t]{2}{*}{.35
    .35} \\
    \hline 39 & 5GA-Q39 & . 25 & 3900 & 5GA-D39 & . 25 & & & . 60 & & & & & & \\
    \hline
    \end{tabular}

    \footnotetext{
    The UASTER - 20 th Elliton
    }

    Ill prices subject to change aithout notice. *High-K Types
    Contwinht by U. C. P., Inc.

    \title{
    SPRAGUE CAPRCITOAS
    }
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline MMF & Cat．No． & List & MMF & Cat．No． & List & MMF & Cat．No． & List & MMF & Cat．No． & List & MMF & Cat．No． & List \\
    \hline 75 & 20GA－Q75 & \＄．35 & 30 & 20GAB－Q3 & \＄．35 & 30 & 30GA－Q3 & \＄．40 & 100 & 30GAB－T1 & \＄．40 & 18 & 60GAB－Q18 & \＄．50 \\
    \hline 82 & 20GA－Q82 & ． 35 & 33 & 20GAB & 35 & 39 & 30GA－Q39 & ． 40 & 120 & 30GAB－T12 & ． 40 & 20 & 60GAB－Q2 & ． 50 \\
    \hline 100 & & & 39 & 20GAB－Q & ． 35 & 50 & 30GA－Q5 & ． 40 & 150 & 30GAB．T15 & ． 40 & 22 & 60GAB－Q22 & ． 50 \\
    \hline 100 & 20GA－T1 & ． 35 & 47 & 20GAB－Q & ． 35 & 60 & 30GA－Q6 & ． 40 & 180 & 30GAB－T18 & ． 40 & 30 & 60GAB－Q3 & ． 50 \\
    \hline 150 & 20GA－T15 & ． 35 & 100 & 20GAB－T1 & 35 & 68 & 30GA－Q68 & ． 40 & \multicolumn{3}{|l|}{\multirow[t]{5}{*}{\begin{tabular}{l}
    5000 WVDC（dises） \\
    Sid．Tolerances： \\
    \(4.7 \mathrm{MMF} \pm .5 \mathrm{MMF}\) ， thru \(22 \mathrm{MMF} \pm 10 \%\) ， \\
    thru \(500 \mathrm{MMF} \pm 20 \%\)
    \end{tabular}}} & 33 & 60GAB－Q33 & 50 \\
    \hline 180 & 20GA－T18 & ． 35 & 150 & 20GAB－T15 & ． 35 & 100 & 30 & ． 40 & & & & 47 & 60GAB．Q47 & ． 50 \\
    \hline 200 & 20GA－T2 & ． 35 & 200 & 20GAB－T2 & ． 35 & 120 & 30GA－T12 & ． 40 & & & & 100 & ＊ \(60 \mathrm{HKB}-\mathrm{T} 1\) & 50 \\
    \hline 220 & 20GA－T22 & ． 35 & 220 & ＊2OHKB．T22 & ． 35 & 150 & 30GA－T15 & ． 40 & & & & 470 & ＊60HKB－T47 & 65 \\
    \hline 300 & 20GA．T3 & ． 35 & 300 & ＊2OHKB－T3 & ． 35 & 180 & 30GA－T18 & .40 & & & & \multicolumn{3}{|l|}{\multirow[t]{5}{*}{\begin{tabular}{l}
    7500 WVDC（dises） \\
    Std．Tolerances： \\
    4．7 MMF 士．5 MMF， thru \(18 \mathrm{MMF} \pm 10 \%\) ， thru \(470 \mathrm{MMF} \pm 20 \%\)
    \end{tabular}}} \\
    \hline 330 & 20GA－T33 & ． 35 & 500 & ＊20HKB－T5 & ． 35 & 200 & 30GA－T2 & ． 40 & 4.7 & 50GA．V47 & & & & \\
    \hline 390 & 20GA－T39 & ． 35 & 000 & & & 220 & 30GA－T22 & ． 40 & 10 & 50GA－Q1 & 5 & & & \\
    \hline 470 & 20GA－T47 & ． 35 & 000 & ＊ 2 & & 250 & 30GA－T25 & ． 40 & 22 & 50GA－Q22 & 5 & & & \\
    \hline 500 & 20GA－T5 & ． 35 & 8000 & & & 70 & 30GA－T27 & ． 40 & 47 & 50 GA －Q47 & ． 45 & & & \\
    \hline & & & 8000 & & ． 70 & 300 & 30GA & ． 40 & 100 & 50GA－TI & ． 45 & & 47 & \＄．50 \\
    \hline 1000 & 20GA－D1 & ． 55 & 10000 & 1 & 70 & 500 & 30GA－T5 & ． 40 & 220 & 50GA－T22 & ． 45 & 8. & 75GA－V82 & ． 50 \\
    \hline 4000 & ＊20HK－D4 & .55 & \multicolumn{3}{|l|}{3000 WYDC（dlses）} & \multicolumn{3}{|l|}{\multirow[t]{2}{*}{3000 WVDC（plafes）}} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 330 \\
    & 500
    \end{aligned}
    \]} & 50GA－T33 & ． 55 & 10 & \(75 G A-Q 1\) & ． 50 \\
    \hline 5000 & ＊20HK－D5 & ． 70 & \multicolumn{3}{|l|}{\begin{tabular}{l}
    3000 WVDC（dises） \\
    Sid．Tolerancest
    \end{tabular}} & & & & & 50GA－T5 & 1.00 & 12 & \(75 G A-Q 12\) & ． 50 \\
    \hline 6000 & ＊ 20 HK －D6 & ． 70 & \multicolumn{3}{|l|}{\multirow[t]{3}{*}{\(1.5 \mathrm{MMF} \pm .25 \mathrm{MMF}\) ， 4．7 MMF \(\mp .5 \mathrm{MMF}\) 。 thru \(68 \mathrm{MMF} \pm 10 \%\) ． thru \(500 \mathrm{MMF} \pm 20 \%\)}} & \multicolumn{3}{|l|}{\multirow[t]{3}{*}{\(1.5 \mathrm{MMF} \pm .25 \mathrm{MMF}\) ， 4．7 MMF＋． 5 MMF ， other types \(30 \mathrm{GAB} \pm 20 \%\)}} & \multicolumn{3}{|l|}{\multirow[b]{5}{*}{\begin{tabular}{l}
    6000 WVDC（plates） \\
    Sid，Tolerances： \\
    4．7 MMF 士． 5 MMF， \\
    other types \(60 \mathrm{GAB} \pm 20 \%\) \\
    types \(60 H K B\) MRC
    \end{tabular}}} & 15 & \(75 G A-Q 15\) & ． 50 \\
    \hline \multicolumn{3}{|l|}{\multirow[t]{5}{*}{\begin{tabular}{l}
    2000 WYDC（plates） \\
    Std．Tolerancest \\
    5 MMF 士． 5 MMF， \\
    other types \(20 \mathrm{GAB} \pm 20 \%\) ， \\
    types 20HKB MRC
    \end{tabular}}} & & & & & & & & & & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 18 \\
    & 20
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 75 \mathrm{GA}-\mathrm{Q} 18 \\
    & 75 \mathrm{GA}-\mathrm{Q} 2
    \end{aligned}
    \]} & ． 50 \\
    \hline & & & & & & & & & & & & & & ． 50 \\
    \hline & & & \multicolumn{3}{|l|}{\begin{tabular}{l}
    thru 68 MMF \(\pm 10 \%\) ． \\
    thru \(500 \mathrm{MMF} \pm 20 \%\)
    \end{tabular}} & \multicolumn{3}{|l|}{1.5 30GAB－V15 \＄．40} & & & & 22 & 75GA－Q22 & ． 50 \\
    \hline & & & 1.5 & 30GA－V15 & \＄．40 & 4.7 & \multicolumn{2}{|l|}{30GAB－V47 ．40} & & & & 30 & 75 GA Q3 & ． 50 \\
    \hline & & & 4.7 & 30GA－V47 & ． 40 & \multirow[t]{2}{*}{10
    15} & \multicolumn{2}{|l|}{30GAB－Q1 ． 40} & \multirow[t]{2}{*}{4.7
    8.2} & 60GAB－V47 & \＄．50 & 33 & 75GA－Q33 & ． 50 \\
    \hline & & \＄．35 & 10 & 30GA－Q1 & ． 40 & & 30GAB－Q15 & .40 & & 60GAB－V82 & ． 50 & 47 & 75GA－Q47 & ． 50 \\
    \hline 10 & 20GAB－Q & ． 35 & 12 & 30GA－Q12 & ． 40 & 47 & 30GAB－Q47 & ． 40 & 10 & 60GAB－Q1 & ． 50 & 56 & 75GA－Q56 & ． 50 \\
    \hline 15 & 20GAB－Q15 & ． 35 & 15 & 30GA－Q15 & .40 & \multirow[t]{2}{*}{\[
    60
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 30 \mathrm{GAB}-Q 6 \\
    & 30 \mathrm{GAB}-Q 68
    \end{aligned}
    \]} & .40 & 12 & 60GAB－Q12 & ． 50 & 100 & 75GA－T1 & ． 50 \\
    \hline 22 & 20GAB－Q22 & ． 35 & 25 & 30GA－Q25 & .40 & & & ． 40 & 15 & 60GAB．Q15 & ． 50 & 470 & 75GA－T47 & ． 65 \\
    \hline
    \end{tabular}

    \section*{HIGH－K TYPES}
    －Designed Specifically for Minimum Capacitance Requirements
    －Intended for By－pass and Coupling Applications where Additional Ca － pacitance is Not Important
    －Rated at 500 WVDC
    －Units listed below are disc ca－ pacitors
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline MF & Cat．No． & List & MF & Cat．No． & List \\
    \hline \multicolumn{3}{|c|}{\multirow[t]{2}{*}{SINGLE UNITS}} & ． 015 & 5HK－S15 & \＄．40 \\
    \hline & & & ． 02 & 5HK－S2 & ． 60 \\
    \hline ． 001 & 5HK－D1 & \＄．25 & ． 03 & 5HK－S3 & ． 65 \\
    \hline ． 0015 & SHK－D15 & ． 25 & \multicolumn{3}{|c|}{\multirow[t]{2}{*}{DUAL UNITS}} \\
    \hline ． 002 & 5HK－D2 & ． 25 & & & \\
    \hline ． 0022 & 5HK－D22 & ． 25 & \(2 \times .001\) & 5HK－2D1 & \＄．40 \\
    \hline ． 0025 & 5HK．D25 & ． 25 & \(2 \times .0015\) & 5HK－2D15 & ． 40 \\
    \hline ． 0033 & 5HK－D33 & ． 25 & \(2 \times .002\) & 5HK－2D2 & ． 40 \\
    \hline ． 004 & 5HK－D4 & ． 25 & \(2 \times .0022\) & 5HK－2D22 & ． 40 \\
    \hline ． 0047 & 5HK－D47 & ． 25 & \(2 \times .004\) & 5HK－2D4 & ． 45 \\
    \hline ． 005 & 5HK－D5 & ． 25 & \(2 \times .0047\) & 5HK－2D47 & ． 45 \\
    \hline ． 0068 & 5HK－D68 & ． 25 & & & \\
    \hline & & & \(2 \times .01\) & 5HK－2S 1 & ． 50 \\
    \hline ． 01 & 5HK－SI & ． 30 & \(2 \times .02\) & 5HK－2S2 & ． 70 \\
    \hline
    \end{tabular}

    \section*{NPO TYPES}
    －Zero Temperature－coefficient Ca － pacitors
    －Used Where Capacitance Change with Temperature is Undesirable
    －Superior to Silvered－mica Types in Stability，High＂Q＇，and Insulation Resistance
    －Rated at 500 WVDC
    －Units listed below are discs，except those marked with a star（ \(\star\) ），which are plate capacitors
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline MMF & Cat．No． & List & MMF & Cat．No． & List \\
    \hline 1.0 & \(\star\) STCCB－V1 & \＄．50 & 33 & 5TCC－Q33 & \＄．50 \\
    \hline 1.5 & ＊5TCCB－V15 & ． 50 & 39 & 5TCC－Q39 & ． 55 \\
    \hline 2.2 & ＊ 5 TCCB－V22 & ． 50 & 47 & STCC－Q47 & ． 55 \\
    \hline 3.3 & ＊5TCCB－V33 & ． 50 & 50 & 5TCC－Q5 & ． 55 \\
    \hline 4.7 & ＊ 5 TCCB－ 47 & ． 50 & 68 & 5TCC－Q68 & ． 55 \\
    \hline \multirow[t]{2}{*}{6.8} & ＊ 5 TCCB－V68 & ． 50 & 75 & 5TCC－Q7 5 & ． 55 \\
    \hline & & & 100 & 5TCC－T1 & ． 55 \\
    \hline 10 & STCC－Q1 & ． 50 & 120 & STCC．T12 & ． 60 \\
    \hline 15 & STCC－Q15 & ． 50 & 150 & 5TCC－T15 & ． 60 \\
    \hline 20 & 5TCC－Q2 & ． 50 & 175 & 5TCC－T175 & ． 60 \\
    \hline 22 & STCC－Q22 & ． 50 & 220 & 5TCC－T22 & ． 70 \\
    \hline 25 & 5TCC－Q25 & ． 50 & 270 & 5TCC－T27 & ． 80 \\
    \hline
    \end{tabular}

    \section*{N750 TYPES}

    \section*{Eliminate} Frequency Drifts
    －Negative Temp． Coefficient is 750 ppm \(/{ }^{\circ} \mathrm{C}\) ．
    －Rated at 500 V
    －Starred（ \(\star\) ）item is a Plate．All others are Discs
    \begin{tabular}{ccc}
    \hline MMF & Cot．No． & List \\
    \hline 5.0 & STCUB－V5 & \(\$ .50\) \\
    10 & \(5 T C U-Q 1\) & .50 \\
    15 & STCU－Q15 & .50 \\
    20 & \(5 T C U-Q 2\) & .50 \\
    22 & STCU－Q22 & .50 \\
    25 & \(5 T C U-Q 25\) & .50 \\
    33 & \(5 T C U-Q 33\) & .50 \\
    47 & \(5 T C U-Q 47\) & .50 \\
    68 & \(5 T C U-Q 68\) & .50 \\
    75 & \(5 T C U-Q 75\) & .50 \\
    100 & \(5 T C U-T 1\) & .50 \\
    150 & \(5 T C U-T 15\) & .50 \\
    200 & \(5 T C U-T 2\) & .50 \\
    220 & \(5 T C U-T 22\) & .50 \\
    330 & \(5 T C U-T 33\) & .50 \\
    \hline
    \end{tabular}

    \section*{BULPLATE \({ }^{\circledR}\) MULTIPLE CERAMICS}
    \begin{tabular}{|c|c|c|}
    \hline \begin{tabular}{l}
    Cot．No． 34 C 3 \\
    MFD．
    \[
    \begin{array}{ll}
    142 & 002 \pm 25 \% \\
    3 L 4 & 00022 \pm 50 \% \\
    \text { 41.5 } & 00022+50 \% \\
    5+5 & 085 \pm 25 \%
    \end{array}
    \] \\
    List，\(\$ .75\)
    \end{tabular} & \begin{tabular}{l}
    －These Rugged Units Combine in One Compact Assembly All the Capacitors Used in Ona or Mors Stages of a Rudia Clruil \\
    －Fit Tight Spaces in Miniature Sefe \\
    －Rated at 500 WVDC， 1000 VDC Test
    \end{tabular} &  \\
    \hline  &  &  \\
    \hline
    \end{tabular}

    \section*{SPRAGUE CAPACITOAS}

    \section*{BULPLATE \({ }^{\circledR}\) PRINTED CIRCUITS}
    
    - Especially Designed to Save Space and Reduce Assembly Time
    - A Combination of Resistors and Capacitors of Maximum Compactness
    - Integral Connections are "Printed" and Brought Out to External Leads Which Are Anchored to the Basic Ceramic Plate
    - Completed Unit is Protected by a Moisture-proof Coating
    - Capacitors are rated at 500 volts d-c, 1000 volts test, while the maximum voltage to be applied across the resistors is 250 volts \(d-c\); except on 100 C 1 where all elements are rated at 100 volts d-c.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline & \multicolumn{5}{|c|}{VERTICAL INTEGRATOR} & & \multicolumn{9}{|c|}{VERTICAL INTEGRATOR} \\
    \hline \({ }_{(1 \mathrm{Cf}}^{\mathrm{C}_{1}}\) &  & \[
    \begin{gathered}
    R_{1} \\
    \left(K_{12}\right)
    \end{gathered}
    \] & \[
    \begin{aligned}
    & R_{2}^{2} R_{2} \\
    & (K: 2)^{2}
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Old } \\
    \text { Cat. No. }
    \end{gathered}
    \] & Cat. & \[
    \begin{aligned}
    & \text { Prict } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{gathered}
    c_{1} \\
    (M F)
    \end{gathered}
    \] & (MF) & & \[
    C_{1,} C_{c}
    \] & \[
    \begin{gathered}
    R_{1}, R_{1} \\
    (K \Omega)
    \end{gathered}
    \] & \(R_{2}\) & & No. & \(\xrightarrow{\text { Priste }}\) \\
    \hline . 0022 & . 0047 & 22 & 8.2 & 101 Cl & v. 1 & \$1.10 & . 01 & . 002 & & . 005 & 22 & 8.2 & & & \$1.25 \\
    \hline \multicolumn{7}{|c|}{DIODE FILTER} & \multicolumn{9}{|c|}{AUDIO OUTPUT} \\
    \hline \(\frac{\text { (MMF) }}{100}\) & (MMF)
    100 & (K) 47 & & & No. & Price & \[
    \begin{gathered}
    c_{1} \\
    (M F)
    \end{gathered}
    \] & \[
    \begin{gathered}
    \mathrm{c}_{2} \\
    \text { (MF) }
    \end{gathered}
    \] & \[
    { }_{\substack{C_{1} \\ \hline}}
    \] & \[
    \begin{aligned}
    & c_{i}+c_{1} \\
    & \text { (MF) }
    \end{aligned}
    \] & \[
    { }_{(M \Omega)}^{R_{1}}
    \] & \[
    \begin{aligned}
    & R_{2} R_{1} \\
    & (M \Omega)
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Old } \\
    \text { Cat. No. }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Cat. } \\
    & \text { No. }
    \end{aligned}
    \] & \({ }_{\text {Price }}^{\text {list }}\) \\
    \hline 150 & 150 & 47 & & & D. 2 & . 60 & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & .0047 \\
    & .005
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & .0022 \\
    & .005
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 220 \\
    & 220
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 220 \\
    & 220
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 6.8 \\
    & 6.8
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    .47
    \]} & & \multirow[t]{2}{*}{DT-1} & \multirow[t]{2}{*}{\[
    \$ 1.00
    \]} \\
    \hline 50 & 50 & 47 & & & D. 3 & . 60 & & & & & & & & & \\
    \hline
    \end{tabular}

    TRIODE COUPLING
    
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    C_{1} \\
    \text { (MF) }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \mathrm{C}_{2} \\
    & \text { (MF) }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & R_{1} \\
    & (\Omega)
    \end{aligned}
    \] & \[
    \begin{aligned}
    & R_{2} \\
    & (\Omega)
    \end{aligned}
    \] & Cat. No. & \[
    \underset{\text { Price }}{\text { List }}
    \] \\
    \hline . 0047 & . 0047 & 1000 & 820 & F-1 & \$.85 \\
    \hline . 0047 & . 0047 & 220 & 1000 & F-2 & 85 \\
    \hline
    \end{tabular}

    PENTODE COUPLING
    
    \begin{tabular}{lcccccccr}
    \hline \begin{tabular}{c}
    \(C_{1}\) \\
    \((M F)\)
    \end{tabular} & \begin{tabular}{c}
    \(C_{2}\) \\
    \((M F)\)
    \end{tabular} & \begin{tabular}{c}
    \(C_{1}\) \\
    \((M M F)\)
    \end{tabular} & \begin{tabular}{c}
    \(R_{1}\) \\
    \((M \Omega)\)
    \end{tabular} & \begin{tabular}{c}
    \(R_{2}\) \\
    \((M \Omega)\)
    \end{tabular} & \begin{tabular}{c}
    \(R_{2}\) \\
    \((\Omega)\)
    \end{tabular} & \begin{tabular}{c} 
    Old \\
    Cat.
    \end{tabular} & \begin{tabular}{l} 
    Not.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    No.
    \end{tabular} \\
    \hline .0047 & .0022 & 47 & 4.7 & 1.0 & 2.2 & - & \({ }^{\text {Prico }}\)
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \[
    \underset{(M F)}{C_{1}}
    \] & \[
    C_{2}+C_{1}
    \]
    (MMF) & \[
    \begin{gathered}
    R_{1} \\
    (M \Omega)
    \end{gathered}
    \] & \[
    \begin{gathered}
    R_{2} \\
    (M \Omega)
    \end{gathered}
    \] & Old Cot. No. & Cat. No. & \[
    \begin{gathered}
    \text { List } \\
    \text { Price }
    \end{gathered}
    \] \\
    \hline . 01 & 250 & . 5 & . 5 & 102C1 & T-1 & \$.75 \\
    \hline . 01 & 250 & . 25 & . 5 & \(103 C 2\) & T-2 & 75 \\
    \hline . 005 & 250 & . 5 & . 5 & \(104 \mathrm{C4}\) & T-3 & . 70 \\
    \hline . 005 & 250 & . 25 & . 5 & - & T-4 & . 70 \\
    \hline
    \end{tabular}

    DETECTOR PENTODE COUPLING
    
    \begin{tabular}{cccccccccr}
    \hline \begin{tabular}{c}
    \(C_{1}\) \\
    \((M F)\)
    \end{tabular} & \begin{tabular}{c}
    \(C_{2}, C_{1}\) \\
    (MMF)
    \end{tabular} & \begin{tabular}{c}
    \(C_{1}\) \\
    (MF)
    \end{tabular} & \begin{tabular}{c}
    \(C_{6}\) \\
    \((M F)\)
    \end{tabular} & \begin{tabular}{c}
    \(R_{2}\) \\
    \((M \Omega)\)
    \end{tabular} & \begin{tabular}{c}
    \(R_{2}\) \\
    \((M \Omega)\)
    \end{tabular} & \begin{tabular}{c}
    \(R_{3}\) \\
    \((M \Omega)\)
    \end{tabular} & \begin{tabular}{c}
    \(R_{1}\) \\
    \((M \Omega)\)
    \end{tabular} & \begin{tabular}{c}
    \(C_{\text {at }}\) \\
    No.
    \end{tabular} & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} \\
    \hline .002 & 150 & .01 & .005 & 4.7 & 1.0 & 3.3 & 10 & DP-1 & \(\$ 1.25\)
    \end{tabular}

    \title{
    SPRAOUE CAPACITORS
    }

    \section*{BULPLATE \({ }^{\text {® }}\) MLTIPLE CERAMICS}
    
    - These Rugged Units Combine in One Compact Assembly All the Capacitors Used in One or More Stages of a Radio Circuif
    - Fit Tight Spaces in Miniature Sets

    Rated at 500 WVDC, 1000 VDC Test
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{6}{*}{} & \multicolumn{2}{|l|}{\multirow[t]{3}{*}{\[
    \begin{array}{cc} 
    & M F B \\
    122 & 002 \geqslant 100 \% \\
    325 & 00015: 100 \%
    \end{array}
    \]}} & \multirow[t]{5}{*}{} & \multicolumn{2}{|l|}{} & \multirow[t]{2}{*}{} & \multirow[b]{3}{*}{MFD.} \\
    \hline & & & & \multicolumn{2}{|l|}{} & & \\
    \hline & & & & 384 & OOSMIN & T & \\
    \hline & 4L5 & COS MIN & & 425 & .0001 \(=25\) \% & - & \(3 \times .004\) \\
    \hline & 314 & 2001*25\% & & 546 & , \(005 \pm 100 \%\) & 123 & \\
    \hline & 687 & \[
    \begin{aligned}
    & 005=-100 \% \\
    & \text { List, } \$ .90
    \end{aligned}
    \] & Cat. No, 34C5 & & List, \$.75 & Cat. No. 34C6 & List, \$.65 \\
    \hline
    \end{tabular}

    \section*{BUTTON CERAMICS}
    \begin{tabular}{ccc}
    \hline MMF & Class & List \\
    \hline & TYPE 501C & \\
    \hline 100 & GA \(\pm 20 \%\) & \(\$ .70\) \\
    470 & GA \(\pm 20 \%\) & .70 \\
    1000 & MRC & .70 \\
    1500 & MRC & .70 \\
    \hline \multicolumn{3}{c}{ TYPE 502C } \\
    \hline 10 & SL & .65 \\
    22 & SL & .65 \\
    \hline \multicolumn{3}{c}{ TYPE 503C } \\
    \hline 100 & GA \(\pm 20 \%\) & .75 \\
    470 & GA \(\pm 20 \%\) & .75 \\
    1000 & MRC & .75 \\
    1500 & MRC & .75 \\
    \hline \multicolumn{3}{c}{ TYPE 505C } \\
    \hline 100 & GA \(\pm 20 \%\) & .70 \\
    220 & GA \(\pm 20 \%\) & .70
    \end{tabular}
    \begin{tabular}{|ccr} 
    MMF & Class & List \\
    \hline 470 & MRC & \(\$ .70\) \\
    1000 & MRC & .70 \\
    \hline \multicolumn{3}{c}{ TYPE 506C } \\
    \hline 470 & GA \(\pm 20 \%\) & .75 \\
    1000 & MRC & .75 \\
    1500 & MRC & .75 \\
    \hline & TYPE 507C & \\
    \hline 100 & GA \(\pm 20 \%\) & .90 \\
    220 & GA \(\pm 20 \%\) & .90 \\
    470 & MRC & .90 \\
    680 & MRC & .90 \\
    1000 & MRC & .90 \\
    \hline \multicolumn{3}{c}{ TYPE 508C } \\
    \hline 470 & GA \(\pm 20 \%\) & .95 \\
    1000 & MRC & .95 \\
    1500 & MRC & .95 \\
    \hline
    \end{tabular}
    

    \section*{hi-voltage DOORKNOB CERAMICS}
    

    \section*{CUP CERAMICS}

    These precision capacitors are widely used in high stability r-f oscillators where frequency control is important. Tolerance on capacitance can be held to \(\pm 1 \%\). and on temperature coefficient to \(\pm 10\) ppm. Hermetically sealed construction and low self inductance are noteworthy as are high \(Q\), capacitance stability, and retrace characteristics.

    Available in \(500,1000,1500\) volt ratings for all standard temperature coefficients from P100 to N750. Write on company letterhead for complete details.
    

    Cotyriaht by C.C. P..Inc

    Copacitor Sody has Female Threads for Interchangeable Screw-in Terminals.
    - Molded in Non-Flammable, Moisture-resistant, Thermosetting Plastic.
    - Molded Guard Rings Lengthen Surface Creepage Path.
    Comes Complefe with 7 Terminals, as illustrated. (Packaged 2 per plastic box, with 14 terminals.)
    - 300K-T5 is Supplied with 2 Terminols, as per Style Marked " \(A\) "
    \begin{tabular}{ccccr}
    \multicolumn{4}{c}{ Marked } & \\
    \hline MMF & KV & Dia. \(\times\) Length & Cot. No. & List \\
    \hline 500 & 20 & \(1 \times 31 / 1 /\) & \(200 K-T 5\) & \(\$ 1.85\) \\
    500 & 30 & \(13 / 6 \times 11 / 4\) & \(30 D K-T 5\) & 3.00 \\
    \hline
    \end{tabular}

    \section*{PRECISION \\ CERAMIC}

    For exacting circuitry in electronic instru. mentation and high stability oscillators. The same stacked disc construction as metal cup ceramics but with higher sapacitance range.
    Hermetically sealed in plated metal rubes for moisture protection. Rated for \(-55^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\) operation as are cup ceramics.
    Available in \(\pm 1 \%\) capacitance tolerancesl Available in \(500,1000,1500\) volt ratings for all standard temperature coefficients from pl 100 to N750. Write on company letterhead for complete details.

    Widely used in precision circuitry where maximum stability is required. Unlike ordinary low cost trimmers, the special construction of these top-quality
     units prevents corrosion, permits mounting against chassis, and guarantees long, trouble-free life.
    Write on letterhead for complete details.
    \begin{tabular}{cccr}
    \hline MMF(Min.) & MMF(Max.) & Cat. No. & List \\
    \hline 4 & 18 & A08-006 & \(\$ 10.00\) \\
    5 & 30 & \(408-007\) & 10.00 \\
    8 & 75 & \(A 08-001\) & 10.00 \\
    10 & 110 & \(A 08-002\) & 10.00 \\
    \hline
    \end{tabular}

    \title{
    SPRAGUE CAPACITORS
    }

    \section*{TELECAP \({ }^{\circledR}\) BLACK BEAUTY \({ }^{\circledR}\) MOLDED TUBULARS}
    
    - Premium Quality at No Extra Cost
    - Made Under Exclusive "Dry" Process, just like Costly Metal-Encased Oil Units
    - Molded in Tough Bakelite Phenolic
    - Non-Flammable Case
    - Only Telecaps are Oil-impregnated in Ratings from 600 to 12,500 WVDC
    - Extremely High Insulation Resistance
    - Withstand Severe Heat, Moisture, Shock
    - Designed for \(85^{\circ} \mathrm{C}\left(185^{\circ} \mathrm{F}\right)\) Operation
    

    \section*{SPRAGUE CAPACITORS}

    \section*{68 ( MIDGET \({ }^{\circledR}\) TUBULARS}
    

    Amazingly Small In Size Without Any Sacrifice In Performance - The Smallest Reliable Paper Tubular
    - Will Fit Tight Spots In Pocket Radios, Auto Radios And Other Small Electronic Assemblies That Require High Temperature Operation, Good Humidity Performance, And Minimum Size At Moderate Cost
    - Designed For \(85^{\circ} \mathrm{C}\left(185^{\circ} \mathrm{F}\right)\) Operation
    MF Dia. \(x\) Length Cat. No. Lis List
    \begin{tabular}{|c|c|c|c|}
    \hline . 25 & \(13 / 2 \times 11 / 8\) & 68P19 & \$.70 \\
    \hline . 5 & \(5 / 6 \times 11 / 0\) & 68P20 & . 80 \\
    \hline \multicolumn{4}{|c|}{200 WVDC} \\
    \hline . 005 & \(1 / 4 \times 116\) & 68 P 11 & . 35 \\
    \hline . 006 & 1/4 \(\times 11 / 6\) & 68 P 12 & . 35 \\
    \hline . 01 & \% \(\times 1\) 11/6 & 68P14 & . 40 \\
    \hline . 02 & 7/80 \(\times 13 / 16\) & 68 P 15 & . 45 \\
    \hline . 05 & 3/6x 1 & 68P16 & . 50 \\
    \hline . 1 & \(13 / 8 \times 1\) & 68 P 17 & . 60 \\
    \hline . 2 & \(13 / 2 \times 11 / 8\) & 68 P 18 & . 65 \\
    \hline . 25 & . \(17 / 2 \times 11 / 8\) & 68 P 24 & . 70 \\
    \hline . 5 & \(5 / 6 \times 13 / 8\) & 68P25 & . 80 \\
    \hline
    \end{tabular}

    \section*{400 WVDC}
    \begin{tabular}{llll}
    \hline .001 & \(1 / 4 \times 11 / 6\) & \(68 P 1\) & .35 \\
    .003 & \(1 / 4 \times 11 / 6\) & \(68 P 3\) & .35 \\
    .004 & \(1 / 4 \times 11 / 6\) & \(68 P 4\) & .35 \\
    .005 & \(1 / 4 \times 13 / 6\) & \(68 P 5\) & .35 \\
    .006 & \(1 / 4 \times 13 / 6\) & \(68 P 6\) & .35 \\
    .01 & \(1 / 6 \times 13 / 6\) & \(68 P 8\) & .40 \\
    02 & \(3 / 6 \times 1\) & \(68 P 9\) & .45 \\
    .05 & \(13 / 6 \times 1\) & \(68 P 10\) & .50 \\
    .1 & \(15 / 2 \times 11 / 6\) & \(68 P 21\) & .65 \\
    .2 & \(5 / 8 \times 11 / 6\) & \(68 P 38\) & .70 \\
    .25 & \(5 / 2 \times 13 / 10\) & \(68 P 22\) & .75 \\
    .5 & \(5 / 8 \times 25 / 16\) & \(68 P 23\) & .85 \\
    \hline
    \end{tabular}

    600 WVDC
    \begin{tabular}{|c|c|c|c|}
    \hline . 001 & 1/4 \(\times 11 / 6\) & 68926 & . 35 \\
    \hline . 002 & \(1 / 4 \times 11 / 6\) & 68927 & . 35 \\
    \hline . 003 & \% \(2 \times 11 / 6\) & 68 P 28 & . 35 \\
    \hline . 004 & \% \(\%\) x \(13 / 6\) & 68929 & . 35 \\
    \hline . 005 & \% \(\times\) x \(13 / 16\) & 68 P 30 & . 40 \\
    \hline . 006 & 3/6x \(\times^{13 / 6}\) & 68 P 31 & . 40 \\
    \hline . 008 & 3/16x 1 & 68 P 32 & . 40 \\
    \hline . 01 & 3/6x 1 & 68 P 33 & . 45 \\
    \hline . 02 & 11/80 1 & 68 P34 & . 50 \\
    \hline . 05 & \(15 / 6 \times 11 / 8\) & 68 P 35 & . 55 \\
    \hline . 1 & \(5 / 8 \times 11 / 8\) & 68 P36 & . 70 \\
    \hline . 2 & \(5 / 6 \times 11 / 6\) & 68040 & . 80 \\
    \hline 25 & \(5 / 8 \times 2\) & 4, \({ }^{1}\) & . 80 \\
    \hline
    \end{tabular}

    \section*{HYPASS \({ }^{\circ}\) CAPACITORS}
    
    - Exclusive Sprague 3-terminal Network Feed-thru Capacitors
    - Bypass V-H-F Currents Where Ordinary Capacitors are ineffective
    - Suppress TVI from Short-wave Transmitters, Diathermy Machines, Electronic Heating Apparatus, etc.
    - Eliminate Interference caused by line-conducted Radiation Between Neighboring TV Sets
    - Install Leads in Series with Circuit Being Filtered and Ground the Case
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Dia. \(\times\) Length & Cat. No. & List \\
    \hline . 5 & 50 & \(1 \times 13 / 6\) & *48P18 & \$3.80 \\
    \hline . 1 & 2501 VAC & \(11 / 6 \times 113 / 16\) & * \(48 \mathrm{P9}\) & 2.60 \\
    \hline . 002 & 600 & \(1 / 4 \times 15 / 8\) & 46P12 & 2.15 \\
    \hline . 005 & 600 & \(1 / 4 \times 15 / 8\) & \(46 \mathrm{P8}\) & 2.15 \\
    \hline . 01 & 600 & 7/6 \(\times 11 / 4\) & 47 PG & 2.35 \\
    \hline . 1 & 600 & \(11 / 16 \times 113 / 6\) & * \(\dagger 80 \mathrm{P} 3\) & 2.95 \\
    \hline . 005 & 1000 & 7/6 \(\times 11 / 4\) & 47P12 & 2.40 \\
    \hline . 01 & 1000 & 7/6× \(\times 11 / 2\) & 47P13 & 2.60 \\
    \hline . 005 & 2500 & \(1 \times 1 \%\) & 47P14 & 2.90 \\
    \hline . 01 & 2500 & \(1 \times 1 \%\) & 47P15 & 3.10 \\
    \hline . 002 & 5000 & \(1 \times 1 \%\) & 47P16 & 3.20 \\
    \hline
    \end{tabular}
    *Has femala screw terminals
    \(\dagger\) Bulkhead mounting.

    \section*{72P RESONANT CAPACITORS}
    

    \section*{PEP UP OLD RADIO SETS :}
    - Stabilize Any AC-DC "Squealer" Receiver
    - Stop Self-oscillation, Permitting "On-the-nose" Alignment in a Jiffy
    - Very Low impedance at 465 KC Intermediate Frequency
    - By-pass Unwanted I-F Signals
    - Improve Set Performance
    \begin{tabular}{lcccr}
    \hline MF & WVDC & Dia. \(\times\) Length & Cat. No. & List \\
    \hline .05 & 400 & \(1 / 2 \times 1 / 6\) & \(72 P 51\) & \(\$ .50\) \\
    .1 & 400 & \(1 / 2 \times 15\) & \(72 P 52\) & .65 \\
    .2 & 400 & Y/6 \(\times 1 / 8\) & \(72 P 53\) & .70 \\
    \hline
    \end{tabular}
    fade discount applies to list prices only
    Page P-27

    \section*{SPRAGUE CAPACITORS}

    \section*{PX METAL-ENCASED TUBULARS}
    
    - Rubber-phenolic Compression Disc Seals Assure Positive Hermetic Closure
    - Oil-Filled And Oif-Impregnated For Greater Dielectric Strength at Higher Temperatures
    - A Product Of New Techniques, Materials, And Processes For Maximum Dependability Under Most Severe Operating Conditions
    - Furnished With Insulating Kraftboard Outer Sleeve
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline MF & Dic. \(\times\) Length & Cat. No. & List & MF & Dia. \(\times\) length & Cat. No. & List \\
    \hline & \multicolumn{2}{|r|}{600 WVDC} & - & . 004 & \(11 / 16 \times 11 / 4\) & PX-241 & \$1.10 \\
    \hline . 0001 & \(1 / 2 \times 11 / 4\) & PX-316 & \$. 95 & . 005 & 11/16 \(\times 11 / 4\) & PX-251
    PX-261 & 1.10
    1.10 \\
    \hline . 00025 & \(1 / 2 \times 11 / 4\) & PX-3256 & . 95 & . 007 & 11/16 \(\times 11 / 4\) & PX-271
    PX- & 1.10 \\
    \hline . 0005 & \(1 / 2 \times 11 / 4\) & PX-356 & . 95 & . 008 & \(11 / 16 \times 11 / 4\) & PX-281 & 1.10 \\
    \hline . 001 & \(1 / 2 \times 11 / 4\) & PX-216 & . 95 & . 009 & \(11 / 16 \times 11 / 4\) & PX-291 & 1.10 \\
    \hline . 002 & \(1 / 2 \times 11 / 4\) & PX-226 & . 95 & . 01 & \(11 / 16 \times 11 / 4\) & PX-111 & 1.10 \\
    \hline . 003 & \(1 / 2 \times 11 / 4\) & PX-236 & . 95 & . 02 & \(5 / 8 \times 15 / 8\) & PX-121 & 1.20 \\
    \hline . 004 & \(1 / 2 \times 11 / 4\) & PX-246 & . 95 & . 03 & \(11 / 16 \times 13 / 4\) & PX-131 & 1.20 \\
    \hline . 005 & \(1 / 2 \times 11 / 4\) & PX-256 & . 95 & . 04 & \(11 / 16 \times 13 / 4\) & PX-141 & 1.20 \\
    \hline . 006 & \(1 / 2 \times 11 / 4\) & PX-266 & . 95 & . 05 & \(11 / 16 \times 13 / 4\) & PX-151 & 1.30 \\
    \hline . 007 & \(1 / 2 \times 11 / 4\) & PX-276 & . 95 & . 06 & \(11 / 16 \times 2\) & PX-161 & 1.35 \\
    \hline . 008 & \(1 / 2 \times 11 / 4\) & PX-286 & . 95 & . 08 & \(11 / 16 \times 2\) & PX-181 & 1.40 \\
    \hline . 009 & \(1 / 2 \times 11 / 4\) & PX-296 & . 95 & . 1 & \(11 / 16 \times 2\) & PX-11 & 1.50 \\
    \hline . 01 & \(1 / 2 \times 11 / 4\) & PX-116 & . 95 & . 25 & \(11 / 16 \times 213 / 10\) & PX-21 & 2.00 \\
    \hline . 02 & \(1 / 2 \times 13 / 4\) & PX-126 & 1.05 & . 5 & \(11 / 16 \times 3\) 311/16 & & 2.85 \\
    \hline . 03 & 5/8 \(\times 13 / 8\) & PX-136 & 1.10 & & 1500 & & \\
    \hline . 04 & \(5 / 8 \times 15 / 8\) & PX-146 & 1.10 & & \(5 / 8 \times 11 / 4\) & & \\
    \hline . 05 & \(3 / 8 \times 15 / 8\) & PX-156 & 1.10 & . 0025 & 5/8 \(5 \times 11 / 4\) & PX-2515 & 1.20 \\
    \hline . 06 & 11/16 \(\times 15 / 8\) & PX-166
    PX-186 & 1.20 & . 01 & 5/8×11/4 & PX-2515
    PX-1115 & 1.20 \\
    \hline . 08 & \(11 / 16 \times 11 / 8\) & PX-186 & 1.20 & . 02 & 11/16 \(\times 15 / 8\) & PX-1215 & 1.30 \\
    \hline . 25 & \(11 / 16 \times 11 / 1 / 1 / 16\)
    \(13 / 16 \times 21 / 16\) & \[
    \begin{aligned}
    & \text { PX-16 } \\
    & \text { PX-26 }
    \end{aligned}
    \] & 1.25
    1.70 & & 2000 & & \\
    \hline . 5 & \(11 / 6 \times 213 / 16\) & PX-56 & 2.20 & . 0005 & \(13 / 16 \times 13 / 8\) & PX-352 & 1.25 \\
    \hline 1.0 & \(11 / 16 \times 311 / 16\) & PX-106 & 3.00 & . 001 & \(13 / 16 \times 13 / 8\) & PX-212 & 1.25 \\
    \hline & 1000 & WVDC & & . 005 & \(13 / 16 \times 13 / 4\) & PX-252 & 1.25 \\
    \hline . 0001 & \(11 / 16 \times 11 / 4\) & PX-311 & 1.10 & . 006 & \(13 / 16 \times 13 / 4\)
    \(13 / 6 \times 13\) & PX-262 & 1.25
    1.25 \\
    \hline . 00025 & 11/6× \(11 / 4\) & PX-3251 & 1.10 & . 01075 & 1316 \(\times 11 / 4\) & PXX- 112
    PX & 1.25 \\
    \hline . 0005 & \(11 / 16 \times 11 / 4\) & PX-351 & 1.10 & . 02 & \(13 / 16 \times 21 / 8\) & PX-122 & 1.35 \\
    \hline . 001 & \(11 / 16 \times 11 / 4\) & PX-211 & 1.10 & . 03 & \(13 / 16 \times 21 / 8\) & PX-132 & 1.40 \\
    \hline . 002 & 1116x \(\times 11 / 4\) & PX-221 & 1.10 & . 04 & \(13 / 15 \times 21 / 2\) & PX-142 & 1.40 \\
    \hline . 003 & \(1116 \times 11 / 4\) & PX-231 & 1.10 & . 05 & \(13 / 16 \times 21 / 2\) & PX-152 & 1.45 \\
    \hline
    \end{tabular}

    \section*{PQ PHOTOFLASH CAPACITORS}

    \section*{DESIGNED EXPRESSLY FOR PHOTOFLASH USE}

    \section*{NOT COMPARABLE TO STANDARD HEAVY DUTY CAPACITORS SUCH AS THE CR TRANSMITTING TYPES}
    - Oil-Impregnated, Oil Filled
    - Uniform Energy Storage
    - Smallest Possible Construction with Maximum Dependability
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline MF & DC Peak* Photoflash Volts & Wott/Sec. Total & Dimensions
    \[
    \text { T. } \times \text { W. } \times H \text {. }
    \] & Weight lbs. & Cat. No. & List
    Price \\
    \hline 10 & 2500 & 31 & \(21 / 4 \times 33 / 4 \times 41 / 2\) & \(13 / 4\) & PQ-2510 & \$17.00 \\
    \hline 15 & 2500 & 47 & \(33 / 16 \times 33 / 4 \times 45 / 8\) & 21/2 & PQ-2515 & 20.00 \\
    \hline 25 & 2500 & 78 & \(49 / 16 \times 33 / 4 \times 51 / 4\) & 41/4 & PQ-2525 & 26.50 \\
    \hline 35 & 2500 & 109 & \(4 \% 16 \times 33 / 4 \times 7\) & 6 & PQ-2535 & 32.50 \\
    \hline 15 & 3000 & 67 & \(33 / 16 \times 33 / 4 \times 47 / 8\) & 3 & PQ-315 & 24.50 \\
    \hline 25 & 4000 & 200 & \(49 / 16 \times 33 / 4 \times 91 / 4\) & 71/4 & PQ-425 & 42.50 \\
    \hline
    \end{tabular}

    \footnotetext{
    "Do not exceed Peak Voltage Rating under highest line voltage condition.
    }
    

    All pricrs subject to change rithout noticc. TRADE DISCOUNT APPLIES TO LIST PRICES ONLK

    \section*{SPRAGUE CAPACITOAS}

    \section*{CR RECTANGULAR OILS}
    - Capacitor Sections Hermetically Sealed In Ruggedly Constructed Rectangular Metal Cans
    - Impregnated And Filled With KVO (Kilo Volt Oil), A Special Sprague Development
    - Extremely High Insulation Resistance.
    - Designed For Good Performance And Long Life, Even Under High Surge Voltages And High Ambient Temperatures.
    - Terminals Have Universal Mounting Fegture-Equipped With "Lifeguard" Protective Caps
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline MF & WVDC & T. \(\times\) W. \(\times\) L. & Cat. No. & List & MF & WVOC & T. \(\times\) W. & \(\times \mathrm{L}\). & Cat. No. & List \\
    \hline . 5 & 600 & \(11 / 16 \times 113 / 16 \times 21 / 4\) & CR-056 & \$4.70 & 3.0 & 2000 & \(11 / 4 \times 33 / 4\) & \(\times 43 / 4\) & CR-32 & \$13.20 \\
    \hline 1.0 & 600 & \(11 / 16 \times 113 / 16 \times 21 / 4\) & CR-16 & 5.80 & 4.0 & 2000 & \(21 / 4 \times 33 / 4\) & \(\times 37\) & CR-42 & 15.15 \\
    \hline 2.0 & 600 & \(11 / 16 \times 113 / 16 \times 27 / 1\) & CR-26 & 7.15 & 6.0 & 2000 & \(33 / 16 \times 33 / 4\) & \(\times 41 / 2\) & CR-62 & 20.10 \\
    \hline 3.0 & 600 & \(11 / 16 \times 113 / 16 \times 31 / 4\) & CR-36 & 8.25 & 10.0 & 2000 & \(4 \% / 16 \times 33 / 4\) & \(\times 43 / 4\) & CR-102 & 30.55 \\
    \hline 4.0 & 600 & \(13 / 16 \times 21 / 2 \times 31 / 2\) & CR-46 & 9.10 & . 1 & 2500 & \(13 / 16 \times 21 / 2\) & \(\times 21 / 2\) & CR-0125 & 10.15 \\
    \hline 6.0 & 600 & \(13 / 16 \times 21 / 2 \times 43\) & CR-66 & 11.30 & . 5 & 2500 & \(11 / 4 \times 33 / 4\) & \(\times 31 / 4\) & CR-0525 & 11.55 \\
    \hline 8.0 & 600 & \(11 / 4 \times 33 / 4 \times 37 / 4\) & CR-86 & 13.50 & 1.0 & 2500 & \(11 / 4 \times 33 / 4\) & \(\times 31 / 4\) & CR-125 & 13.20 \\
    \hline 10.0 & 600 & \(11 / 4 \times 33 / 4 \times 43 / 4\) & CR-106 & 15.15 & 2.0 & 2500 & \(13 / 4 \times 33 / 4\) & \(\times 43 / 4\) & CR-225 & 21.45 \\
    \hline . 1 & 1000 & \(11 / 16 \times 113 / 16 \times 15 / 8\) & CR-011 & 4.15 & 4.0 & 2500 & \(49 / 16 \times 33 / 4\) & \(\times 43\) & CR-425 & 30.00 \\
    \hline . 25 & 1000 & \(11 / 16 \times 113 / 16 \times 21 / 4\) & CR-0251 & 4.70 & . 1 & 3000 & \(13 / 16 \times 21 / 2\) & \(\times 21 / 2\) & CR-013 & 14.05 \\
    \hline . 5 & 1000 & \(11 / 16 \times 113 / 16 \times 21 / 4\) & CR-051 & 4.95 & . 25 & 3000 & \(13 / 16 \times 21 / 2\) & \(\times 2 \%\) & CR-0253 & 14.85 \\
    \hline 1.0 & 1000 & \(11 / 16 \times 113 / 16 \times 21 / 4\) & CR-11 & 6.35 & . 5 & 3000 & \(13 / 16 \times 21 / 2\) & \(\times 41 / 4\) & CR-053 & 16.80 \\
    \hline 2.0 & 1000 & \(11 / 16 \times 113 / 16 \times 37 / 8\) & CR-21 & 8.25 & 1.0 & 3000 & \(21 / 4 \times 33 / 4\) & \(\times 31 / 8\) & CR-13 & 20.10 \\
    \hline 4.0 & 1000 & \(13 / 16 \times 21 / 2 \times 43 / 4\) & CR-41 & 10.45 & 2.0 & 3000 & \(33 / 16 \times 33 / 4\) & \(\times 41 / 2\) & CR-23 & 25.05 \\
    \hline 8.0 & 1000 & \(11 / 4 \times 33 / 4 \times 43 / 4\) & CR-81 & 15.15 & 4.0 & 3000 & \(49 / 16 \times 33 / 4\) & \(\times 43 / 4\) & CR-43 & 36.85 \\
    \hline 10.0 & 1000 & \(13 / 4 \times 33 / 4 \times 43 / 4\) & CR-101 & 16.80 & . 1 & 4000 & \(21 / 4 \times 33 / 4\) & & & \\
    \hline 12.0 & 1000 & \(21 / 4 \times 31 / 4 \times 41 / 2\) & CR-121 & 18.15 & .1 & 4000
    4000 & \(21 / 4 \times 33 / 4\)
    \(21 / 4 \times 33 / 4\) & \(\times 23 / 4\)
    \(\times 23 / 4\) & CR-014
    CR-0254 & 18.00
    20.00 \\
    \hline 15.0 & 1000 & \(21 / 2 \times 33 / 4 \times 43 / 4\) & CR-151 & 20.10 & . 25 & 4000 & \(21 / 4 \times 33 / 4\)
    \(21 / 4 \times 33\) & x \(23 / 4\) & CR-0254 & 23.00 \\
    \hline . 5 & 1500 & \(11 / 16 \times 113 / 16 \times 27 / 8\) & CR-0515 & 6.35 & 1.0 & 4000 & \(21 / 4 \times 33 / 4\) & \(\times 51 / 8\) & CR-14 & 29.00 \\
    \hline 1.0 & 1500 & \(11 / 16 \times 113 / 16 \times 37 / 8\) & CR-115 & 7.45 & 2.0 & 4000 & \(4 \% / 16 \times 33 / 4\) & \(\times 51 /\) & CR-24 & 39.00 \\
    \hline 2.0 & 1500 & \(13 / 16 \times 21 / 2 \times 41 / 4\) & CR-2 15 & 10.20 & 2 & 5000 & & & CR-025 & 20.00 \\
    \hline 4.0 & 1500 & \(11 / 4 \times 33 / 4 \times 43 / 4\) & CR-415 & 14.05 & . 2 & 5000 & \(13 / 4 \times 33 / 4\) & \(\times 37 / 8\)
    \(\times 4 / 2\) & CR-055 & 25.00 \\
    \hline 5.0 & 1500 & \(11 / 4 \times 33 / 4 \times 43 / 4\) & CR-515 & 15.15 & . 5 & 5000 & \(21 / 4 \times 33 / 4\)
    \(4 \% \times 33 / 4\) & \(\times 4 / 2\)
    \(\times 43 / 8\) & CR-055 & 25.00
    34.00 \\
    \hline 8.0 & 1500 & \(21 / 2 \times 33 / 4 \times 43 / 4\) & CR-815 & 20.90 & 1.0 & 5000 & \(4 \% 16 \times 33 / 4\)
    \(4 \% 16 \times 33 / 4\) & \(\times 43 / 8\)
    \(\times 6\) & CR-15
    CR-25 & 34.00
    52.00 \\
    \hline 10.0 & 1500 & \(33 / 16 \times 33 / 4 \times 43 / 4\) & CR-1015 & 25.05 & 2. & 5000 & & & CR-0160 & 27.00 \\
    \hline . 1 & 2000 & \(13 / 16 \times 21 / 2 \times 21 / 2\) & CR-012 & 6.60 & . 1 & 6000 & \(21 / 4 \times 33 / 4\) & \(\times 33 / 8\) & CR-0160 & 27.00
    30.00 \\
    \hline . 25 & 2000 & \(13 / 16 \times 21 / 2 \times 21 / 2\) & CR-0252 & 7.15 & .2
    10 & 6000 & \(13 / 4 \times 33 / 4\)
    \(49 / 16 \times 33 / 4\) & & CR-0260
    CR-160 & 30.00
    49.00 \\
    \hline . 5 & 2000 & \(13 / 16 \times 21 / 2 \times 27 / 8\) & CR-052 & 7.45 & 1.0 & 6000 & \(49 / 16 \times 33 / 4\) & \(\times 71 / 2\) & CR-160 & 49.00 \\
    \hline 1.0 & 2000 & \(13 / 16 \times 21 / 2 \times 31 / 2\) & CR-12 & 9.10 & . 1 & 7500 & \(21 / 4 \times 33 / 4\) & \(\times 37 /\) & CR-0175 & 29.00 \\
    \hline 2.0 & 2000 & \(11 / 4 \times 33 / 4 \times 41 / 4\) & CR-22 & 10.75 & . 2 & 7500 & \(13 / 4 \times 33 / 4\) & \(\times 43 / 4\) & CR-0275 & 33.00 \\
    \hline
    \end{tabular}

    \section*{PC SCREWBASE OILS}
    
    - Oil-impregnated
    - Oil-filled
    - Screwbase Can For Easy Single Hole Mounting
    - Small Size-Will Fit Tight Spaces
    \begin{tabular}{lcccc}
    \hline MF & WVDC & Dia. \(\times\) Length & Cat. No. & List \\
    \hline \(\mathbf{2}\) & 600 & \(11 / 2 \times 21 / 2\) & PC-26 & \(\$ 5.40\) \\
    \(\mathbf{3}\) & 600 & \(11 / 2 \times 31 / 2\) & PC-36 & 6.15 \\
    4 & 600 & \(11 / 2 \times 41 / 2\) & PC-46 & 7.10 \\
    \(\mathbf{1}\) & 1000 & \(11 / 2 \times 27 / 2\) & PC-11 & 5.00 \\
    \(\mathbf{2}\) & 1000 & \(11 / 2 \times 41 / 2\) & PC-21 & 6.30 \\
    0.5 & 1500 & \(11 / 2 \times 23 / 2\) & PC-515 & 5.85 \\
    1 & 1500 & \(11 / 2 \times 31 / 2\) & PC. 115 & 6.30
    \end{tabular}
    

    \section*{CYLINDRICAL OT OILS}
    - Oil-impregnated, Oil-filled
    - Hermetically Sealed
    - Ceramic Terminals
    - Rubber "Lifeguard" Caps For Extra Protection
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVDC & Dic.xlength & Cat. No. & List \\
    \hline 2 & 600 & \(2 \times 21 / 2\) & OT-26 & \$5.45 \\
    \hline 1 & 1000 & \(2 \times 21 / 2\) & OT-11 & 4.65 \\
    \hline 2 & 1000 & \(2 \times 31 / 2\) & OT-21 & 6.30 \\
    \hline 4 & 1000 & \(2 \times 53 / 18\) & OT-41 & 8.00 \\
    \hline 0.5 & 1500 & \(2 \times 21 / 1 /\) & OT-515 & 5.05 \\
    \hline 1 & 1500 & \(2 \times 221 / 2\) & OT-115 & 5.85 \\
    \hline 2 & 1500 & \(2 \times 413 / 2\) & OT-215 & 8.00 \\
    \hline 1 & 2000 & \(2 \times 43 / 2\) & OT-12 & 7.55 \\
    \hline 2 & 2000 & \(21 / 2 \times 415 / 2\) & От-22 & 8.40 \\
    \hline 1 & 3000 & \(21 / 2 \times 423 / 2\) & OT-13 & 15.15 \\
    \hline
    \end{tabular}

    \section*{SPRAGUE CAPACITOAS}

    \section*{BP BATHTUB CAPACITORS}
    
    - For Applications Where Severe Operating Conditions Are Encountered
    - Hermetically Sealed For Extra Protection Against Adverse Atmospheric Conditions
    - Seamless Drawn Metal Can
    - Oil-impregnated For Dependable Operation
    - Convenient Mounting Ears Are Integral Part of Metal Container
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline MF & L. \(\times\) W. \(\times \mathrm{H}\). & Cat. No. & List & MF & L. \(\times\) W. \(\times \mathrm{H}\). & Cot. No. & List \\
    \hline & \multirow[t]{2}{*}{400 WVDC} & & & \(.1+.1\) & \(113 / 16 \times 1 \times 3 / 4\) & BP-216 & \$3.70 \\
    \hline & & & & \(.25+.25\) & \(113 / 16 \times 1 \times 7 / 6\) & BP-2256 & 3.75 \\
    \hline & & & & . \(5+.5\) & \(2 \times 13 / 4 \times 7 / 8\) & BP-2506 & 4.30 \\
    \hline . 1 & \(113 / 16 \times 1 \times 3 / 4\) & BP-1 & \$2.20 & \(1.0+1.0\) & \(2 \times 2 \times 11 / 8\) & BP-116 & 5.30 \\
    \hline . 25 & \(113 / 16 \times 1 \times 3 / 4\) & BP-25 & 2.50 & & & & \\
    \hline . 5 & 131/16×1 \(\times 7 / 8\) & BP-50 & 2.65 & \(.1+.1+.1\) & \(113 / 16 \times 1 \times 3 / 4\) & BP-316 & 4.20 \\
    \hline & & & & \(.25+.25+.25\) & \(2 \times 13 / 4 \times 7 / 8\) & BP-3256 & 4.75 \\
    \hline 1.0 & \(2 \times 13 / 4 \times 7 / 8\) & BP-10 & 3.15 & \(.5+.5+.5\) & \(2 \times 2 \times 11 / 8\) & BP-356 & 5.75 \\
    \hline \(.1+.1\) & \(113 / 16 \times 1 \times 3 / 4\) & BP-21 & 3.30 & & & & \\
    \hline \(.25+.25\) & \(113 / 16 \times 1 \times 7 / 8\) & BP-225 & 3.60 & & 1000 WVDC & & \\
    \hline \(.5+.5\) & \(2 \times 13 / 4 \times 7 / 6\) & BP-250 & 4.15 & & 1000 WVDC & & \\
    \hline \(.1+.1+.1\) & \(113 / 6 \times 1 \times 3 / 4\) & BP-31 & 4.00 & & & & \\
    \hline & & & & . 05 & \(113 / 16 \times 1 \times 3 / 4\) & BP-51 & 3.05 \\
    \hline & & & & & \(113 / 16 \times 1 \times 3 / 4\) & BP-11 & 3.15 \\
    \hline & 600 WVDC & & & . 25 & \(113 / 6 \times 1 \times 3 / 4\) & BP-251 & 3.25 \\
    \hline & & & & . 5 & \(2 \times 13 / 4 \times 7 / 4\) & BP-501 & 3.55 \\
    \hline . 05 & \(113 / 16 \times 1 \times 3 / 4\) & BP-56 & 2.90 & & & & \\
    \hline & & & & 1.0 & \(2 \times 2 \times 11 / 8\) & BP-101 & 4.40 \\
    \hline . 1 & \(113 / 16 \times 1 \times 3 / 4\) & BP. 16 & 2.95 & & & & \\
    \hline . 25 & \(113 / 16 \times 1 \times 3 / 4\) & BP-256 & 3.10 & \(.05+.05\) & \(113 / 6 \times 1 \times 3 / 4\) & BP-2051 & 3.85 \\
    \hline . 5 & \(113 / 16 \times 1 \times 7 / 1\) & BP-506 & 3.30 & \(.1+.1\) & \(113 / 16 \times 1 \times 3 / 4\) & BP-211 & 4.00 \\
    \hline & & & & \(.25+.25\) & \(2 \times 13 / 4 \times 7 / 8\) & BP-2251 & 4.20 \\
    \hline 1.0 & \(2 \times 13 / 4 \times 7\) & BP-106 & 3.75 & \(.5+.5\) & \(2 \times 2 \times 11 / 8\) & BP-2501 & 5.45 \\
    \hline 2.0 & \(2 \times 2 \times 11 /\) & BP-206 & 5.00 & & & & \\
    \hline & & & & \(.1+.1+.1\) & \(113 / 16 \times 1 \times 7 / 6\) & BP-311 & 4.60 \\
    \hline \(.05+.05\) & \(113 / 16 \times 1 \times 3 / 4\) & BP-2056 & 3.65 & \(.25+.25+.25\) & \(2 \times 2 \times 11 / 6\) & BP.3251 & 5.50 \\
    \hline
    \end{tabular}

    \section*{HC HASH CAPACITORS}

    \section*{FOR AUTOMOBILE RADIOS}
    - HC-1-Braided Leads for Low R-F Resistance
    - HC-2—Has Radial Side Leads
    - HC-3-Has Flat Strap Leads for Minimum R-F Impedance
    \begin{tabular}{lcccr}
    \hline MF & WVDC & Size & Cat. No. & List \\
    \hline .5 & 120 & \(3 / 16 \times 3 / 4 \times 2\) (oval fube) & HC-1 & \(\$ .90\) \\
    .5 & 120 & \(5 / 16 \times 3 / 4 \times 2\) (oval tube) & HC-2 & .90 \\
    .5 & 120 & \(3 / 4 \times 13 / 6\) (round fube) & HC-3 & 1.10
    \end{tabular}

    \section*{SPRAGUE CAPACITORS}

    \section*{AR \& LR auto generator AND VIBRATOR TYPES}
    
    - Exceptionally Sturdy Design
    - Withstand Bouncing and Vibration
    - Oil-impregnated, Metal Encased
    - Resist Heat and Humidity
    \begin{tabular}{|c|c|c|c|c|}
    \hline MF & WVOC & Size & Cat. No. & List \\
    \hline \multicolumn{5}{|c|}{AR (GENERATOR TYPES)} \\
    \hline 1.0 & & \(1 \times 23 / 16\) & AR-1 & \$1.75 \\
    \hline . 5 & & \(11 / 16 \times 11 / 1\) & AR-2 & . 90 \\
    \hline . \(5+.5\) & & \(1 \times 23 / 6\) & AR-25 & 3.25 \\
    \hline . 5 & & 11/16 \(\times 17 / 8\) & AR-Ford & 1.45 \\
    \hline \multicolumn{5}{|c|}{LR (VIBRATOR TYPES)} \\
    \hline . 01 & 1600 & \(1 / 4 \times 7 / 6 \times 11 / 6\) & LR-11 & \$2.00 \\
    \hline . 02 & 1600 & \(1 / 4 \times 1 / 6 \times 11 / 6\) & [R-12 & 2.90 \\
    \hline . 007 & 1600 & \(1 / 4 \times 1 / 8 \times 11 / 16\) & LR-27 & 2.65 \\
    \hline
    \end{tabular}

    \section*{SPECIAL AUTO TYPES}

    Description

    \author{
    and Cat. No. \\ MF \\ WVDC \\ D. \(\times \mathrm{L}\). \\ List
    }

    Dome Light
    Filter
    DL-1 \(200 \quad 1 \times 23 / 16 \quad \$ 4.20\)

    Gas Gauge
    Filter
    GG. \(5 \quad .05 \quad 200 \quad 7 / 6 \times 1 / 38 \quad 1.20\)
    Oil Gauge
    Filter
    \begin{tabular}{llll} 
    OG-50 25 & 200 & \(11 / 16 \times 1 \%\) & \(1 \%\)
    \end{tabular}

    Ford
    Replacement
    P-2077 . \(5 \quad 200 \quad 11 / 16 \times 1 \% \quad 1.25\)
    Ammeter
    Capacitor
    P-3402
    \(.5 \quad 200 \quad 11 / 16 \times 2\)
    .90
    Matorola
    Replacement
    P-2153 \(\quad .0008+.0008 \quad 1000 \quad 3 / 4 \times 13 / 8 \quad .80\)

    \title{
    INTERFERENCE FILTERS \\ FILTEROL \({ }^{\text {T}}\) TYPES \\ IF TYpES
    }
    
    - Suppress Man-made Radio and TV Interference
    - Small, Completely Self-contained
    - Quickly, Easily Installed

    Filteral Types 1, 2, and 3-Designed for connection in series with power supply lines to interference-producing devices... A 3-terminal network with the case as one terminal . . . The selected filter should have a rating higher than the continuous operating current of the offending device . . . A single Filterol connected to the high side of the line is usually sufficient . . . In severe cases a Filterol in each leg of the power line may be necessary. . . For three or four-wire systems, a Filterol in each wire is necessary.

    Filterol Type 4-A new, exclusive Sprague development incorporating a Sprague HYPASS \({ }_{\text {® }}\) Capacitor . . . Provides exceptionally high attenuation at frequencies above 5 megacycles . . . Intended for small devices with continuous current ratings up to 20 amperes.
    \begin{tabular}{lcccr}
    \hline Cat. No. & Amps. Volts \(A C\) or \(D C\) & Size & List \\
    \hline Filterol 1 & 1 & 115 & \(7 / 8 \times 11 / 4 \times 13 / 4\) & \(\$ 13.50\) \\
    Fitterol 2 & 10 & 115 & \(11 / 8 \times 2 \times 2\) & 14.80 \\
    Filterol 3 & 35 & 115 & \(11 / 8 \times 27 / 8 \times 31 / 8\) & 27.40 \\
    Filterol 4 & 20 & 115 & \(1^{\prime \prime}\) dia. \(\times 13 / 16^{\prime \prime}\) long & 3.05 \\
    \hline
    \end{tabular}
    

    IF-15-TRIPLE-SECTION FILTER for all small motor-operated devices such as food and drink mixers, vacuum cleaners, fans, drills, etc. Especially designed to prevent accidental shocks from discharge of filter capacitors.

    IF-11-DUAL HIGH-CAPACITY FILTER with campletely enclosed safety construction. Designed for use on motors over 1 horsepower and up to 220 volts AC or DC. Also used on high-current arcing or sparking devices.
    IF-2 1-COMPACT DUAL FILTER for use across brushes of fractional horsepower motors with the can grounded to motor frame. May also be used across line terminals of motors.
    IF-S I-SINGLE SECTION 2-LEAD FILTER with can completely insulated. For use across make-and-break contacts, such as thermostats, circuit breakers, door-bells, buzzers, relays, etc.
    IF-37-3-SECTION DELTA-CONNECTED FILTER especially designed for fluorescent fixtures. Only one IF-37 required for each offending fixfure. Also effective on make-and-break governor-type motors. Underwriters' Laboratories approved.
    \begin{tabular}{lccr}
    \hline Cat. No. & Valts AC or DC & Dia. \(\times\) Length & List \\
    \hline IF-15 & 220 & \(1 \times 2^{3 / 16}\) & \(\$ 2.60\) \\
    IF-11 & 220 & \(13 / 8 \times 3^{1 / 2}\) & 7.80 \\
    IF-21 & 220 & \(1 \times 2^{33 / 16}\) & 1.75 \\
    IF-SI & 220 & \(3 / 4 \times 21 / 16\) & 1.15 \\
    IF-37 & 220 & \(1 \times 27 / 16\) & 2.25 \\
    \hline
    \end{tabular}

    \section*{SPRAGUE CAPACITORS}

    \section*{MICA TYPES}
    - Each Mica Capacitor Section Receives a Radio Frequency Test Before Molding
    - Careful Selection and Electrical Grading of Raw Mica Assures Maximum Quality

    Section Foils on Foil Micas are Connected to Terminals through Special Low-resistance R-F Bonds R-F Current Tested for Peak Ratings After Impregnation and Molding
    

    TYPE MS-Silvered mica
    (Standard Capacity Tolerance \(\pm 5 \%\) )
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline - & Cat. No. & Lis? & MF & Cap, No. & List & MF & Cat. Na. & List \\
    \hline \multicolumn{3}{|c|}{\multirow[t]{2}{*}{500 WVDC, 1000 V Test}} & \multirow[t]{3}{*}{\[
    \begin{array}{r}
    .000120 \\
    .000130 \\
    .000150 \\
    .000160
    \end{array}
    \]} & \multirow[t]{3}{*}{\[
    \begin{aligned}
    & \text { MS- } 312 \\
    & M S-313 \\
    & M S-315 \\
    & M S-316
    \end{aligned}
    \]} & & \multirow[t]{2}{*}{.001300
    .001500
    .001800} & MS-213 & \\
    \hline & & & & & 45 & & MS-215 & 1.35 \\
    \hline . 000005 & MS-55 & \$ . 45 & & & . 45 & . 001800 & MS-218 & . 35 \\
    \hline . 000010 & MS-41 & . 40 & . 000180 & MS-318 & . 45 & . 002000 & MS-22 & 1.35 \\
    \hline . 000012 & MS-412 & . 40 & . 000200 & MS-32 & . 45 & . 002200 & MS-222 & 1.50 \\
    \hline . 000015 & MS-415 & . 40 & . 000220 & MS-322 & . 45 & . 002400 & MS-224 & 1.80 \\
    \hline . 000018 & MS-418 & . 40 & . 000240 & MS-324 & . 55 & . 002500 & MS-225 & 1.80 \\
    \hline . 000020 & MS-42 & . 40 & . 000250 & MS-325 & . 55 & . 002700 & MS-227 & 1.90 \\
    \hline . 000022 & MS-422 & . 40 & . 000270 & MS-327 & . 55 & . 003000 & MS-23 & 2.05 \\
    \hline . 000024 & MS-424 & . 40 & . 000300 & MS-33 & . 55 & . 003300 & MS-233 & 2.05 \\
    \hline . 000025 & MS-425 & . 40 & . 000330 & MS-333 & . 55 & . 003600 & MS-236 & 2.10 \\
    \hline . 000027 & MS-427 & . 40 & . 000360 & MS-336 & . 55 & . 003900 & MS-239 & 2.15 \\
    \hline . 000030 & MS. 43 & . 40 & . 000390 & MS-339 & . 65 & . 004000 & MS-24 & 2.15 \\
    \hline . 000033 & MS-433 & . 40 & . 000400 & MS-34 & . 65 & . 004300 & MS. 243 & 2.15 \\
    \hline . 000036 & MS-436 & . 40 & . 000430 & MS-343 & . 65 & . 004700 & MS. 247 & 2.15 \\
    \hline . 000039 & MS. 439 & . 40 & . 000470 & MS-347 & . 70 & . 005000 & MS-25 & 2.25 \\
    \hline . 000040 & MS-44 & . 40 & . 000500 & MS-35 & 70 & . 005100 & MS-251 & 2.25 \\
    \hline . 000043 & MS-443 & .40 & . 000510 & MS-351 & . 70 & . 005600 & MS-256 & 2.50 \\
    \hline . 000047 & MS-447 & 40 & . 000560 & MS-356 & . 75 & . 006000 & MS-28 & 2.40 \\
    \hline . 000050 & MS-45 & . 40 & . 000600 & MS-36 & . 80 & . 006200 & MS-282 & 2.60 \\
    \hline . 000051 & MS. 451 & . 40 & . 000620 & MS-362 & . 80 & & & \\
    \hline . 000058 & MS-456 & . 40 & . 000680 & MS. 368 & . 85 & 300 & C, 6 & Test \\
    \hline . 000060 & MS. 46 & . 40 & . 000700 & MS-37 & . 85 & & & \\
    \hline . 000062 & MS-462 & . 40 & . 000750 & MS-375 & . 80 & . 006800 & MS-268 & 2.60 \\
    \hline . 000068 & MS 468 & . 40 & . 000800 & MS-38 & . 95 & . 007000 & MS-27 & 2.60 \\
    \hline . 000070 & MS-47 & . 40 & . 000820 & MS-382 & . 95 & . 007500 & MS-275 & 2.80 \\
    \hline -000075 & MS-475 & . 40 & . 000900 & MS. 39 & 1.00 & . 008000 & MS-28 & 2.80 \\
    \hline . 000082 & MS-482 & . 40 & . 000910 & MS-391 & 1.00 & . 008200 & MS-282 & 2.80 \\
    \hline . 000091 & MS.491 & . 40 & . 001000 & MS-2 1 & 1.10 & . 008000 & MS-29 & 3.10 \\
    \hline . 000100 & MS-31 & .40 & . 001100 & MS-211 & 1.20 & . 008100 & MS-291 & 3.10 \\
    \hline . 000110 & MS-311 & .45 & . 001200 & MS-2 12 & 1.301 & . 010000 & MS-11 & 3.40 \\
    \hline
    \end{tabular}

    \section*{TYPE IFM}
    (Standard Capacity Tolerance \(\pm 20 \%\) )
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline M & Cap. No. & List & MF & Cot. Na. & List & MF & Cat. No. & List \\
    \hline \multicolumn{3}{|c|}{\multirow[t]{2}{*}{\[
    \begin{aligned}
    & 500 \text { WYDC } \\
    & 1000 \mathrm{~V} \text { Test }
    \end{aligned}
    \]}} & \multirow[t]{3}{*}{\[
    \begin{array}{r}
    .000150 \\
    .000160 \\
    .000180
    \end{array}
    \]} & \multirow[t]{3}{*}{1FM-315 1FM-316 1FM-318} & \$ & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & .001500 \\
    & .001600
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 1 F M-215 \\
    & 1 F M-216
    \end{aligned}
    \]} & \$.30 \\
    \hline & & & & & . 20 & & & . 30 \\
    \hline . 000010 & 1 FM-41 \$ & \$ 25 & & & . 20 & . 001800 & \(1 F M-218\) & . 40 \\
    \hline . 000012 & 1 FM-412 & . 25 & & & . 20 & . 002000 & 1 FM-22 & . 40 \\
    \hline . 000015 & \(1 F M-415\) & . 25 & . 0000220 & IFM-322 & . 25 & . 002200 & \(1 F M-222\)
    \(1 F M-224\) & . 40 \\
    \hline .000018 & \(1 F M-418\) & . 25 & . 000250 & 1FM-325 & . 25 & . 002500 & 1 FM-225 & 0 \\
    \hline . 000020 & \(1 F M-42\) & . 25 & . 000270 & 1 FM-327 & .25 & . 002700 & 1 FM-227 & . 50 \\
    \hline . 000022 & 1 FM-422 & . 25 & . 000300 & \(1 \mathrm{FM}-33\) & . 25 & . 003000 & \(1 \mathrm{FM}-23\) & . 50 \\
    \hline . 000024 & \(1 F M-424\) & . 25 & . 000330 & 1 FM-333 & . 25 & . 0033300 & 1 FM-233 & . 60 \\
    \hline 0030 & IFM-427 & 5 & 000350 & 1 FM-335 & . 25 & . 003600 & 1 FM-236 & . 60 \\
    \hline . 000033 & 1 FM-433 & 5 & 000360 & \(1 F M-336\) & . 25 & . 003900 & 1 FM-239 & . 60 \\
    \hline . 000036 & 1 FM-436 & .25 & 000390 & 1 FM-339 & 25 & . 004000 & IFM-24 & . 55 \\
    \hline . 000039 & 1 FM-439 & . 25 & . 000400 & \(1 F M-34\) & . 25 & . 004300 & IFM-243 & . 60 \\
    \hline . 000040 & \(1 \mathrm{FM}-44^{4}\) & . 25 & 000430 & 1FM-343 & . 25 & . 004700 & IFM-247 & . 60 \\
    \hline . 000043 & 1 FM.443 & . 20 & 000470 & 1FM-347 & . 25 & . 005000 & IFM-25 & . 60 \\
    \hline . 000047 & 1 FM-447 & . 20 & . 000500 & 1FM-35 & . 25 & . 005100 & IFM-251 & . 60 \\
    \hline . 000050 & IFM-45 & . 20 & . 000510 & 1FM.351 & . 25 & . 005600 & 1 FM-256 & . 65 \\
    \hline . 000051 & 1FM-451 & . 20 & . 000560 & \(1 F M-356\) & . 25 & . 006000 & 1 FM-26 & . 65 \\
    \hline . 000056 & 1FM-456 & . 20 & . 0000820 & 1 FM-362 & . 25 & . 006200 & 1 FM-262 & . 65 \\
    \hline . 0000662 & 1FM-462 & . 20 & & 1FM-368 & . 25 & 300 W & C, \(\mathbf{6 0 0}\) & Test \\
    \hline . 000068 & 1 FM-468 & . 20 & 5 & \(1 F M-375\) & 30 & . 006800 & 1 FM-268 & . 85 \\
    \hline . 000075 & IFM-475 & . 20 & & & , & . 007000 & \(1 \mathrm{FM}-27\) & . 85 \\
    \hline . 0000082 & 1 FM-482 & . 20 & . 000910 & 1FM-391 & 30 & . 007500 & 1 FM-275 & . 85 \\
    \hline . 000091 & 1FM-491 & . 20 & . 0001000 & IFM-391 & .30 & . 008000 & \(1 \mathrm{FM}-28\) & 1.00 \\
    \hline . 000100 & 1FM-31 & 20 & . 001000 & IFM-21 & .30 & . 008200 & 1 FM-282 & 1.00 \\
    \hline . 000110 & 1FM-311 & . 20 & . 001100 & IFM. 211 & .30 & . 009000 & 1 FM-29 & 1.00 \\
    \hline . 000120 & 1FM-312 & . 20 & . 001200 & 1FM-212 & . 30 & . 009100 & \(1 F M-291\) & 1.00 \\
    \hline . 000130 & 1 FM-313 & . 20 & . 001300 & IFM-213 & . 30 & . 010000 & \(1 F M-11\) & 1.20 \\
    \hline \multicolumn{9}{|c|}{MS and IFM Dimensions} \\
    \hline \multicolumn{3}{|l|}{Cotolog Nos.} & L×W×T & \multicolumn{2}{|l|}{Cotalog Nos.} & & \multicolumn{2}{|l|}{Lx W \(\times 1\)} \\
    \hline \multicolumn{3}{|l|}{\multirow[t]{4}{*}{MS. 55 through MS-356 MS-36 through MS-236 MS-239 through MS-282 MS-29 through MS. 19}} & \multirow[t]{4}{*}{} & \multicolumn{5}{|l|}{\multirow[t]{4}{*}{\begin{tabular}{l}
    IFM.41 through IFM. 356 5t/4x \(15 / 2 \times 7 / 2\) \\
     IFM- 239 through IFM- 282 s3/4x \(x^{53 / 4 x^{11 / 2}}\) IFM-29 through IFM-11 1 5 3/3/
    \end{tabular}}} \\
    \hline & & & & & & & & \\
    \hline & & & & & & & & \\
    \hline & & & & & & & & \\
    \hline
    \end{tabular}

    \section*{tYPES XFM, YFM \& ZFM}
    
    (Stondard Capecity Tolaronce \(\pm 10 \%\) )
    \begin{tabular}{llr}
    \hline MF & Cat. No. & List \\
    \hline XFM-600 & WVDC, & 1200 \\
    \hline
    \end{tabular}
    \begin{tabular}{ll} 
    XFM- 12 thru XFM-13 & \(1 / 2 \times 1 / 4 \times 1 / 4\) \\
    \hline YFM- \(1200 \mathrm{WVDC}, 2500 \times \mathrm{TEST}\)
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline . 00005 & YFM-45 & 1.60 \\
    \hline . 0001 & YFM-31 & 1.60 \\
    \hline . 0002 & YFM-32 & 1.60 \\
    \hline . 00025 & YFM-325 & 1.60 \\
    \hline . 0003 & YFM-33 & 1.60 \\
    \hline . 0004 & YFM-34 & 1.60 \\
    \hline . 0005 & YFM-35 & 1.60 \\
    \hline . 001 & YFM-21 & 1.80 \\
    \hline . 0015 & YFM-215 & 2.30 \\
    \hline . 002 & YFM-22 & 2.40 \\
    \hline . 0025 & YFM-225 & 2.80 \\
    \hline . 003 & YFM-23 & 3.05 \\
    \hline . 004 & YFM-24 & 3.05 \\
    \hline . 005 & YFM-25 & 3.30 \\
    \hline . 006 & YFM-26 & 3.30 \\
    \hline . 007 & YFM-27 & 3.45 \\
    \hline . 008 & YFM-28 & 3.85 \\
    \hline . 01 & YFM-11 & 5.10 \\
    \hline Cotalog Nos. & & K \(T\) \\
    \hline YFM-45 thru Y YFM-25 thpu Y & \[
    \begin{array}{ll}
    \text { FM-24 } & 1 \% \\
    F M-11 & 1 \%
    \end{array}
    \] & \[
    \begin{aligned}
    & \times 11 / 0 \\
    & \times 1 / 4 \\
    & \hline
    \end{aligned}
    \] \\
    \hline XFM-2500 & WVDC, 50 & TEST \\
    \hline . 00005 & 2FM-45 & 1.90 \\
    \hline . 0001 & 2FM-31 & 1.90 \\
    \hline . 0002 & 2FM-32 & 1.90 \\
    \hline . 00025 & 2FM-325 & 2.20 \\
    \hline . 0003 & 2FM-33 & 2.25 \\
    \hline . 0004 & 2FM-34 & 2.30 \\
    \hline . 0005 & 2FM-35 & 2.40 \\
    \hline . 001 & 2FM-21 & 2.80 \\
    \hline . 0015 & 2FM. 215 & 3.55 \\
    \hline . 002 & 2FM-22 & 4.15 \\
    \hline . 003 & 2FM-23 & 4.90 \\
    \hline . 004 & ZFM-24 & 5.65 \\
    \hline . 005 & ZFM-25 & 6.40 \\
    \hline
    \end{tabular}

    \title{
    SPRAGUE CAPACITOAS
    }

    TYPES IMC \& 2MC
    
    (Standard Copocity Tolerance \(\pm 5 \%\) )
    MF VAC Peak Cot. No. Lis
    \begin{tabular}{|c|c|c|c|}
    \hline & TYP & 1 MC & \\
    \hline . 00005 & 3000 & \(1 \mathrm{MC}-45\) & \$12.60 \\
    \hline . 0001 & 3000 & \(1 \mathrm{MC}-31\) & 12.60 \\
    \hline . 00015 & 3000 & \(1 \mathrm{MC}-315\) & 12.60 \\
    \hline . 0002 & 3000 & \(1 \mathrm{MC}-32\) & 12.60 \\
    \hline . 00025 & 3000 & \(1 \mathrm{MC}-325\) & 12.60 \\
    \hline . 0003 & 3000 & \(1 \mathrm{MC}-33\) & 12.60 \\
    \hline . 0004 & 3000 & \(1 \mathrm{MC}-34\) & 12.60 \\
    \hline . 0005 & 3000 & \(1 \mathrm{MC}-35\) & 12.60 \\
    \hline . 0006 & 3000 & \(1 \mathrm{MC}-36\) & 12.60 \\
    \hline . 0007 & 3000 & \(1 \mathrm{MC}-37\) & 12.60 \\
    \hline . 0008 & 3000 & \(1 \mathrm{MC}-38\) & 12.80 \\
    \hline . 001 & 3000 & \(1 \mathrm{MC}-21\) & 12.60 \\
    \hline . 0015 & 3000 & \(1 \mathrm{MC}-215\) & 12.60 \\
    \hline . 002 & 3000 & \(1 \mathrm{MC}-22\) & 12.60 \\
    \hline . 003 & 2000 & \(1 \mathrm{MC}-23\) & 12.60 \\
    \hline . 004 & 2000 & \(1 \mathrm{MC}-24\) & 12.60 \\
    \hline . 005 & 2000 & \(1 \mathrm{MC}-25\) & 12.60 \\
    \hline . 006 & 2000 & \(1 \mathrm{MC}-26\) & 12.60 \\
    \hline . 007 & 2000 & \(1 \mathrm{MC}-27\) & 12.60 \\
    \hline . 008 & 1500 & \(1 \mathrm{MC}-28\) & 12.60 \\
    \hline . 01 & 1000 & \(1 \mathrm{MC-11}\) & 12.60 \\
    \hline . 015 & 1000 & \(1 \mathrm{MC}-115\) & 12.60 \\
    \hline . 02 & 1000 & \(1 M C-12\) & 14.30 \\
    \hline . 03 & 500 & \(1 M C-13\) & 14.30 \\
    \hline . 04 & 500 & \(1 \mathrm{MC-14}\) & 14.30 \\
    \hline . 05 & 250 & \(1 \mathrm{MC}-15\) & 14.30 \\
    \hline . 1 & 250 & \(1 M C-1\) & 15.10 \\
    \hline & & \multicolumn{2}{|r|}{\(\underline{L} \times W \times H\)} \\
    \hline \multicolumn{2}{|l|}{1 MC Dimensions} & \multicolumn{2}{|r|}{\(2 \times 15 \times 16\)} \\
    \hline
    \end{tabular}

    TYPE 2MC
    \begin{tabular}{llll}
    \hline .00005 & 5000 & \(2 \mathrm{MC}-45\) & 17.30 \\
    .0001 & 5000 & \(2 \mathrm{MC}-31\) & 17.30 \\
    .00015 & 5000 & \(2 \mathrm{MC}-315\) & 17.30 \\
    .0002 & 5000 & \(2 \mathrm{MC}-32\) & 17.30 \\
    .00025 & 5000 & \(2 \mathrm{MC}-325\) & 17.30 \\
    .0003 & 5000 & \(2 \mathrm{MC}-33\) & 17.30 \\
    .0004 & 5000 & \(2 \mathrm{MC}-34\) & 17.30 \\
    .0005 & 5000 & \(2 \mathrm{MC}-35\) & 17.30 \\
    .0006 & 5000 & \(2 \mathrm{MC}-36\) & 17.30 \\
    .0007 & 5000 & \(2 \mathrm{MC}-37\) & 17.30 \\
    .0008 & 5000 & \(2 \mathrm{MC}-38\) & 17.30 \\
    .001 & 5000 & \(2 \mathrm{MC}-21\) & 17.30 \\
    .0015 & 5000 & \(2 \mathrm{MC}-215\) & 17.30 \\
    .002 & 5000 & \(2 \mathrm{MC}-22\) & 17.30 \\
    .003 & 3000 & \(2 \mathrm{MC}-23\) & 17.30 \\
    .004 & 3000 & \(2 \mathrm{MC}-24\) & 17.30 \\
    .005 & 3000 & \(2 \mathrm{MC}-25\) & 17.30 \\
    .006 & 3000 & \(2 \mathrm{MC}-26\) & 17.30 \\
    .007 & 3000 & \(2 \mathrm{MC}-27\) & 17.30 \\
    .008 & 2000 & \(2 \mathrm{MC}-28\) & 17.30 \\
    .01 & 2000 & \(2 \mathrm{MC}-11\) & 17.30 \\
    .015 & 2000 & \(2 \mathrm{MC}-115\) & 17.30 \\
    .02 & 2000 & \(2 \mathrm{MC}-12\) & 17.30 \\
    .03 & 1500 & \(2 \mathrm{MC}-13\) & 17.30 \\
    .04 & 1500 & \(2 \mathrm{MC}-14\) & 17.30 \\
    .05 & 1500 & \(2 \mathrm{MC}-15\) & 17.30 \\
    .06 & 1000 & \(2 \mathrm{MC}-16\) & 18.60 \\
    .07 & 1000 & \(2 \mathrm{MC}-17\) & 18.60 \\
    .08 & 500 & \(2 \mathrm{MC}-18\) & 19.20 \\
    .1 & 500 & \(2 \mathrm{MC}-1\) & 19.20 \\
    \hline & & & \\
    \hline & & MC & \\
    \hline
    \end{tabular}
    tYPES 1CC, 2CC, 3CC \& 4CC
    (Standord Capaeity Taleraneo \(\pm 5 \%\) \}
    \begin{tabular}{|c|c|c|}
    \hline MF & Cot. No. & List \\
    \hline \multicolumn{3}{|c|}{TYPE 1CC} \\
    \hline \multicolumn{3}{|c|}{6000 VAC Peak} \\
    \hline . 00005 & ICC. 45 & \$38.20 \\
    \hline . 000075 & 1CC. 475 & 40.00 \\
    \hline . 0001 & 1CC-31 & 40.60 \\
    \hline . 00015 & 1CC-315 & 40.60 \\
    \hline . 0002 & 1CC-32 & 40.60 \\
    \hline . 00025 & 1CC-325 & 40.60 \\
    \hline . 0003 & 1CC-33 & 44.35 \\
    \hline . 0004 & 1CC-34 & 44.35 \\
    \hline . 0005 & \(1 \mathrm{CC}-35\) & 46.65 \\
    \hline . 0006 & \(1 \mathrm{CC}-36\) & 46.65 \\
    \hline . 0007 & 1CC-37 & 46.65 \\
    \hline . 0008 & \(1 \mathrm{CC}-38\) & 46.65 \\
    \hline . 001 & 1CC-21 & 46.65 \\
    \hline . 0015 & \(1 \mathrm{CC}-215\) & 48.90 \\
    \hline . 002 & 1CC-22 & 48.90 \\
    \hline . 003 & 1CC-23 & 50.60 \\
    \hline . 004 & 1CC-24 & 50.60 \\
    \hline \multicolumn{3}{|c|}{4000 VAC Peak} \\
    \hline . 005 & 1CC-25 & 50.60 \\
    \hline . 006 & 1CC-26 & 51.45 \\
    \hline . 007 & 1CC-27 & 51.45 \\
    \hline . 008 & 1CC-28 & 51.45 \\
    \hline . 01 & 1CC-11 & 51.45 \\
    \hline \multicolumn{3}{|c|}{3000 Vac Peak} \\
    \hline . 015 & 1CC-115 & 51.45 \\
    \hline \multicolumn{3}{|c|}{2000 VAC Peak} \\
    \hline . 02 & \(1 \mathrm{CC}-12\) & 51.45 \\
    \hline . 025 & 1CC-125 & 51.80 \\
    \hline \multicolumn{3}{|c|}{1300 VAC Peak} \\
    \hline . 03 & 1CC-13 & 55.75 \\
    \hline . 04 & \(1 \mathrm{CC}-14\) & 58.50 \\
    \hline . 05 & 1CC-15 & 60.75 \\
    \hline . 06 & 1CC-16 & 62.80 \\
    \hline \multicolumn{3}{|c|}{1000 VAC Peak} \\
    \hline . 07 & \(1 \mathrm{CC}-17\) & 64.25 \\
    \hline . 08 & \(1 \mathrm{CC}-18\) & 65.75 \\
    \hline . 1 & ICC-1 & 68.50 \\
    \hline \multicolumn{3}{|r|}{Dia. \(\times\) Height} \\
    \hline \multicolumn{2}{|l|}{ICC Dimensions} & /4×21/2 \\
    \hline \multicolumn{3}{|c|}{TYPE 2CC} \\
    \hline \multicolumn{3}{|c|}{10,000 VAC Peak} \\
    \hline . 00005 & 2CC-45 & 65.55 \\
    \hline . 000075 & \(2 \mathrm{CC}-175\) & 65.55 \\
    \hline . 0001 & 2CC.31 & 65.55 \\
    \hline . 00015 & \(2 \mathrm{CC}-315\) & 65.55 \\
    \hline . 0002 & \(2 \mathrm{CC}-32\) & 65.55 \\
    \hline . 0003 & \(2 \mathrm{CC}-33\) & 65.55 \\
    \hline . 0004 & \(2 \mathrm{CC}-34\) & 65.55 \\
    \hline . 0005 & 2CC-35 & 65.55 \\
    \hline . 0006 & \(2 \mathrm{CC}-36\) & 65.55 \\
    \hline . 0007 & 2CC-37 & 65.55 \\
    \hline . 0008 & \(2 \mathrm{CC}-38\) & 65.55 \\
    \hline . 001 & \(2 \mathrm{CC}-21\) & 65.55 \\
    \hline . 0015 & 2CC-215 & 65.55 \\
    \hline . 002 & 2CC-22 & 65.55 \\
    \hline \multicolumn{3}{|c|}{8000 VAC Peak} \\
    \hline . 003 & \(2 \mathrm{CC}-23\) & 65.55 \\
    \hline . 004 & 2CC-24 & 65.55 \\
    \hline \multicolumn{3}{|c|}{6000 Vac Peak} \\
    \hline . 005 & 2CC. 25 & 85.55 \\
    \hline \multicolumn{3}{|c|}{5000 VaC Peak} \\
    \hline . 006 & \(2 \mathrm{CC}-26\) & 69.15 \\
    \hline . 007 & \(2 \mathrm{CC}-27\) & 89.15 \\
    \hline . 008 & \(2 \mathrm{CC}-28\)
    \(2 \mathrm{CC}-11\) & 69.15
    69.15 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline MF & Cat. No. & List. \\
    \hline \multicolumn{3}{|c|}{4000 VAC Peak} \\
    \hline . 015 & 2CC-115 & \$ 69.15 \\
    \hline \multicolumn{3}{|c|}{3000 VAC Peak} \\
    \hline \[
    \begin{aligned}
    & .02 \\
    & .025
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 C C-12 \\
    & 2 C C-125
    \end{aligned}
    \] & \[
    69.15
    \] \\
    \hline \multicolumn{3}{|c|}{2000 VAC Peak} \\
    \hline . 03 & \(2 \mathrm{CC}-13\) & 73.50 \\
    \hline . 04 & 2CC-14 & 77.80 \\
    \hline . 05 & 2CC-15 & 80.75 \\
    \hline . 06 & 2CC-16 & 83.00 \\
    \hline \multicolumn{3}{|c|}{1500 VAC Peak} \\
    \hline . 07 & 2CC-17 & 85.00 \\
    \hline . 08 & 2CC-18 & 86.50 \\
    \hline . 1 & 2CC-1 & 90.00 \\
    \hline \multicolumn{2}{|l|}{\multirow[b]{2}{*}{2CC Dimensions}} & Dio. \(\times\) Height \\
    \hline & & \(1 / 2 \times 3\) \\
    \hline \multicolumn{3}{|c|}{TYPE 3CC} \\
    \hline
    \end{tabular}
    \begin{tabular}{|ccc|}
    \hline \multicolumn{3}{c|}{ 20,000 VaC Peak } \\
    \hline .00005 & \(3 C C-45\) & 110.90 \\
    .000075 & \(3 C C-475\) & 121.00 \\
    .0001 & \(3 C C-31\) & 121.00 \\
    .00015 & \(3 C C-315\) & 131.10 \\
    .0002 & \(3 C C-32\) & 131.10 \\
    .0003 & \(3 C C-33\) & 131.10 \\
    .0004 & \(3 C C-34\) & 137.15 \\
    .0005 & \(3 C C-35\) & 137.15 \\
    .0006 & \(3 C C-36\) & 137.15 \\
    .0007 & \(3 C C-37\) & 137.15 \\
    .008 & \(3 C C-38\) & 137.15 \\
    .001 & \(3 C C-21\) & 141.15
    \end{tabular}
    \begin{tabular}{lcc}
    \hline \multicolumn{3}{c}{15,000 VAC Peak } \\
    \hline .0015 & \(3 C C-215\) & 143.20 \\
    .002 & \(3 C C-22\) & 143.20 \\
    \hline
    \end{tabular}
    \begin{tabular}{ccc}
    \hline \multicolumn{3}{c}{\(\mathbf{1 2 , 0 0 0 ~ V a C P e a k}\)} \\
    \hline .003 & \(3 C C-23\) & 151.25 \\
    .004 & \(3 C C-24\) & 151.25 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|c|}{10,000 Yac Peak} \\
    \hline . 005 & 3CC-25 & 151.25 \\
    \hline . 006 & 3CC-26 & 151.25 \\
    \hline . 007 & 3CC-27 & 151.25 \\
    \hline . 008 & \(3 \mathrm{CC}-28\) & 151.25 \\
    \hline \multicolumn{3}{|c|}{8000 VAC Peak} \\
    \hline . 01 & 3CC-11 & 151.25 \\
    \hline \multicolumn{3}{|c|}{5000 VAC Peak} \\
    \hline . 015 & 3CC-115 & 151.25 \\
    \hline . 02 & 3CC-12 & 151.25 \\
    \hline \multicolumn{3}{|c|}{3000 VAC Peak} \\
    \hline . 025 & 3CC-125 & 151.25 \\
    \hline . 03 & \(3 \mathrm{CC}-13\) & 151.25 \\
    \hline . 04 & 3CC-14 & 151.25 \\
    \hline . 05 & 3CC-15 & 151.25 \\
    \hline . 06 & 3 CC -16 & 158.50 \\
    \hline \multicolumn{3}{|c|}{2000 VaC Peak} \\
    \hline . 07 & \(3 \mathrm{CC}-17\) & 164.00 \\
    \hline . 08 & 3CC-18 & 172.00 \\
    \hline . 1 & \(3 \mathrm{CC}-1\) & 182.00 \\
    \hline \multicolumn{3}{|r|}{Dia. \(\times\) Height} \\
    \hline \multicolumn{3}{|l|}{3CC Dimensions \(5 \times 4\)} \\
    \hline
    \end{tabular}
    

    TYPE 4CC
    \begin{tabular}{lcr}
    \hline \multicolumn{3}{c}{30,000 VAC Peak } \\
    \hline .0001 & 4CC-31 & \(\$ 210.30\) \\
    .00015 & \(4 C C-315\) & 210.30 \\
    .0002 & \(4 C C-32\) & 221.16 \\
    .0003 & \(4 C C-33\) & 221.16 \\
    .0004 & \(4 C C-34\) & 221.16 \\
    .0005 & \(4 C C-35\) & 221.16 \\
    .0006 & \(4 C C-36\) & 221.16 \\
    .0007 & \(4 C C-37\) & 221.16 \\
    .0008 & \(4 C C-38\) & 221.16 \\
    .001 & \(4 C C-21\) & 229.10 \\
    \hline \multicolumn{4}{c}{} \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|c|}{25,000 VAC Peak} \\
    \hline . 0015 & 4CC-215 & 229.10 \\
    \hline
    \end{tabular}
    \begin{tabular}{ccc}
    \multicolumn{3}{c}{ 20,000 VAC } \\
    \hline .002 & 4CC-22 & \(\mathbf{2 2 9 . 1 0}\) \\
    .003 & 4CC-23 & \(\mathbf{2 2 9 . 1 0}\) \\
    \hline \multicolumn{3}{c}{\(\mathbf{1 5 , 0 0 0 ~ V A C ~ P e a k ~}\)} \\
    \hline .004 & 4CC-24 & 234.35 \\
    .005 & 4CC-25 & 242.00 \\
    .006 & \(4 C C-26\) & 252.25 \\
    .007 & 4CC-27 & 260.00 \\
    \hline \multicolumn{3}{c}{\(\mathbf{1 2 , 0 0 0 ~ V A C P e a k ~}\)} \\
    \hline .008 & 4CC-28 & 260.00 \\
    .009 & 4CC -29 & 260.00 \\
    \hline
    \end{tabular}
    \begin{tabular}{ccc}
    .009 & 4CC-29 & 260.00 \\
    \hline & \(\mathbf{1 0 , 0 0 0}\) VAC Peak \\
    \hline .01 & 4CC-11 & 272.44 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|c|}{\(\mathbf{8 0 0 0}\) VAC Peak} \\
    \hline . 015 & ACC-115 & 272.44 \\
    \hline \multicolumn{3}{|c|}{6000 Vac Peak} \\
    \hline . 02 & ACC-12 & 272.44 \\
    \hline . 03 & ACC-13 & 272.44 \\
    \hline \multicolumn{3}{|c|}{5000 VaC Peak} \\
    \hline . 04 & ACC-14 & 272.44 \\
    \hline . 05 & ACC-15 & 272.44 \\
    \hline . 06 & 4CC-16 & 290.00 \\
    \hline \multicolumn{3}{|c|}{4000 VAC Peak} \\
    \hline . 07 & ACC-17 & 300.00 \\
    \hline \multicolumn{3}{|c|}{3000 VaC Peak} \\
    \hline . 08 & 4CC-18 & 308.00 \\
    \hline . 1 & 4CC-1 & 326.00 \\
    \hline
    \end{tabular}

    \section*{SPRAGUE CAPACITORS}

    \section*{TO-4 TEL-OHMIKE \({ }^{\text {® }}\) CAPACITOR-RESISTOR ANALYZER}
    

    PRICED SO YOU CAN AFFORD IT!

    The handiest instrument you can buy! Modern service shops find it a must. Although moderately priced for radio and television repair shops, it offers you the quality and the accuracy required by the nation's outstanding laboratories.

    The TO-4 comes complete with step-by-step instruction manual and capacitor guide.
    - CAPACITANCE BRIDGE measures up to 2000 mf in five overlapping ranges. The special 1 mmf to 100 mmf range is exclusive with the Sprague Tel-Ohmike.
    - INSULATION RESISTANCE directly read on large meter up to 20,000 megohms for paper, ceramic, and mica capacitors. No guessing with neon lamps.
    - LEAKAGE CURRENT of electrolytics measured directly on meter, with exact rated voltage up to 600 v . applied from continuously adjustable power supply. Two ranges: \(0-6-60 \mathrm{ma}\). No guessing on eye-width or counting lamp blinks when you use a TO-4!
    - POWER FACTOR of electrolytic capacitors measured by Wien Bridge up to \(55 \%\) in three ranges.
    - RESISTANCE BRIDGE measures from 2.5 ohms to 25 megohms at line frequency.
    - MAGIC-EYE TUBE simplifies bridge balancing for capacitance, power factor, and resistance measurements.
    - PUSH-BUTTONS for instant range selection, also discharge capacitors for safety automatically upon release.
    - MODERN CASE finished in two-tone gray; measures \(87 / 8^{\prime \prime}\) high, \(145 / 8^{\prime \prime}\) wide, \(61 / 8^{\prime \prime}\) deep. Weight only \(121 / 2\) pounds.
    \begin{tabular}{|c|c|c|}
    \hline MODEL TO-4 & 115 VAC 50-60 cy & \$73.50 net \\
    \hline Model TO-4X & 115-230 V/25-60 cy & \$79.50 net \\
    \hline
    \end{tabular}

    MODEL TO-4
    \(115-230 \mathrm{~V} / 25-60 \mathrm{cy}\)
    \(\$ 79.50\) net

    \section*{KT-1 KWIK-TEST \({ }^{\circledR}\) CAPACITOR CHECKER}

    An IDEAL supplement to the TO-4 Tel-Ohmike. With 75 to 100 capacitors in each set, here's a quick, easy way to check them all in a jiffy, for the KT-1 tests capacitors while they're wired in a set. NO NEED TO REMOVE THEM FROM THE CIRCUIT! The KT-1 instantly tells you whether or not a capacitor is open, shorted, or intermittent. This is the hottest thing we've ever offered to the service trade!
    - Simply press a button and magic eye tube tells you if a capacitor is open, shorted, or intermittent.
    - Checks by-pass, blocking, and coupling capacitors from 30 mmf to 2000 mmf , even when capacitor under test is wired in parallel with a resistance as low as 60 ohms. Capacitors between . 1 mf and 2000 mf
    may be tested even when in parallel with resistance as low as 2 ohms.
    - Sturdy steel case with medium gray wrinkle finish. Light gray front panel with clear black markings.
    - Overall size of the KT-1 is \(9^{\prime \prime}\) high \(\times 6^{\prime \prime}\) wide \(\times 51 / 4^{\prime \prime}\) deep -Net weight, 6 lbs.

    MODEL KT-1....... 115 VAC/50-60 cy....... \(\$ 34.50\) net
    MODEL KT-1X..........115-230 V/25-60 cy........ 39.50 net
    

    \footnotetext{
    The W.ASTl:R - 2nth Eidition
    }

    Ihl prices subject to whage withont notice.
    Copyright by U. C. P., Inc.

    \section*{ERIE GENERAL PURPOSE CERAMICONS \({ }^{\circledR}\)}

    \section*{TYPES GP1 - GP2 - GP3}

    ERIE CERAMICONS are small fixed capacitors con. sisting essentially of a ceramic dielectric with silver electrodes which are fired on at a very high temperature. Erie Ceramicons are outstanding because of their excellent high frequency characteristics, small size, rugged construction and availability in a wide range of capacity values.
    GP1 CERAMICONS - The performance specifications of Type GPI Ceramicons are identical with those of temperature compensating types of Ceramicons. A GP desig. nation does allow the capacitor manufacturer added flexibility in selecting ceramic body. These capacitors meet performance specifications of RETMA Standard No. REC. 107-A, Class 1, Characteristic U2.

    GP2 CERAMICONS - The capacitance of GP2 Ceramicons will not vary more than \(+10 \%\) or \(-35 \%\) from \(+25^{\circ} \mathrm{C}\). value, as the temperature is varied from \(-40^{\circ} \mathrm{C}\). to \(+85^{\circ} \mathrm{C}\). These capacitors meet the performance specifications of RETMA Standard No. REC-107-A, Class 2, Characteristic Y5Y.

    GP3 CERAMICONS - The capacitance of GP3 Ceramicons will not vary more than \(+25 \%\) or \(-50 \%\) from the \(25^{\circ} \mathrm{C}\). value, as the temperature is varied from \(+10^{\circ} \mathrm{C}\). to \(+75^{\circ} \mathrm{C}\). These capacitors meet the performance specifica. tions of RETMA Standard No. REC-107-A, Class 2, Characteristic Z5Z.

    \author{
    For Dimensions see page 5 of this Catalog.
    }

    \section*{"GP" \({ }^{\text {® }}\) GENERAL PURPOSE CERAMICONS}
    are ideally suited for such applications as coupling and by-passing, in circuits whers temperature coefficient is not important - in other words for all receiver applications except in frequency determining circuits. Working voltage - 600 volts D. C. Use Exie "GP' Ceramicons as replacements for molded mica and paper tubular capacitors.

    Available in both molded and phenalic insulated styles

    > Order by Catalog Number from Table Below
    > 600 VDCW—STOCK ITEMS—1500 VDC TEST

    STANDARD TOLERANCE \(\pm 10 \% 5\) MMF THROUGH 1500 MMF
    \(\pm 20 \% 1800\) MMF THROUGH 10,000 MMF
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Cotolog No. & Erie Port No. & Cop. MMF & Body Style* & Corolog No. & Erie Part No. & Cap. MMF & Body Siyle* \\
    \hline GP-5 & GP1K.050 & 5 & 315 or 331 & & & & \\
    \hline GP-10 & GP1K. 100 & 10 & 315 or 331 & GP. 270
    GP- 300 & GP2K-301 & 270
    300 & 315 or 331 \\
    \hline GP-12 & GP1K-120 & 12 & 315 or 331 & GP-330 & GP2K-331 & 330 & 315 or 331 \\
    \hline GP-15 & GP1K-150 & 15 & 315 or 331 & GP-360 & GP2K-361 & 360 & 315 or 331 \\
    \hline GP-18 & GPIK-180 & 18 & 315 or 331 & GP. 390 & GP2K.391 & 390 & 315 or 331 \\
    \hline GP-20 & GP1K-200 & 20 & 315 or 331 & GP. 470 & GP2K-471 & 470 & 315 or 331 \\
    \hline GP-22 & GPIK-220 & 22 & 315 or 331 & GP. 500 & GP2K-501 & 500 & 315 or 331 \\
    \hline GP-24 & GP1K-240 & 24 & 315 or 331 & GP- 510 & GP2K-511 & 510 & 315 or 331 \\
    \hline GP-25 & GPIK-250 & 25 & 315 or 331 & GP. 560 & GP2K-561 & 560 & 315 or 331 \\
    \hline GP-27 & GPIK-270 & 27 & 315 or 331 & GP. 680 & GP2K-681 & 680 & 315 or 331 \\
    \hline GP. 30 & GPIK.300 & 30 & 315 or 331 & GP. 750 & GP2L-751 & 750 & 316 or 332 \\
    \hline GP-33 & GPIK-330 & 33 & 315 or 331 & GP-820 & GP2L-821 & 820 & 316 or 332 \\
    \hline GP. 39 & GPIK-390 & 39 & 315 or 331 & GP.1,000 & GP2L-102 & 1.000 & 316 or 332 \\
    \hline GP.47 & GPIK-470 & 47 & 315 or 331 & GP.1,200 & GP2L-122 & 1.200 & 316 or 332 \\
    \hline GP-50 & GPIK-500 & 50 & 315 or 331 & GP.1,500 & GP2L-152 & 1.500 & 316 or 332 \\
    \hline GP-51 & GPIK-510 & 51 & 315 or 331 & GP.1.800 & GP2-333-182 & 1,800 & 333 \\
    \hline GP-56 & GPIK. 560 & 56 & 315 or 331 & GP.2,000 & GP2-333-202 & 2,000 & 333 \\
    \hline GP-68 & GPIK-680 & 68 & 315 or 331 & GP.2,200 & GP2-333-222 & 2,200 & 333 \\
    \hline GP. 75 & GPIK-750 & 75 & 315 or 331 & GP.2,500 & GP2-333-252 & 2,500 & 333 \\
    \hline GP-82 & GP1K-820 & 82 & 315 or 331 & GP.2,700 & GP2.333.272 & 2,700 & 333 \\
    \hline GP-100 & GP1K.101 & 100 & 315 or 331 & GP.3,000 & GP2-333-302 & 3,000 & 333 \\
    \hline GP-110 & GP2K-111 & 110 & 315 or 331 & GP.3,300 & GP2-333-332 & 3,300 & 333 \\
    \hline GP. 120 & GP2K-121 & 120 & 315 or 331 & GP.4,000 & GP2-333-402 & 4,000 & 333 \\
    \hline GP-150 & GP2K-151 & 150 & 315 or 331 & GP-4,700 & GP2-333.472 & 4,700 & 333
    33 \\
    \hline GP-1 10 & GP2K.181 & 180 & 315 or 331 & GP.5,000 & GP2-333-502 & 5,000 & 333 \\
    \hline GP-200 & GP2K-201 & 200 & 315 or 331 & GP.5,600 & GP3-333-562 & 5,600 & 333 \\
    \hline GP-220 & GP2K-221 & 220 & 315 or 331 & GP. 6,000 & GP3-333-602 & 8,000 & 333 \\
    \hline GP. 240
    GP. 250 & GP2K-241 & 240 & 315 or 331 & GP.6,800 & GP3.333.682 & 6,800 & 333 \\
    \hline GP-250 & GP2K-251 & 250 & 315 or 331 & GP.7,500 & GP3-333-752 & 7,500 & 333 \\
    \hline & & & & GP-10,000 & GP3-333-103 & 10,000 & 333 \\
    \hline
    \end{tabular}

    \footnotetext{
    "To specify styles 331 and/ar 332 add letter " \(x\) " ofter Catolog Number.
    Note: "Ceramicon" and "GP Ceramicon" ase registered trade names and refer to ceramic dielectric capacitors manufactured only by Erie Resistor Corporation.
    }

    \section*{ERIE \\ \section*{ERIE RESISTOR CORPORATION-ERIE, PA.} \\ ERIE DISC CERAMICONS \({ }^{\circledR}\)}

    Erie Disc Ceramicons consist of a flat ceramic dielectric with silver fired onto the dielectric. Lead wires are firmly soldered to the silver electrodes, and the unit is given a
    protective coating of phenolic. Low series inductance assures efficient high frequency operation
    

    Order by Catalog Number from Table Below
    600 VDCW - STOCK ITEMS - 1500 VDC TEST
    HIGH STABILITY GENERAL PURPOSE CERAMICONS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog No. & Erie Parino. & Copacity & \begin{tabular}{l}
    Caposity \\
    Talerance
    \end{tabular} & Body Size \\
    \hline ED. 5 & 831.050 & 5 mmf & 10\% & \(1 / 4\) " \\
    \hline ED. 10 & 831.100 & 10 mmf & 10\% & \(1 / 4{ }^{\prime \prime}\) \\
    \hline ED. 12 & 831.120 & 12 mmf & 10\% & \(1 / 4\) \\
    \hline ED. 15 & 831.150 & 15 mmf & 10\% & \(1 / 4\) \\
    \hline ED. 18 & 831.180 & 18 mmf & 10\% & \(1 / 4 "\) \\
    \hline ED. 20 & 831.200 & 20 mmf & 10\% & 1/4" \\
    \hline ED-22 & 831.220 & 22 mmf & 10\% & \(1 / 4^{\prime \prime}\) \\
    \hline ED. 24 & 831-240 & 24 mmf & 10\% & 1/4" \\
    \hline ED. 25 & 831.250 & 25 mmf & 10\% & \(1 / 4\) \\
    \hline ED. 27 & 831.270 & 27 mmf & 10\% & \(1 / 4\) \\
    \hline ED. 30 & 831.300 & 30 mmf & 10\% & \(1 / 4 "\) \\
    \hline ED. 33 & 831.330 & 33 mmf & 10\% & \(1 / 4 \prime\) \\
    \hline ED. 39 & \(831-390\) & 39 mmf & 10\% & 1/4" \\
    \hline ED. 47 & \(831-470\) & 47 mml & 10\% & \(1 / 4\) " \\
    \hline ED-50 & 831.500 & 50 mmi & 10\% & \(1 / 4\) " \\
    \hline ED-51 & 831.510 & 51 mmf & 10\% & \(1 / 4\) " \\
    \hline ED. 56 & 831.560 & 56 mmf & 10\% & \(1 / 4\) " \\
    \hline ED. 68 & 801.680 & 68 mmf & 10\% & 1/9" \\
    \hline ED-75 & 801.750 & 75 mmf & 10\% & 3/8" \\
    \hline ED-82 & 801.820 & 82 mmf & 10\% & 1/6" \\
    \hline ED. 91 & 801.910 & 91 mmf & 10\% & \(1 /{ }^{\prime \prime}\) \\
    \hline ED. 100 & 801.101 & 100 mmf & 10\% & \(1 /{ }^{\prime \prime}\) \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Caralog No. & Erie Part No. & Copocity & Copacity Tolerance & Body Size \\
    \hline ED. 120 & 811.121 & 120 mmf & 10\% & 10/32 \\
    \hline ED. 150 & 811.151 & 150 mmf & 10\% & \(19 / 2{ }^{\prime \prime}\) \\
    \hline ED. 180 & 811.181 & 180 mmf & 10\% & \(19 \%\) \\
    \hline ED. 200 & 811.201 & 200 mmt & 10\% & 1993" \\
    \hline ED. 220 & 811.221 & 220 mmf & 10\% & 19/32" \\
    \hline ED. 240 & 811.241 & 240 mmf & 10\% & 19/32 \\
    \hline ED. 250 & 811.251 & 250 mmf & 10\% & 1912" \\
    \hline ED. 270 & 811.271 & 270 mmf & 10\% & \(19 / 3{ }^{\prime \prime}\) \\
    \hline ED. 300 & \(811-301\) & 300 mmf & 10\% & \(19 / 3{ }^{\prime \prime}\) \\
    \hline ED. 330 & 811.331 & 330 mmf & 10\% & 19/38" \\
    \hline ED. 300 & 811.361 & 380 mmf & 10\% & 19/12" \\
    \hline ED. 390 & 811.391 & 390 mmf & 10\% & 19/4" \\
    \hline ED. 470 & 811.471 & 470 mmf & 10\% & 19/2" \\
    \hline ED- 500 & 811.501 & 500 mmf & 10\% & 19\%" \\
    \hline ED-500 & 811-561 & 500 mmf & 10\% & 19/5" \\
    \hline ED-680 & 811.081 & 080 mmf & 10\% & 19/12" \\
    \hline ED-750 & \(8: 1.751\) & 750 mmf & 10\% & 19/2" \\
    \hline ED. 820 & 811.821 & 820 mmf & 10\% & 19/12" \\
    \hline ED. 910 & 811.911 & 910 mmf & 10\% & 10/32" \\
    \hline ED. 1000 & \(811-102\) & 1000 mmt & 10\% & 19/2" \\
    \hline ED. 1200 & 811.122 & 1200 mmt & 10\% & 19/12" \\
    \hline ED. 1500 & 811.152 & 1500 mmf & 10\% & \(19 / 32^{\prime \prime}\) \\
    \hline ED. 1800 & 811.182 & 1800 mmf & 10\% & 19/2" \\
    \hline
    \end{tabular}

    HI-K BY-PASS AND COUPLING CERAMICONS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Casalag No. & \[
    \begin{aligned}
    & \text { Erie } \\
    & \text { Port No. }
    \end{aligned}
    \] & Copasily & Copacity Talerance & Body Size \\
    \hline \[
    \begin{aligned}
    & \text { ED. } .00047 \\
    & \text { ED } .0008 \\
    & \text { ED. } .001 \\
    & \text { ED } .0012 \\
    & \text { ED } .0015 \\
    & \text { ED } . .002 \\
    & \text { ED. } .0022 \\
    & \text { ED. } .0027 \\
    & \text { ED. } 003 \\
    & \text { ED. } .0033 \\
    & \text { ED. } .004 \\
    & \text { ED. } .0047 \\
    & \text { ED } .005 \\
    & \text { ED. } .00088 \\
    & \text { ED. } 01 \\
    & \text { ED. } 015 \\
    & \text { ED } . .02
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 831.471 \\
    & 831.801 \\
    & 801 . .001 \\
    & 301.0012 \\
    & 801-.0015 \\
    & 801.002 \\
    & 811.0022 \\
    & 811.0027 \\
    & 811 . .003 \\
    & 811 . .0033 \\
    & 811.004 \\
    & 811.0047 \\
    & 811.005 \\
    & 8111.0068 \\
    & 8111.01 \\
    & 817 . .015 \\
    & 817 . .02
    \end{aligned}
    \] & \begin{tabular}{ll}
    .00047 mfd \\
    0008 & mfd \\
    001 & mfd \\
    .0012 & mfd \\
    0015 & mfd \\
    002 & mfd \\
    0022 & mfd \\
    .0027 & mfd \\
    003 & mfd \\
    0033 & mfd \\
    .004 & mfd \\
    0047 & mfd \\
    .005 & mfd \\
    0068 & mfd \\
    01 & mfd \\
    015 & mfd \\
    02 & mfd
    \end{tabular} & \begin{tabular}{l}
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GmV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV \\
    GMV
    \end{tabular} &  \\
    \hline
    \end{tabular}

    HI-K DUAL CERAMICONS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog No. & \begin{tabular}{l}
    Erie \\
    Part No.
    \end{tabular} & Capacity & \begin{tabular}{l}
    Copocity \\
    Talerance
    \end{tabular} & Bady Size \\
    \hline \begin{tabular}{l}
    ED2-.001 \\
    ED2-.0015 \\
    ED2-. 002 \\
    ED2 2.003 \\
    ED2-.004
    \end{tabular} & \[
    \begin{aligned}
    & 812 . .001 \\
    & 812 . .0015 \\
    & 812 . .002 \\
    & 822 . .003 \\
    & 822-.004
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \times .001 \mathrm{mfd} \\
    & 2 \times .001 \mathrm{smfd} \\
    & 2 \times .002 \mathrm{mfd} \\
    & 2 \times .003 \mathrm{mfd} \\
    & 2 \times .004 \mathrm{mfd}
    \end{aligned}
    \] & GMV GMV GMV GMV GMV & \[
    \begin{aligned}
    & 10 / 11^{\prime \prime} \\
    & 10 / 2^{\prime \prime} \\
    & 10 / 2^{\prime \prime} \\
    & 1 / 4^{\prime \prime} \\
    & 1 / 4^{\prime \prime}
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    DISC CAPACITORS TO MIL-C-IIOI5A SPECIFICATIONS ARE ALSO STOCK ITEMS

    \section*{ERIE HIGH VOLTAGE DISC CERAMICONS \({ }^{\circledR}\)}

    Designed to employ the same basic diameters that have been standardized in 600 volt capacitors. Careful and detailed life testing has been accomplished over a long period of time to establish required dielectric thicknesses
    to assure conservative ratings in the high voltage line. They differ in appearance from lower voltage units in having greater thickness, the degree of difference depend. ing on voltage rating.
    

    IR5KV-102
    

    6KV-330
    
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog No. & Erie Part No. & Copocity MMF & Size-Mox. Dia. \\
    \hline HD1 5-4R7 & 1R5KV-4R7 & 4.7 & 3/" \\
    \hline HD15-688 & 1R5KV-6R8 & 6.8 & \(3 / 6\) \\
    \hline HD15-10 & 1R5KV-100 & 10 & \%" \\
    \hline HDI5.15 & IR5KV-150 & 15 & 5\% \\
    \hline HD15.22 & 125KV-220 & 22 & 1/8* \\
    \hline HD15-33 & 1R5KV-330 & 33 & \%/ \\
    \hline HD15.47 & \(1 \mathrm{P5KV}-470\) & 47 & \(19 / 2{ }^{\prime \prime}\) \\
    \hline HD1 5.68 & 125 KV -680 & 68 & \(19 / 2\) \\
    \hline HD15.100 & 1R5KV-101 & 100 & \(19 \%\) \\
    \hline HD15.150 & \(185 \mathrm{KV}-151\) & 150 & \% \\
    \hline HDI 5-180 & 125KV-181 & 180 & 1/8" \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline Catalag No. & Erie Part No. & Capacity MMF & Size-Max. Dic. \\
    \hline HD1 5-220 & 1R5KV-221 & 220 & 1/" \\
    \hline HD15.330 & 1R5KV-331 & 330 & \%" \\
    \hline HD1 5.470 & 1R5KV-471 & 470 & 3" \\
    \hline HD1 5-680 & 125KV-681 & 680 & 1/* \\
    \hline HD 15-1000 & \(185 \mathrm{KV}-102\) & 1000 & 1/" \\
    \hline HD15-1500 & \(125 \mathrm{KV}-152\) & 1500 & 1\%/" \\
    \hline HD15.2200 & 1R5KV-222 & 2200 & 19,\% \\
    \hline HD1 5. 3300 & 1R5KV-332 & 3300 & 19\%" \\
    \hline HD1 5.4700 & \(185 \mathrm{KV}-472\) & 4700 & 1/4" \\
    \hline HD1 5-5600 & 185 KV -562 & 5600 & 3/4" \\
    \hline HD1 5.8200 & 185 KV - 622 & 6200 & \(1 / 4 "\) \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog No. & Erie Part No. & Capaciry MMF & Size-Mox. Dia. \\
    \hline HD3-4R7 & 3 KV -4R7 & 4.7 & \(3 / 8{ }^{\prime \prime}\) \\
    \hline HD3-6R8 & 3 KV -6R8 & 6.8 & 1/8" \\
    \hline HD3-10 & 3 KV -100 & 10 & 1/" \\
    \hline HD3-15 & 3 KV - 150 & 15 & \(1 / 8 "\) \\
    \hline HD3-22 & 3 KV - 220 & 22 & \(102^{\prime \prime}\) \\
    \hline HD3-33 & 3 KV - 330 & 33 & \(10 / 2\) \\
    \hline HD3-47 & 3 KV -470 & 47 & 10/3" \\
    \hline HD3-56 & 3 KV - 560 & 56 & \(3 / 4\) \\
    \hline HD3-68 & 3 KV - 680 & 68 & \(3 / 4 "\) \\
    \hline HD3-100 & \(3 \mathrm{KV}-101\) & 100 & 3/8" \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog No. & Erie Part No. & Capacity MMF & Size-Mox. Dia. \\
    \hline HD3-150 & \(3 \mathrm{KV}-151\) & 150 & \(3{ }^{\prime \prime}\) \\
    \hline HD3-220 & 3 KV -221 & 220 & 1/* \\
    \hline HD3-330 & 3 KV -331 & 330 & 1\%" \\
    \hline HD3-470 & 3 KV -471 & 470 & \%" \\
    \hline HD3-680 & 3 KV -681 & 680 & 1/* \\
    \hline HD3-1000 & 3 KV - 102 & 1000 & 19/4" \\
    \hline HD3-1500 & \(3 \mathrm{KV}-152\) & 1500 & 19/3" \\
    \hline HD3-2200 & \(3 \mathrm{KV}-222\) & 2200 & 3/4" \\
    \hline HD3-3300 & \(3 \mathrm{KV}-332\) & 3300 & 1/4" \\
    \hline
    \end{tabular}
    

    \section*{ERIE UNIVERSAL 20 KV CERAMICONS \({ }^{\circledR}\)}
    

    413-203 413.204 413.205 413.206.1 413-206.2 STYLE 413

    A highly universal 20 KV television power supply filter Ceramicon, Five types of terminals are available. By selecting the correct combinations of these, the correct replacement is provided for practically any existing receiver. Approved by leading TV manufacturers for replacement units.
    \[
    \text { Capacity of Style } 413 \text { is } 500 \text { MMF. Tolerance } \begin{array}{r}
    +50 \% \\
    -20 \%
    \end{array}
    \]

    \section*{Order by Part Number from Table Below}

    TERMINALS
    \begin{tabular}{|c|c|}
    \hline Erie Part No. & \multicolumn{1}{c|}{ Description } \\
    \hline 413.203 & Slotred \\
    \(413-204\) & Female \(-6 / 32\) Tap \\
    \(413-205\) & Male \(-6 / 32\) Threod \\
    \(413-206-1\) & Male \(-8 / 32\) Thread \(-1 / 4\) "-Long \\
    \(413-206-2\) & Male \(-8 / 32\) Thread \(-1 / "^{\prime \prime}\) Long \\
    \hline
    \end{tabular}

    \footnotetext{
    Terminals are packaged 5 of a type per bag.
    }

    CERAMICONS
    \begin{tabular}{|c|c|}
    \hline Erie Part No: & \multicolumn{1}{c|}{ Description } \\
    \hline 4413 & \begin{tabular}{l} 
    Bulk - Na Terminals \\
    413.1 \\
    413.6
    \end{tabular} \\
    \hline
    \end{tabular}
    *Does not include terminals, order them from terminal chart at left.

    \section*{TEMPERATURE COMPENSATING CERAMICONS \({ }^{\circledR}\)}

    Erie Ceramicons are capacity-sensitive to temperature in varying pre-determined degrees, and because of this characteristic have found wide-spread application as temperature-compensating elements in circuits which must
    be frequency-stabilized over wide temperature ranges. They are also manufactured with practically no thermal sensitivity for use in applications requiring a capacitor whose value is not affected by temperature.

    \section*{NPO TEMPERATURE COEFFICIENT CERAMICONS \({ }^{\circledR}\)}

    NPO Temperature Coefficient Ceramicons are highly recommended for frequency determining applications where no capacity change with change in temperature is desired. " \(Q\) " for NPO Ceramicons above 30 mmf is 1000
    or higher. Below 30 mmf " \(Q\) " decreases slightly as capacity decreases. Working voltage - 600 volts D. C. Recommended as replacements for silver-mica capacitors.

    Order by Catalog Number from Table Below
    STOCK ITEMS - 600 VDCW
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cotolog No. & Erie Part No. & Cop. MMF & Cop. Tol. & \[
    \begin{gathered}
    \text { TC } \\
    \text { Tol. }
    \end{gathered}
    \] & Body Size \\
    \hline TC0. 5 & NPOA-OR5 & 0.5 & 0.25 mmf & \(\pm 250\) & 301 or A \\
    \hline 1C0. 68 & NPOA-0R68 & 0.68 & 0.25 mmf & *250 & 301 or A \\
    \hline TCO. 1 & NPOA.010 & 1.0 & 0.25 mmt & \(\pm 250\) & 301 or A \\
    \hline TCO. 1.5 & NPOA-1 R5 & 1.5 & 0.25 mmf & \(\pm 250\) & 301 or A \\
    \hline TCO. 2.2 & NPOA.2R2 & 2.2 & 0.25 mmf & \(\pm 120\) & 301 or A \\
    \hline TCO. 3 & NPOA-030 & 3.0 & 0.25 mmf & \(\pm 120\) & 301 or A \\
    \hline TCO-3.3 & NPOA-3R3 & 3.3 & 0.5 mm f & \(\pm 120\) & 301 or A \\
    \hline TCO.4.7 & NPOA.4R7 & 4.7 & 0.5 . mmf & \(\pm 60\) & 301 or A \\
    \hline TCO. 5 & NPOA-050 & 5.0 & 0.5 mmf & \(\pm 60\) & 301 or A \\
    \hline TCO.6.8 & NPOA-6R8 & 6.8 & 0.5 mmf & \(\pm 60\) & 301 or A \\
    \hline TCO.8.2 & NPOA.8R2 & 8.2 & 0.5 mmf & \(\pm 60\) & 301 or A \\
    \hline TCO. 10 & NPOA. 100 & 10 & 0.5 mmf & \(\pm 30\) & 301 or A \\
    \hline TCO-12 & NPOK-120 & 12 & 0.5 mmf & \(\pm 30\) & 315 or K \\
    \hline TCO. 15 & NPOK-150 & 15 & 0.5 mmf & \(\pm 30\) & 315 or K \\
    \hline TCO. 18 & NPOK-180 & 18 & 0.5 mmf & \(\pm 30\) & 315 or K \\
    \hline TCO. 20 & NPOK-200 & 20 & 0.5 mmf & + 30 & 315 or K \\
    \hline TCO. 22 & NPOK-220 & 22 & 5\% & \(\pm 30\) & 315 or K \\
    \hline TCO-24 & NPOL-240 & 24 & \(5 \%\) & \(\pm 30\) & 316 or L \\
    \hline ICO. 25 & NPOL-250 & 25 & 5\% & \(\pm 30\) & 316 or L \\
    \hline TCO-27 & NPOL-270 & 27 & 5\% & \(\pm 30\) & 316 or L \\
    \hline TCO. 30 & NPOL-300 & 30 & 5\% & \(\pm 30\) & 316 or L \\
    \hline TCO. 33 & NPOL-330 & 33 & 5\% & \(\pm 30\) & 316 or L \\
    \hline TCO. 36 & NPOL-360 & 36 & 5\% & \(\pm 30\) & 316 or L \\
    \hline TCO. 39 & NPOL-390 & 39 & 5\% & \(\pm 30\) & 316 or L \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cotalog No & Erie Pori No. & Cop. MMF & Cop. Tol. & \[
    \begin{gathered}
    \text { TC } \\
    \text { Tol. }
    \end{gathered}
    \] & Body Size \\
    \hline TCO-43 & NPOL-430 & 43 & 5\% & \(\pm 30\) & 316 or L \\
    \hline TCO. 47 & NPO-338-470 & 47 & \(5 \%\) & \(\pm 30\) & 338 \\
    \hline TCO. 50 & NPO.338-500 & 50 & 5\% & \(\pm 30\) & 338 \\
    \hline 1CO-51 & NPO-338-510 & 51 & 5\% & \(\pm 30\) & 338 \\
    \hline TCO. 56 & NPO-337-560 & 56 & 15\% & \(\pm 30\) & 337 \\
    \hline TCO. 62 & NPO-337-620 & 62 & 5\% & \(\pm 30\) & 337 \\
    \hline 1C0.68 & NPO.337-680 & 68 & 5\% & \(\pm 30\) & 337 \\
    \hline TCO. 75 & NPO.337-750 & 75 & 5\% & \(\pm 30\) & 337 \\
    \hline TCO. 82 & NPO. 337.820 & 82 & 5\% & \(\pm 30\) & 337 \\
    \hline TCO-91 & NPO-337.910 & 91 & 5\% & \(\pm 30\) & 337 \\
    \hline TCO-100 & NPO.337-101 & 100 & 5\% & \(\pm 30\) & 337 \\
    \hline TCO-110 & NPO-333-111 & 110 & 5\% & \(\pm 30\) & 333 \\
    \hline TCO- 120 & NPO-333-121 & 120 & 5\% & \(\pm 30\) & 333 \\
    \hline TCO. 130 & NPO-333-131 & 130 & 5\% & \(\pm 30\) & 333 \\
    \hline TCO-150 & NPO-334-151 & 150 & 5\% & \(\pm 30\) & 334 \\
    \hline TCO-160 & NPO-334-161 & 160 & 5\% & \(\pm 30\) & 334 \\
    \hline TCO-175 & NPO-334-1750 & 175 & 5\% & \(\pm 30\) & 334 \\
    \hline TCO-180 & NPO-334-181 & 180 & 5\% & \(\pm 30\) & 334 \\
    \hline TCO. 200 & NPO-334-201 & 200 & 5\% & \(\pm 30\) & 334 \\
    \hline TCO-220 & NPO-335-221 & 220 & 5\% & \(\pm 30\) & 335 \\
    \hline TCO-240 & NPO-335-241 & 240 & 5\% & \(\pm 30\) & 335 \\
    \hline TCO-270 & NPO.335-271 & 270 & 5\% & \(\pm 30\) & 335 \\
    \hline TCO-300 & NPO.335-301 & 300 & 5\% & \(\pm 30\) & 335 \\
    \hline
    \end{tabular}

    \section*{NEGATIVE TEMPERATURE COEFFICIENT CERAMICONS \({ }^{\circledR}\)}

    N330 and N350 units provide temperature compensation to eliminate drift. Positive and Negative Temperature Coefficient Ceramicons Pl00 through N1500 are available
    on special order through your distributor. See table on next page for other values and styles.

    ERIE TUBULAR TYPE N330 CERAMICONS
    Order by Catalog Number from Table Below
    STOCK ITEMS - 600 VDCW
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cotalog No. & Erie Port No. & \begin{tabular}{l}
    Cap. \\
    MMF
    \end{tabular} & Cop. Tol. & \begin{tabular}{l}
    TC \\
    Tol.
    \end{tabular} & \begin{tabular}{l}
    Bady \\
    Size
    \end{tabular} & Cotalog No. & Erie Part No. & Cap. MMF & Cop. Tol. & \[
    \begin{gathered}
    \text { ic } \\
    \text { Tol. }
    \end{gathered}
    \] & Body Size \\
    \hline TC3-1 & N330A-010 & 1.0 & 0.5 mmf & * 250 & 301 or A & TC3.33 & N330K-330 & 33 & 5\% & \(\pm 60\) & 315 or K \\
    \hline TC3-1.5 & N330A.1R5 & 1.5 & 0.5 mmf & \(\pm 250\) & 301 or A & TC3.39 & N3301.390 & 39 & 5\% & \(\pm 60\) & 316 or 1 \\
    \hline TC3-2.2 & N330A.2R2 & 2.2 & 0.5 mmf & \(\pm 120\) & 301 or A & TC3-47 & N330L-470 & 47 & 5\% & \(\pm 60\) & 316 or 1 \\
    \hline TC3-3.3 & N330A-3R3 & 3.3 & 0.5 mmf & \(\pm 120\) & 301 or A & TC3-56 & N330L-560 & 56 & 5\% & \(\pm 60\) & 316 or 1 \\
    \hline TC3-3.9 & N330A-3R9 & 3.9 & 0.5 mmf & \(\pm 120\) & 301 or A & TC3-68 & N330L-680 & 68 & 5\% & \(\pm 60\) & 316 or L \\
    \hline TC3-4.7 & N330A-4R7 & 4.7 & 5\% & \(\pm 60\) & 301 or A & TC3.82 & N330-338-820 & 82 & 5\% & \(\pm 60\) & 338 \\
    \hline TC3.5.6 & N330A-5R6 & 5.6 & 5\% & \(\pm 80\) & 301 or A & TC3-100 & N330-337-101 & 100 & 5\% & \(\pm 60\) & 337 \\
    \hline TC3-6.8 & N330A-6R8 & 6.8 & 5\% & \(\pm 60\) & 301 or A & TC3-120 & N330-337-121 & 120 & 5\% & \(\pm 60\) & 337 \\
    \hline TC3-8.2 & N330A-8R2 & 8.2 & 5\% & \(\pm 60\) & 301 or A & TC3-150 & N330-337-151 & 150 & 5\% & \(\pm 60\) & 337 \\
    \hline TC3-10 & N330A-100 & 10 & 5\% & \(\pm 60\) & 301 or A & TC3-180 & N330-333-181 & 180 & 5\% & * 60 & 333 \\
    \hline TC3-12 & N330K-120 & 12 & 5\% & \(\pm 80\) & 315 or K & TC3.220 & N330.334.221 & 220 & 5\% & \(\pm 60\) & 334 \\
    \hline TC3-15 & N330K-150 & 15 & 5\% & \(\pm 60\) & 315 or K & TC3-270 & N330-334-271 & 270 & 5\% & \(\pm 60\) & 334 \\
    \hline TC3.18 & N330K-180 & 18 & 5\% & \(\pm 60\) & 315 or K & TC3-330 & N330-334-331 & 330 & 5\% & \(\pm 60\) & 334 \\
    \hline TC3.22 & N330K-220 & 22 & 5\% & \(\pm 60\) & 315 or K & TC3-390 & N330-335-391 & 390 & 5\% & \(\pm 60\) & 335 \\
    \hline TC3.27 & N330K-270 & 27 & 5\% & \(\pm 60\) & 315 or K & TC3.470 & N330-335-471 & 470 & 5\% & \(\pm 60\) & 335 \\
    \hline
    \end{tabular}

    \footnotetext{
    The U.HSTIN EMH Eflition
    }

    Page P-38

    \title{
    NEGATIVE TEMPERATURE COEFFICIENT CERAMICONS \({ }^{\circledR}\) \\ ERIE TUBULAR TYPE N750 CERAMICONS \({ }^{\text {® }}\)
    }

    \title{
    Order by Catalog Number from Table Below \\ STOCK ITEMS - 600 VDCW
    }
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cotalog No. & Erie Port No. & Cop. MMF & Cop. Tol. & \[
    \begin{aligned}
    & \text { IC } \\
    & \text { Tol. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Body } \\
    & \text { Size }
    \end{aligned}
    \] & Cotolog No. & Erie
    Port No. & Cop. MMF & Cop. Tol. & \[
    \begin{aligned}
    & \text { TC } \\
    & \text { Tol. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Body } \\
    & \text { Size }
    \end{aligned}
    \] \\
    \hline TC7.2.2 & N7504.2R2 & 2.2 & 0.5 mmf & \(\pm 120\) & 301 or A & TC7.82 & N7501.820 & 82 & 5\% & \(\pm 120\) & 316 or 1 \\
    \hline TC7.3.3 & N7 S0A-3R3 & 3.3 & 0.5 mmf & +120 & 301 or A & IC7.91 & N7501-910 & 91 & 5\% & \(\pm 120\) & 316 or 1 \\
    \hline IC7-5 & N750A-050 & 5 & 0.5 mmf & \(\pm 120\) & 301 or A & 1C7-100 & N7501-101 & 100 & 5\% & \(\pm 120\) & 316 or 1 \\
    \hline TC7-6.8 & N750A-6R8 & 6.8 & 0.5 mmf & \(\pm 120\) & 301 or A & TC7-110 & N7501-111 & 110 & 5\% & \(\pm 120\) & 316 or 1 \\
    \hline TC7-10 & N7 50A-100 & 10 & 0.5 mmf & * 120 & 301 or A & TC7-120 & N750l-121 & 120 & 5\% & \(\pm 120\) & 316 ort \\
    \hline IC7-12 & N750K-120 & 12 & 0.5 mmf & \(\pm 120\) & 315 or K & IC7.130 & N750-337-131 & 130 & 5\% & \(\pm 120\) & 337 \\
    \hline TC7-15 & N7 50K. 150 & 15 & 0.5 mmf & +120 & 315 or K & TC7-150 & N750-337-151 & 150 & \(5 \%\) & \(\pm 120\) & 337 \\
    \hline IC7-18 & N7 SOK-180 & 18 & 0.5 mmf & \(\pm 120\) & 315 or K & IC7-160 & N750-337-161 & 160 & \(5 \%\) & \(\pm 120\) & 337 \\
    \hline TC7-20 & N7 SOK-200 & 20 & 0.5 mmf & \(\pm 120\) & 315 or K & TC7.180 & N750-337-181 & 180 & 5\% & +120 & 337 \\
    \hline IC7-22 & N750K+220 & 22 & 5\% & \(\pm 120\) & 315 or K & IC7.200 & N750-337-201 & 200 & 5\% & \(\pm 120\) & 337 \\
    \hline TC7-24 & N7 50k-240 & 24 & 5\% & \(\pm 120\) & 315 or K & IC7-220 & N750-337-221 & 220 & 5\% & \(\pm 120\) & 337 \\
    \hline TC7-25 & N7 SOK-250 & 25 & 5\% & +120 & 315 or K & IC7-240 & N750-337-241 & 240 & 5\% & \(\pm 120\) & 337 \\
    \hline TC7-27 & N750K.270 & 27 & 5\% & +120 & 315 or K & TC7-270 & N750-337-271 & 270 & 5\% & \(\pm 120\) & 337 \\
    \hline IC7-30 & N750K.300 & 30 & 5\% & \(=120\) & 315 or K & TC7-300 & N750-333-301 & 300 & 5\% & \(\pm 120\) & 333 \\
    \hline IC7-33 & N7 SOK.330 & 33 & 5\% & \(\pm 120\) & 315 or K & TC7-330 & N750-333-331 & 330 & 5\% & \(\pm 120\) & 333 \\
    \hline IC7-36 & N7 SOK 360 & 36 & 5\% & \(\pm 120\) & 315 or K & TC7.360 & N750.333.361 & 360 & 5\% & \(\pm 120\) & 333 \\
    \hline TC7.39 & N750K-390 & 39 & 5\% & \(\pm 120\) & 315 or K & TC7.390 & N750.334-391 & 390 & \(5 \%\) & \(\pm 120\) & 334 \\
    \hline TC7.43 & N7 50K.430 & 43 & 5\% & +120 & 315 or K & TC7.430 & N750-334-431 & 430 & \(5 \%\) & \(\pm 120\) & 334 \\
    \hline TC7.47 & NT SOK.470 & 47 & 5\% & \(\pm 120\) & 315 or K & TC7.470 & N750-334-471 & 470 & 5\% & \(\pm 120\) & 334 \\
    \hline IC7-50 & N7 SOK-500 & 50 & 5\% & * 120 & 315 or K & TC7.510 & N750-334-511 & 510 & 5\% & \(\pm 120\) & 334 \\
    \hline TC7-51 & N7 50K-510 & 51 & 5\% & \(\pm 120\) & 315 or K & TC7.560 & N750.334.561 & 560 & 5\% & \(\pm 120\) & 334 \\
    \hline TC7-56 & N750K.560 & 56 & 5\% & \(\pm 120\) & 315 or K & TC7-620 & N750-335.621 & 620 & 5\% & \(\pm 120\) & 335 \\
    \hline IC7-62 & N750K-820 & 62 & 5\% & \(\pm 120\) & 315 ork & TC7.680 & N750-335-681 & 680 & 5\% & +120 & 335 \\
    \hline TC7.08
    TC7.75 & N7 SOL- 680
    N7501.750 & 68
    75 & 5\% & \(\pm 120\)
    +120 & 316 or 1
    316 or & TC7.750 & N750.335.751 & 750 & 5\% & +120 & 335 \\
    \hline
    \end{tabular}

    PARALLELING TC AND CAPACITIES

    A wide range of capacitance values and temperature coefficients can be obtained by using Erie NPO capacitors in parallel with either N330 or N750 units. The following
    formulae are used in determining the capacitance of the various temperature compensating units that are required to obtain any desired temperature coefficient and capacitance:
    \(\frac{\text { 1. (Capacitance in MMF) (Temp. Coef. Required) }}{{ }^{*} \text { 750 }}=\)
    Capacitance in MMF of the N750 unit to be used (use nearest standard capacitance value)
    2. (Total Capacitance Required) minus the value found in step 1 = capacitance in MMF of the NPO unit to be used.
    3 The total desired capacitance and temperature coefficient are obteined by connecting the units found in steps 1 and 2 in parallel.
    -If an N330 unit is to be used in parallel with an NPO unit, substitute 330 tor 75 v in this equation

    \section*{CAPACITY RANGES IN MMF FOR TEMPERATURE COMPENSATING CERAMICONS \({ }^{\text {B }}\)} (AVAILABLE ON SPECIAL ORDER)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline TEMPERATURE COEFFICIENT & \[
    \begin{aligned}
    & \mathrm{K}(\operatorname{lor} 315) \\
    & 331 \\
    & \mathrm{~A}(\operatorname{or} 301)
    \end{aligned}
    \] & \[
    \begin{gathered}
    \mathrm{L}(\text { or } 316) \\
    332 \\
    \mathrm{~B}(\mathrm{or} 302)
    \end{gathered}
    \] & \[
    \begin{gathered}
    M(\text { or } 317) \dagger \\
    333 \\
    C(\text { or } 303)
    \end{gathered}
    \] & \[
    \begin{gathered}
    334 \\
    \mathrm{D}(\mathrm{or} 304)
    \end{gathered}
    \] & \[
    \begin{gathered}
    335 \\
    E \text { (or } 305)
    \end{gathered}
    \] & \[
    \begin{gathered}
    330 \\
    \text { F (or } 305)
    \end{gathered}
    \] & \[
    \begin{gathered}
    338 \\
    \text { T (or } 308 \text { ) }
    \end{gathered}
    \] & \[
    \begin{gathered}
    337 \\
    S(0,307)
    \end{gathered}
    \] \\
    \hline P100 & 0.75-12 & 13.23 & 24.69 & 70.107 & 108-164 & 165-212 & 13-28 & 29.56 \\
    \hline P030 & 0.75-12 & 13.25 & 28.73 & 74.115 & 116.174 & 175-226 & 13.30 & 31.58 \\
    \hline NPO & 0.75 .22 & 23-44 & 45.130 & 131-200 & 201.308 & 309.400 & 23.52 & 53-102 \\
    \hline N030 & 0.75-23 & 24.45 & 46.133 & 134.210 & 211.317 & 318.420 & 24-54 & 55-105 \\
    \hline N080 & 1.00-27 & 28.53 & 54.155 & 156.240 & 241-368 & 369-480 & 28.62 & 63.122 \\
    \hline N150 & 1.00-30 & 31.60 & 61.176 & 177-275 & 276.420 & 421.545 & 31.71 & 72.140 \\
    \hline N220 & 1.00-33 & 34.66 & 67.194 & 195-300 & 301.470 & 471.600 & 34.78 & 79.153 \\
    \hline N330 & 1.00-37 & 38.73 & 74.215 & 216-334 & 335.510 & 511.865 & 38.87 & 88.170 \\
    \hline N470 & 1.00-44 & 45.88 & 89-260 & 261.400 & 401.620 & 621.800 & 45.104 & 105.204 \\
    \hline N750 & 1.50-62 & 63-120 & 121.360 & 361.560 & 561.840 & 841-1100 & 63-142 & 143-280 \\
    \hline N1500 & \(1.50-74\) & 75.147 & 148.430 & \(431-669\) & 670.1020 & Not Avoiloble & 74.173 & Not Available \\
    \hline
    \end{tabular}
    tType 317 available on JAN-C-20A only.
    
    non-insulated
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline SIYIE & \[
    \begin{aligned}
    & 301 \\
    & \text { or } A
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 302 \\
    & \text { or } 8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 308 \\
    & \text { or }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 307 \\
    & \text { or } \mathrm{s}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 303 \\
    & \text { or } \mathrm{C}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 304 \\
    & \text { or D }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 305 \\
    & \text { or } \mathrm{E}
    \end{aligned}
    \] & \[
    306
    \] \\
    \hline Retma & CC2O & CC25 & CC30 & CC32 & CC35 & CC40 & CC4 & CC45 \\
    \hline jan & CC2O & CC25 & CC30 & CC32 & CC35 & CC4 & CC45 & CC45 \\
    \hline Dia. D & . 200 & . 200 & . 230 & . 230 & . 265 & 360 & 380 & . 360 \\
    \hline Length & . 400 & . 656 & . 480 & . 880 & 1.125 & 1110 & 1.560 & 2.000 \\
    \hline
    \end{tabular}
    

    MOLDED INSULATED
    \begin{tabular}{|l|c|c|c|}
    \hline STYLE & \begin{tabular}{l}
    315 \\
    or K
    \end{tabular} & \begin{tabular}{l}
    318 \\
    or \(L\)
    \end{tabular} & \begin{tabular}{c}
    317 \\
    or \(M *\) \\
    \hline RETMA/JAN
    \end{tabular} \\
    \hline CC21 & CC28 & CC36 \\
    \hline Dio. D & .250 & .250 & .340 \\
    \hline Length \(L\) & .562 & .812 & 1.328 \\
    \hline
    \end{tabular}
    *Note: Style M or 317 is no longer available commercially. to specification JAN-C-20A.
    

    \section*{DIPPED PHENOLIC INSULATED}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{9}{|c|}{DIPPED PHENOLIC INSULATED} \\
    \hline STYLE & 331 & 332 & 338 & 337 & 333 & 334 & 335 & 336 \\
    \hline RETMA & CC22 & CC27 & CC31 & CC33 & CC37 & \(\bar{C} \bar{C} 42\) & CC4 7 & \(\mathrm{CCA}_{7}\) \\
    \hline JAN & CC20t & CC25 & CC30\% & CC32 \({ }^{\text {+ }}\) & CC35 \({ }^{\text {c }}\) & CC45 & c- 45 & CC45t \\
    \hline MIL & CK22 & CK27 & & & CK37 & & & \\
    \hline Dio. D & . 240 & 240 & . 312 & 312 & . 315 & 415 & 415 & . 415 \\
    \hline Length & . 460 & . 710 & . 550 & 937 & T. 250 & 1.213 & 1.650 & 2.025 \\
    \hline
    \end{tabular}
    \(\dagger\) Available on special order because of JAN overall dimensional limits. Specily either.
    a. Thin phenolic dip, meeting exact JAN dimensions,
    b. Standard insulating phenolic dip to dimensions ahown above.

    \section*{ERIE RESISTOR CORPORATION-ERIE, PA.}

    \section*{ERIE STAND-OFF CERAMICONS \({ }^{\circledR}\)}

    Stand-off Ceramicons, an original Erie development, are now widely used for the dual purposes of by-passing R.F. current to ground, and of mechanically supporting other circuit elements. They are especially suited for V.H.F. and U.H.F. applications, due to their low-inductance electrical paths and resultant high resonant frequency.
    

    STYLE 323
    

    STYLE 324
    Order by Part Number from Table
    \[
    500 \text { VDCW — STOCK ITEMS — } \pm 20 \%
    \]
    

    STYLE 325
    

    STYLE 326
    

    STYLE 2322
    

    STYLE 2336
    \begin{tabular}{|c|c|}
    \hline Erie Part No. & Capacity MMF \\
    \hline \(323-500\) & 50 \\
    \(323-101\) & 100 \\
    \(323-501\) & 500 \\
    \(324-102\) & 1000 \\
    \(324-152\) & 1500 \\
    \(325-102\) & 1000 \\
    \(325-152\) & 1500 \\
    \(326-102\) & 1000 \\
    \(326-152\) & 1500 \\
    \(2322-152\) & 1500 \\
    \(2322-252\) & 2500 \\
    \(2336-152\) & 1500 \\
    \(2336-252\) & 2500 \\
    2336.502 & 5000 \\
    & \\
    \hline
    \end{tabular}

    \section*{ERIE FEED-THRU CERAMICONS \({ }^{\circledR}\)}

    These very practical feed-thru capacitors are highly recommended for by-passing R.F. to ground in feed-thru applications. Wire terminals of Style 362 and hook type terminals of Style 327 are sufficiently rugged to serve as tie points for several connections, for supporting other circuit elements, and long enough for point to point wiring. Style 327 is hermetically sealed and ruggedized, and is primarily for military and similar commercial usage. Nut supplied.
    

    STYLE 327
    
    

    STYLE 357

    Order by Part Number from Table Below 500 VDCW — STOCK ITEMS — \(\pm 20 \%\)

    STYLE 362
    \begin{tabular}{|c|c|}
    \hline Erie Part No. & Capacity MMF \\
    \hline \(327-102\) & 1000 \\
    \(357-102\) & 1000 \\
    362.102 & 1000 \\
    \(362-152\) & 1500 \\
    \hline
    \end{tabular}

    \section*{ERIE SUPPRESSORS}

    Erie Suppressors are ruggedly constructed to withstand motor temperatures, vibration, and road shock. There are no soldered contacts in the assembly to open circuit due to engine heat. Every unit is sealed, making it impossible for water, grease or dirt to affect its operation.

    The change in resistance of Erie Suppressors after 1000 hours in \(100 \%\) humidity at \(40^{\circ} \mathrm{C}\). is well within usual tolerances specified by radio manufacturers.
    Many suppressors will drop considerably in resistance value after a few thousand miles of use, thus decreasing their suppression efficiency. The drop in Erie Suppressors is very small.
    L.Type Suppressors are held firmly on the spark plug ferrulea by the pressure contact at two points. The bottom of the bakelite uppressor case presses against the top of the plug ferrule and the crimp in the suppreasor sleeve against the side of the ferrule.

    Type 5-5 Suppressor Insfalled on Distributor Cable
    The Type S-5 Suppresaor is installed by twisting the wood. type screws into the ignition cable. The base of the woodscrews in all types of Erie Sup. pressors is a hexagon which is recessed in a hexagonal cavity to prevent its turning when the cable is being installed.
    

    Type L-7 Suppressor Insfolled on Distributor
    The bottom of the two rings extending around the metal terminal of the Type L. 7 Sup. pressor snapsinto a correspond. ingly positioned groove in the distributor head socket, forming a secure lock. If desired, a rub. ber akirt can be used to cover this diatributar head opening.

    Type 5-14
    Suppressor Installed on Magneto-Cable

    S-14 Suppressor is especially made for mounting into the magneto in certain types of ig. nition systems. The apring fits directly into the magneto. The other end has the wood screw for cable mounting.

    Order by Part Number from Table Below - +50-15\% Tolerance
    \begin{tabular}{|c|c|c|c|}
    \hline Erie Part No. & Application & Type No. & Suppression-Ohms \\
    \hline \begin{tabular}{l}
    L-AVR5ME \\
    L.4VRIOME
    \end{tabular} & Spark Plug & \[
    \begin{aligned}
    & \mathrm{L}-4 \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{array}{r}
    5,000 \\
    10,000
    \end{array}
    \] \\
    \hline \begin{tabular}{l}
    L-7VR5ME \\
    L.TVRIOME
    \end{tabular} & Spark Plug Distributar & \[
    \begin{aligned}
    & 1.7 \\
    & 1.7
    \end{aligned}
    \] & \[
    \begin{array}{r}
    5,000 \\
    10,000 \\
    \hline
    \end{array}
    \] \\
    \hline \begin{tabular}{l}
    S.5VRSME \\
    S.5VR10ME
    \end{tabular} & Distributor Cable & \[
    \begin{aligned}
    & 5.5 \\
    & 5.5
    \end{aligned}
    \] & \[
    \begin{array}{r}
    5,000 \\
    10,000 \\
    \hline
    \end{array}
    \] \\
    \hline \begin{tabular}{l}
    S.14VR5ME \\
    S-IAVRIOME
    \end{tabular} & Magnera-Coble & \[
    \begin{aligned}
    & 5.14 \\
    & 5.14
    \end{aligned}
    \] & \[
    \begin{array}{r}
    5,000 \\
    10,000 \\
    \hline
    \end{array}
    \] \\
    \hline
    \end{tabular}

    \section*{ERIE CERAMICON \({ }^{\circledR}\) TRIMMERS}

    These trimmers have been well known for years for their stability under the most exacting conditions. The top of the base and underside of the titanium dioxide rotor are lapped optically flat, thus eliminating air space variations with temperature. Fired silver electrodes are applied to top of base and rotor, so that capacity is changed by varying the
    amount of overlap. Capacity change per degree of rotation is approximately constant, resulting in a smoothness of adjustment not possible with compression type trimmers, where the greater part of capacity change is concentrated close to one end of adjustment.
    

    STYLE TS2A
    

    STYLE TD2A
    

    STYLE 557
    Polented

    Order by Catalog Number from Table Below STOCK ITEMS - 500 VDCW
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog No. & Erie Part No. & Capacity Range (MMF) & Temperature Coefficient & JAN No. \\
    \hline \[
    \begin{aligned}
    & \text { TS.A } \\
    & \text { TS.B } \\
    & \text { TS-C } \\
    & \text { TS-D } \\
    & \text { TS.E }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { TS2A-1.5 } \\
    & \text { TS2A.3 } \\
    & \text { TS2A-4 } \\
    & \text { TS2A-5 } \\
    & \text { TS2A-7 }
    \end{aligned}
    \] & \[
    \begin{array}{r}
    1.5 .7 \\
    3.12 \\
    4.30 \\
    5.20 \\
    7.45
    \end{array}
    \] & \begin{tabular}{l}
    NPO \\
    NPO \\
    N500 \\
    N300 \\
    N500
    \end{tabular} & \begin{tabular}{l}
    CVIIA070 \\
    CVIIA120 \\
    CVIIC300 \\
    CVIIB200 \\
    CVIIC450
    \end{tabular} \\
    \hline \[
    \begin{aligned}
    & \text { TD-A } \\
    & \text { TD-B } \\
    & \text { TD-C } \\
    & \text { TD-D } \\
    & \text { TD-E }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { TD2A-1.5 } \\
    & \text { TD2A-3 } \\
    & \text { TD2A-4 } \\
    & \text { TD2A-5 } \\
    & \text { TD2A-7 }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1.5 .7 \\
    & 3.12 \\
    & 4.30 \\
    & 5.20 \\
    & 7.45
    \end{aligned}
    \] & NPO NPO N500 N300 N500 & \[
    \begin{aligned}
    & \text { CV21A070 } \\
    & \text { CV21A120 } \\
    & \text { CV21C300 } \\
    & \text { CV21B200 } \\
    & \text { CV21C450 }
    \end{aligned}
    \] \\
    \hline \[
    \begin{aligned}
    & 557-A \\
    & 557-B \\
    & .557-\mathrm{F} \\
    & 557-\mathrm{G} \\
    & 557-\mathrm{H}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 557.1 .5 \\
    & 557.3 \\
    & 557.5 \\
    & 557.5 \\
    & 557-8
    \end{aligned}
    \] & \[
    \begin{array}{r}
    1.5 .7 \\
    3.12 \\
    5.25 \\
    5.30 \\
    8.50
    \end{array}
    \] & \begin{tabular}{l}
    NPO \\
    NPO \\
    NPO \\
    N750 \\
    N750
    \end{tabular} & \begin{tabular}{l}
    Not Covered \\
    8 y JAN-C. 81 \\
    Specifications
    \end{tabular} \\
    \hline
    \end{tabular}

    \section*{ERIE TUBULAR TRIMMERS}

    These are compact, economical Tubular Trimmers that are ideal for applications calling for a low minimum capacity and a high ratio of maximum to minimum capacity. Styles 532 and 535 have molded plastic dielectric. Styles \(3115-01\) and \(3139-01\) have ceramic dielectric.

    Order by Catalog Number from Table Below STOCK ITEMS - 500 VDCW
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog No. & Erie Part No. & Capacity Range (MMF) & Panel Thickness \\
    \hline \(532-\mathrm{A}\) & \(532-08-0 R 5\) & \(0.5-5\) & \(.040^{\prime \prime} 10.065^{\prime \prime}\) \\
    \hline \(532-\mathrm{B}\) & \(532-10\) & 1.8 & \(.040^{\prime \prime} 10.065^{\prime \prime}\) \\
    \hline \(535-\mathrm{C}\) & \(535-0 R 7\) & \(0.7-3\) & \(4010.050^{\prime \prime}\) \\
    \hline \(3115-\mathrm{D}\) & \(3115-01-0 R 5\) & \(0.5-3\) & \(.025^{\prime \prime} 10.065^{\prime \prime}\) \\
    \hline \(3115-\mathrm{E}\) & \(3115.01-10\) & 1.4 & \(.025^{\prime \prime} 10.065^{\prime \prime}\) \\
    \hline \(3199-\mathrm{D}\) & \(3139-01.0 R 5\) & \(0.5-3\) & \(.025^{\prime \prime} 10.045^{\prime \prime}\) \\
    \hline \(3139-\mathrm{E}\) & 3139.01 .10 & \(1-4\) & \(.025^{\prime \prime} 10.065^{\prime \prime}\) \\
    \hline
    \end{tabular}

    STYLE 532
    

    STYLE 3139-0
    STYLE 3115-01
    

    \section*{}
    

    CD "Blue Beavers" have became the service industry's mast papular tubular electralytic—being DESIGNED EXPRESSLY AND EXCLUSIVELY FOR SERVICE REPLACEMENT APPLICATIONS. Type BR is the campact unit in aluminum can with cardbaard auter sleeve. Fits neatly inta the cramped quarters of a chassis-self-supparted by means af rigid tinned sapper leads. The larger sizes may be further supparted by means af a metal strap. NEGATIVE TERMINAL IS GROUNDED TO CAN.
    TEMPERATURE RANGE-Ha \(+85^{\circ} \mathrm{C}\) except 500 V. D.C. to
    \begin{tabular}{|c|c|c|c|c|}
    \hline BR \({ }_{\text {cat. }}^{\text {No. }}\) & Cop. Mfd. & \({ }^{*}\) Con Size-Inches Diam. \(\times\) length & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Nei Price \\
    \hline & & 2 S V. D.C. & & \\
    \hline BR 102 & 10 & \(5 / 2 \times 1{ }^{16}\) & \$1.00 & \$ .60 \\
    \hline BR 202 & 20 & 5/8×110 & 1.00 & . 60 \\
    \hline BR 252 & 25 & \(5 / 8 \times 1{ }^{16}\) & 1.00 & . 60 \\
    \hline BR 502 & 50 & \(5 / 8 \times 1\) & 1.10 & . 66 \\
    \hline & & 50 V. D.C. & & \\
    \hline 8R 550 & 5 & \(5 / 8 \times 116\) & 1.00 & . 60 \\
    \hline BR 105 & 10 & \(5 / 0 \times 116\) & i. 00 & . 60 \\
    \hline BR 205 & 20 & 5/8×119 & 1.00 & . 60 \\
    \hline BR 255 & 25 & 5/6×1. & 1.05 & .63 \\
    \hline BR 505 & 50 & \(5 / 8 \times 1\). & 1.20 & . 72 \\
    \hline BR 415 & 4 & 150 V. D.C. & 1.00 & . 60 \\
    \hline BR 815 & 8 & \(5 / 6 \times 1{ }^{10}\) & 1.05 & . 63 \\
    \hline BR 1015 & 10 & 3/8 \(\times 1\) 1 & 1.05 & . 63 \\
    \hline 8R 1215 & 12 & \(5 / 6 \times 1\) & 1.10 & . 66 \\
    \hline BR 1615 & 16 & \(3 / 18 \times 1\) & 1.15 & . 69 \\
    \hline BR 2015 & \(2(1\) & \(5 / 8 \times 1\) & 1.20 & . 72 \\
    \hline BR 2515 & 25 & 1/4 \(\times 1{ }^{1}\) & 1.25 & . 75 \\
    \hline BR 3015 & 30 & \(3 / 4 \times 1{ }^{1}{ }_{16}\) & 1.30 & . 78 \\
    \hline BR 4015 & 40 & \(3 / 4 \times 11^{11}\) & 1.35 & . 81 \\
    \hline BR 5015 & 50 & \% \(\times 14\) & 1.40 & .84 \\
    \hline BR 6015 & 60 & \% 62 & 1.50 & . 90 \\
    \hline ER 8015 & 80 & \(7 / 8 \times 2\) & 1.60 & . 96 \\
    \hline 8R 10015 & 100 & \(1 \times 21 / 2\) & 1.75 & 1.05 \\
    \hline ER 15015 & 150 & \(1 \times 3\) & 1.90 & 1.14 \\
    \hline & & 250 V. D.C. & & \\
    \hline BR 425 & 4 & \(5 / 3 \times 1116\) & 1.00 & . 60 \\
    \hline 8R 825 & 8 & \(5 / 8 \times 1\) & 1.15 & . 69 \\
    \hline BR 1225 & 12 & \(5 / 8 \times 11_{16}\) & 1.25 & . 75 \\
    \hline 8R 1625 & 16 & \(3 / 4 \times 1{ }^{11}\) & 1.30 & . 78 \\
    \hline ER 2025 & 20 & 1/4 \(\times 111_{15}\) & 1.35 & . 81 \\
    \hline ER 3025 & 30 & \(7 \times 1{ }^{11}\) & 1.45 & . 87 \\
    \hline 8R 4025 & 40 & 7/8 \(\times 2\) & 1.55 & . 93 \\
    \hline BR 5025 & 50 & \(1 \times 2\) & 1.70 & 1.02 \\
    \hline BR 6025 & 60 & \(1 \times 21 / 2\) & 1.80 & 1.08 \\
    \hline BR 435 & 4 & 350 Y. D.C. & 1.05 & .63 \\
    \hline BR 835 & 8 & \(5 / 8 \times 1{ }^{11_{15}}\) & 1.20 & . 72 \\
    \hline BR 1235 & 12 & \(3 / 4 \times 1{ }^{116}\) & 1.30 & . 78 \\
    \hline BR 1635 & 16 & \(7 \times 1{ }^{11} 15\) & 1.40 & . 84 \\
    \hline BR 2035 & 20 & \(7 / 8 \times 1{ }^{13} 16\) & 1.45 & . 87 \\
    \hline ER 3035 & 30 & \(1 \times 2\) & 1.65 & .99 \\
    \hline BR 4035 & 40 & I \(\times 21 / 2\) & 1.75 & 1.05 \\
    \hline BR 5035 & 50 & \(1 \times 21 / 2\) & 1.85 & 1.11 \\
    \hline & & 450 V. D.C. & & \\
    \hline BR 145 & 1 & \(5 / 8 \times 1116\) & 1.10 & . 66 \\
    \hline BR 245 & 2 & \(5 / 4 \times 1116\) & 1.10 & . 66 \\
    \hline 虎 445 & 4 & \(5 / 2 \times 1{ }^{16}\) & 1.15 & . 69 \\
    \hline BR 845 & 8 & \(3 / 4 \times 1{ }^{16}\) & 1.25 & . 75 \\
    \hline BR 1045 & 10 & \(3 / 4 \times 1{ }^{11} 12\) & 1.30 & . 78 \\
    \hline BR 1245 & 12 & 1/2 \(\times 1415\) & 1.35 & . 81 \\
    \hline 8 B 1645 & 16 & \(7 / 0 \times 2\) & 1.40 & . 84 \\
    \hline BR 2045 & 20 & \(7 \% 2\) & 1.55 & . 93 \\
    \hline BR 3045 & 30 & \(1 \times 21 / 2\) & 1.70 & 1.02 \\
    \hline
    \end{tabular}

    Printed in U.S.A.
    

    \title{
    
    }

    MULTI－SECTION TUBULAR ELECTROLYTICS
    

    A new series of compact，fubular metal－cased，cardbaard sleeved electra－ lytics－specially sealed against heat and humidity．

    Feafuring－
    －Direct－fo－terminol internal lead construction reduces possi bility of shorts．（Pure oluminum wires crimped securely to－ gether with outer leads within oluminum stud terminals．）
    －New high－insulation vinylite covered leads－generous 7 inches long．
    －Sections seoled in aluminum tube for profection ogoinst moisture getting in，or electrolyte drying out．
    Wax impregnoted cardboard outer insulotion sleeve．
    －Rubber diophrogm．type vent insures ideal vent action under all conditions．
    －ideal for operation at temperatures up to \(85^{\circ} \mathrm{C}\)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline BRRD \({ }_{\text {Not．}}^{\text {Cot．}}\) & Cop． Mdd． & \[
    \begin{gathered}
    \text { D.C. } \\
    \text { w. Volss }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Can Six }+1 \text {-Ins. } \\
    & \text { Dio. } \times \text { Loth. }
    \end{aligned}
    \] & \[
    \underset{\text { Price }}{\text { Lisst }}
    \] & Net
    Price \\
    \hline BRD 2202 & 20－20 & 25 & 3／4 天 11.16 & \＄1．40 & ． 84 \\
    \hline SRD 113 & 10－10 & 50 & 2／4 \(\times 11 / 10\) & 1.40 & ． 84 \\
    \hline ERE 2115 & \(20-10\)
    \(20-20\) & 150 &  & 1.55
    1.65 & ． 93 \\
    \hline H00321s & 30－20 & 150 & 1／8×111囱 & 1.70 & 1.02 \\
    \hline BARD 3313 & 30－30 & 150 & \％\(\times 11111\) & 1.80 & 1.08 \\
    \hline BRD 4213 & 10－20 & 150 & \％\(\times 111 / 10\) & 1.75 & 1.03 \\
    \hline ERD 4313 & 10－30 & 150 & \％\(\times 2\) & 1.80 & 1.09 \\
    \hline Brepals & 40－40 & 150 & \％\(\times 2\) & 1.85 & 1.11 \\
    \hline BERD 313 & 50－30 & 150 & 1\％\(\times 2\) & 1.95 & 1.17 \\
    \hline BRDS313 & 50－50 & 150 & \(1 \times 2\) & 2.10 & 1.26 \\
    \hline EERDEA15 & 80－40 & 150 & \(1 \times 23\) 伯 & 2.25 & 1.33 \\
    \hline ＊BROIOIO1s & 100－100 & 150 & \(\times 3\) & 3.20 & 1.92 \\
    \hline BROP 8023 & \(8-8\) & 250 & \(31 / 8 \times 176\) & 1.60 & ． 96 \\
    \hline SERD 16823 & 16－8 & 250 & \(3 / 4 \times 2\) & 1.70 & 1.02 \\
    \hline BERD 16023 & 16－16 & 250 & \％ 102 & 1.80 & 1.08 \\
    \hline BERD 2223 & 20－20 & 250 & \(1 \times 111\) 亿 & 1.85 & 1.11 \\
    \hline EERD 3323 & 30－30 & 250 & \(1 \times 23\) 囱 & 2.25 & 1.33 \\
    \hline ＊ERRD 7 V 225 & 75－20 & 250 & \(1 \times 3\) & 2.60 & 1.36 \\
    \hline BERD ADA3 & 8－8 & 450 & \％\(\times 1110\) & 1.70 & 1.02 \\
    \hline EERD 16843 & 16－8 & 450 & \(1 \times 28\) & 2.00 & 1.20 \\
    \hline CRD 16043 & 16－16 & 150 & 1 \(\times 21 / 2\) & 2.25 & 1.35 \\
    \hline ＊Berd 2243 & 20－20 & 150 & \(1{ }_{1} \times 3\) & 2.50 & 1.30 \\
    \hline ＊BERD 3343 & 30－30 & 450 & \(11 / 0 \times 3\) 3 & 3.00 & 1.80 \\
    \hline ＊BERD443 & 40－40 & 450 & 1 \(\times 1 / 16\) & 3.40 & 2.04 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{BERT－Tripie－Common Negative} \\
    \hline BBRT \({ }_{\text {Cot．}}^{\text {No．}}\) & Cop． & w. Volts & \[
    \begin{aligned}
    & \text { Cont } \\
    & \text { Sixe-Inches } \\
    & \text { Dia. } \times \text { Lgth. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { List } \\
    \text { Price }
    \end{gathered}
    \] & Net
    Price \\
    \hline Brizters & 20－20－20 & 150 & \％\(\times 1114\) & \＄2．20 & \＄1．32 \\
    \hline antr 32vils & 30－25－20 & 150 & \％ \(1 / 2\) & 2.25 & 1.35 \\
    \hline BERT33313 & 30－30－30 & 150 & \(\times 2\) & 2.35 & 1.41 \\
    \hline BERT 42213 & 40－20－20 & 15 & ＊11／6 & 2.25 & 1.35 \\
    \hline EGRT 43213 & 40－30－20 & 150 & \(\times 2\) & 2.35 & 1.41 \\
    \hline ERTEALIS & 40－40－20 & 150 & 12 & 2.35 & 1.41 \\
    \hline CDRTA441s & 40－40－40 & 150 & \(\times 23\) 腺 & 2.45 & 1.47 \\
    \hline ＊BRT A421s & 80－40－20 & 150 & \(\times 3\) & 2.75 & 1.65 \\
    \hline ERET 2213 C & 20－20， 20 & 150， 25 & \％ \(16.11 / 10\) & 2.05 & 1.23 \\
    \hline BERT331SC & 30－30， 20 & 150， 25 & \％\(\% 2\) & 2.20 & 1.32 \\
    \hline BERT 421sc & 40－20， 20 & 150， 25 & \(1 \times 111 / 10\) & 2.15 & 1.29 \\
    \hline antalisc & 40－30， 20 & 150， 25 & \(\times 111 / 4\) & 2.20 & 1.32 \\
    \hline
    \end{tabular}

    ERRT－Triple－Common Negative
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline BBRT \({ }_{\text {Nat．}}\) & Cap． Mid． & W. Volts & \begin{tabular}{l}
    Can \(\dagger\) \\
    Size－Inches \\
    Dia，\(\times\) Lgth．
    \end{tabular} & \[
    \xrightarrow[\text { Price }]{\text { List }}
    \] & Not Price \\
    \hline Berta4isc & 40－40， 20 & 150， 25 & \(\times 118 / 6\) & 2.25 & 1．35 \\
    \hline BERT4415x25 & 40－40， 250 & 150， 10 & \(1 \times 23 / 6\) & 2.60 & 1.36 \\
    \hline 且即 S313C & 50－30， 20 & 150， 25 & \(1 \times 1110\) & 2.35 & 1.41 \\
    \hline CERTSISC & 50－50， 20 & 150， 25 & \(\times 2\) \％ 16 & 2.50 & 1.30 \\
    \hline EERT 84136 & 80－40， 20 & 150， 25 & 1．\(\times 21 / 2\) & 2.65 & 1.30 \\
    \hline Ener 3213610 & 30－20， 100 & 150， 25 & \(1 \times 2\) & 2.35 & 1.41 \\
    \hline E日RT3313x20 & 50－30， 200 & 150， 10 & \(1 \times 23 \%\) & 2.55 & 1.35 \\
    \hline andisalscio & 50－30， 100 & 150， 25 & \(1 \times 23\) 后 & 2.45 & 1.47 \\
    \hline  & 50－30，250 & 150， 25 & \(1 \times 3\) & 3.10 & 1.86 \\
    \hline EBRTE213c10 & 80－20， 100 & 150，25 & \(1 \times 21 / 2\) & 2.75 & 1.65 \\
    \hline BERT 2223 C & 20－20， 20 & 250， 25 & \(1 \times 2\) & 2.25 & 1.35 \\
    \hline 婹 42236 & 40－20， 20 & 250， 25 & \(1 \times 23\) 化 & 2.55 & 1.35 \\
    \hline BERT44236 & 40－40， 20 & 250， 25 & \(1 \times 211\) 后 & 2.90 & 1.74 \\
    \hline ＊EBRTTV4123 & 75－40－10 & 250 & \(11 / 8 \times 3\) & 3.45 & 2.07 \\
    \hline ＊EERT 16T4S & 16－16－16 & 450 & \(11 / 8\) & 3.10 & 1.84 \\
    \hline ＊BERT2243C & 20－20． 20 & 450， 25 & \(1 \times 3\) & 2.90 & 1.74 \\
    \hline
    \end{tabular}

    BERQ－Quadruple－Cammon Negative
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline B8RQ \({ }_{\text {Not．}}^{\text {No }}\) & Cop． Mfd． & \begin{tabular}{l}
    D．C． \\
    W．Valts
    \end{tabular} & Cant Sixe－Inches Dio．\(x\) Lgth． & \[
    \underset{\text { Price }}{\text { Lis! }}
    \] & \[
    \begin{aligned}
    & \text { Not } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline EsRE 332136 & 30－30－20， 20 & 150，25 & \(1 \times 2\) & \＄2．90 & \＄1．74 \\
    \hline BRRQ4215c & 40－20－20， 20 & 150， 25 & \(1 \times 2\) & 2.85 & 1.71 \\
    \hline BERQ 532136 & 50－30－20， 20 & 150． 25 & \(1 \times 21 / 2\) & 3.05 & 1.83 \\
    \hline BERQ44313c & 40－40－30， 20 & 150， 25 & 1．\(\times 21 / 2\) & 3.00 & 1.80 \\
    \hline ＊Brka s3sisc & 50－50－50， 20 & 150， 25 & \(1 \times 3\) & 3.45 & 2.07 \\
    \hline ＊nera 222436 & 20－20－20， 20 & 450． 25 & 1\％x 3\％ & 4.05 & 2.43 \\
    \hline
    \end{tabular}

    \section*{EDL－Dual Separate Section}

    Type EDL Copacitors ore dual units in cardboard tube con－ tainers with wax－filted ends．Capacities，voltages and polarity of the leods ore clearly defined by color coding stamped on the tube casing．

    TEMPERATURE RANGE：to \(+65^{\circ} \mathrm{C}\) ．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline EDL Cot． & Cop． Mid． & W.C. Valrs & \begin{tabular}{l}
    overall \\
    Size－Inches \\
    Dio．\(\times\) Lgth．
    \end{tabular} & List & Nel Price \\
    \hline ＊EDL 221355 & 20－20 & 150 & 15 ，i6＝ \(2 \mathrm{~s} / \mathrm{6}\) & \＄1．65 & 3 ． 90 \\
    \hline ＊EDL 331553 & 30－30 & 150 & \(1 \times 2 \%\) & 1.80 & 1.00 \\
    \hline ＊EDL 421353 & 40－20 & 150 & \(1 \times 2 \%\) & 1.75 & 1.05 \\
    \hline ＊EDL 44155 & 40－40 & 150 & \(11 / 6 \times 2 \%\) & 1.85 & 1.11 \\
    \hline ＊ & 50－30 & 150 & 1160 \(\times 2 \%\) & 1.95 & 1.17 \\
    \hline ＊EDL 531355 & 50－50 & 150 & \(1 \% \times 3 \%\) & 2.10 & 1.26 \\
    \hline ＊EDL 1355 & 80－40 & 150 & 12的： \(31 / 8\) & 2.25 & 1.35 \\
    \hline
    \end{tabular}
    tFor OVERAll size on BERD，BBRT and BBRQ，odd \(1 / 16^{\prime \prime}\) to Diam．and \(3 / 10^{"}\) po length
    All obove Packed－5 Units Der Corton，except those marked \(\left\{{ }^{\circ}\right.\) ）whichare Individual Corton Packed

    \section*{}

    \section*{HIGH-CAPACITY LOW-VOLTAGE ELECTROLYTICS}
    "18 bare wire leads 3" Long
    

    154" HOLE

    \section*{TYPE ERH}

    8RH compast lubular electrolytic capacitars are widely emplayed in portable radio power rectifying circuits, electric fence devices, telephone and D.C. Himing circuits. Mermetically sealed in pure aluminum cans with an external cardboard insulating sleeve, these units are provided with melal mounting strap and bare wire leads for convenient wiring into any sircuit assembly.

    TEMPERATURE RANGE to \(+85^{\circ} \mathrm{C}\)
    \begin{tabular}{|c|c|c|c|c|}
    \hline \[
    \text { BRH }{ }_{\text {Not }}^{\text {Not }}
    \] & Cop. Mid. & Cont Size-Inches Diam, \(x\) length & \[
    \underset{\text { List }}{\text { Price }}
    \] & Net Price \\
    \hline & & 6 D.C. W. Volts & & \\
    \hline BPH 601 & 100 & 5\%111 & 31.20 & \$ 72 \\
    \hline BRH 6025 & 250 & 5/8 \(\times 1{ }^{14}\) & 1.35 & .81 \\
    \hline BRH 605 & 500 & 3/4 \(\times 1{ }^{111} 10\) & 1.55 & .93 \\
    \hline BRH 610 & 1000 & 1/4 \(\times 2\) & 1.90 & 1.14 \\
    \hline BRH 620 & 2000 & \(1 \times 21 / 2\) & 2.30 & 1.38 \\
    \hline BRH 1225 & 250 & \(3 / 4 \times 11_{16}\) & 1.45 & . 87 \\
    \hline BRH 125 & 500 & \(7 / 1 \times 2\) & 1.70 & 1.02 \\
    \hline BRH 1210 & 1000 & \(1 \times 2\) & 2.25 & 1.35 \\
    \hline 8RH 1220 & 2000 & \(1 \times 3\) & 2.65 & 1.59 \\
    \hline & & 15 D.C. W. Volf: & & \\
    \hline BRH 151 & 100 & & 1.25 & .75 \\
    \hline BRH 1525 & 250 & \(3 / 4 \times 1{ }^{11} 16\) & 1.55 & .93 \\
    \hline ERH 155 & 500 & 1/4 \(\times 2\) & 1.75 & 1.05 \\
    \hline ERH 1510 & 1000 & \(1 \times 2\) & 2.30 & 1.38 \\
    \hline BRH 1520 & 2000 & \(1 \times 3\) & 3.20 & 1.92 \\
    \hline & & 25 D.C. W, Volts & & \\
    \hline BRH251 & 100 & \(3 / 1 \times 1 \times\) & 1.35 & . 81 \\
    \hline BRH 2525 & 250 & \(7 / 8 \times 1{ }^{11}\) & 1.70 & 1.02 \\
    \hline BRH25S & 500 & \[
    \text { so D.C. }{ }^{\times}{ }^{2} \text {. V olti }
    \] & 2.30 & 1.38 \\
    \hline BRH 501 & 100 & 3/4 \(\times 2\) & 1.40 & . 84 \\
    \hline BRH 5015 & 150 & 7/8 \(\times 2\) & 1.55 & . 93 \\
    \hline BRH 5025 & 250 & \(1 \times 2\) & 1.75 & 1.05 \\
    \hline BRH 5050 & 500 & \(\times 3\) & 2.40 & 1.44 \\
    \hline
    \end{tabular}
    †For Overall Size add \(1 / 10^{\prime \prime}\) to Diam. and \(3 / 10^{\prime \prime}\) to Lengith

    HIGH VOLTAGE TUBULAR ELECTROLYTICS
    TEMPERATURE RANGE to \(+85^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|}
    \hline BRHV \({ }_{\text {Nor. }}^{\text {No. }}\) & Cop. Mfd. & OVERALL Size-Inches Diam. x Length & \[
    \begin{aligned}
    & \begin{array}{l}
    \text { Liss } \\
    \text { Price }
    \end{array}
    \end{aligned}
    \] & Net Price \\
    \hline BRHV 850 & 8 & 500 D.C. W. Volte & \$1.30 & \$ . 78 \\
    \hline BRHY 1050 & 10 & \({ }_{1516}^{15} \times{ }^{16} \times{ }^{3} 16\) & 1.35 & . 81 \\
    \hline BRHY 1250 & 12 & \(1516 \times 3{ }^{1 / 2}\) & 1.40 & . 84 \\
    \hline BRHV 1650 & 18 & oo D.C. W. Wolfe & 1.50 & . 90 \\
    \hline ERHV 608 & 8 &  & 1.40 & . 84 \\
    \hline BRHY 610 & 10 & 13价 \(\times 32\) 何 & 1.45 & . 87 \\
    \hline Brav 612 & 12 &  & 1.50 & . 90 \\
    \hline ERHV616 & 18 &  & 1.85 & . 99 \\
    \hline BRHV 708 & 8 &  & 1.50 & . 90 \\
    \hline BRHV 710 & 10 & \(11_{16 \times 3} 3^{3} 16\) & 1.55 & . 93 \\
    \hline BRHY 712 & 12 & \(1116 \times 3116\) & 1.60 & . 96 \\
    \hline BRHV 716 & 16 & \(1115 \times 45 / 4\) & 1.75 & 1.05 \\
    \hline
    \end{tabular}

    Type FB capacitars in round cardboard sleeved aluminum cans are designed for high capacity, low voltage applications, and are especially papular as replacements in motion picture saund equipment, and other low voltage circuits.
    TEMPERATURE RANGE to \(+85^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline F3 \({ }_{\text {cot. }}^{\text {No. }}\) & Cop. Mfd. & \[
    \begin{aligned}
    & \text { D.C. } \\
    & \text { W. Volts }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Contt } \\
    & \text { Size-Inches } \\
    & \text { Dic. x Lath. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Nel Price \\
    \hline FB 1005 & 500 & 10 & \(1 \% \times 23 / 8\) & \$3.10 & \$1.86 \\
    \hline FE1010 & 1000 & 10 & \(1 \% \times 2 \%\) & 3.55 & 2.13 \\
    \hline FB101s & 1500 & 10 & \(1 \% \times 2 \%\) & 3.75 & 2.25 \\
    \hline FB 1020 & 2000 & 10 & \(13 \times 2 \%\) & 3.95 & 2.37 \\
    \hline FB 1030 & 3000 & 10 & \(13 \times 31 / 1\) & 4.35 & 2.61 \\
    \hline FB 1040 & 4000 & 10 & \(13 / 184\) & 4.75 & 2.85 \\
    \hline FB 1050 & 5000 & 10 & \(11 / 2 \times 41 /\) & 5.15 & 3.09 \\
    \hline FB 1050 & 6000 & 10 & \(13 / 4 \times 41 /\) & 7.50 & 4.50 \\
    \hline FB 1205 & 500 & 12 & \(13 / 8 \times 23\) & 3.20 & 1.92 \\
    \hline FB 1210 & 1000 & 12 & \(13 \times 2 \%\) & 3.75 & 2.25 \\
    \hline FB 1215 & 1500 & 12 & \(13 \times 2 \%\) & 3.95 & 2.37 \\
    \hline FB 1220 & 2000 & 12 & \(1 \% \times 31 / 4\) & 4.15 & 2.49 \\
    \hline F\% 1225 & 2500 & 12 & \(13 \times 31 /\) & 4.85 & 2.91 \\
    \hline F81230 & 3000 & 12 & \(13 \times 4 \%\) & 5.05 & 3.03 \\
    \hline FB 1240 & 4000 & 12 & \(11 / 2 \times 4 \%\) & 5.25 & 3.15 \\
    \hline FE 1280 & \$000 & 12 & \(2 \times 4 \%\) & 9.35 & 5.61 \\
    \hline F8 1505 & 500 & 15 & \(13 \times 2 \%\) & 3.25 & 1.95 \\
    \hline FB1510 & 1000 & 15 & \(1 \% \times 2 \%\) & 3.80 & 2.28 \\
    \hline FB1515 & 1500 & 15 & \(11 / 2 \times 2 / 8\) & 4.00 & 2.40 \\
    \hline FP1520 & 2000 & 15 & \(13 \times 31 / 0\) & 4.70 & 2.82 \\
    \hline FB 1530 & 3000 & 15 & \(11 / 2 \times 41 / 0\) & 5.15 & 3.09 \\
    \hline FB 1540 & 4000 & 15 & \(11 / 2 \times 41 / 4\) & 8.10 & 4.86 \\
    \hline FB 1560 & 6000 & 15 & \(2 \times 41 /\) & 10.00 & 6.00 \\
    \hline F8 1805 & 500 & 18 & \(1 \% \times 23\) & 3.00 & 1.80 \\
    \hline FB 1810 & 1000 & 18 & \(13 \times 21 / 8\) & 3.90 & 2.34 \\
    \hline FB 1820 & 2000 & 18 & 1\% \(\times 31 /\) & 4.90 & 2.94 \\
    \hline FB 1840 & 4000 & 18 & \(11 / 2 \times 41 / 2\) & 8.45 & 5.07 \\
    \hline Fs 2005 & 500 & 20 & \(1 \% \times 2 \%\) & 3.40 & 2.04 \\
    \hline F8 2010 & 1000 & 20 & \(11 / 2 \times 31 /\) & 4.10 & 2.46 \\
    \hline FB 2020 & 2000 & 20 & \(13 \times 41 / 2\) & 5.20 & 3.12 \\
    \hline FS 2040 & 4000 & 20 & \(2 \times 41 /\) & 8.75 & 5.25 \\
    \hline FB 2505 & 500 & 25 & \(11 / 23\) & 3.55 & 2.13 \\
    \hline FB 2510 & 1000 & 25 & \(13 / 2 \times 31 /\) & 4.80 & 2.88 \\
    \hline FB2520 & 2000 & 25 & \(13 / 4 \times 1 / 4\) & 5.75 & 3.45 \\
    \hline F8 2530 & 3000 & 25 & \(11 / 4 \times 41 / 4\) & 8.00 & 4.80 \\
    \hline Fs 2540 & 4000 & 25 & \(2 \times 41 / 4\) & 9.50 & 5.70 \\
    \hline FB2550 & 5000 & 25 & \(21 / 2 \times 41 / 4\) & 6.85 & 4.11 \\
    \hline FE 3005 & 500 & 30 & \(13 / 6 \times 31 / 6\) & 3.60 & 2.16 \\
    \hline FB 3010 & 1000 & 30 & \(11 / 6 \times 41 /\) & 4.90 & 2.94 \\
    \hline F83020 & 2000 & 30 & \(13 / 4 \times 41 / 4\) & 7.40 & 4.44 \\
    \hline FB 3030 & 3000 & 30 & \(2 \times 41 / 4\) & 8.95 & 5.37 \\
    \hline FB 3040 & 4000 & 30 & \(21 / 2 \times 41 / 6\) & 10.50 & 6.30 \\
    \hline FB 3505 & 500 & 35 & \(13 / 6 \times 31 /\) & 3.70 & 2.22 \\
    \hline F83510 & 1000 & 35 & \(13 \times 4 \%\) & 5.00 & 3.00 \\
    \hline FE3520 & 2000 & 35 & \(11 / 4 \times 4 \%\) & 8.00 & 4.80 \\
    \hline Fb 3530 & 3000 & 35 & \(2 \times 41 \%\) & 9.50 & 5.70 \\
    \hline FB 3540 & 4000 & 35 & \(21 / 2 \times 41 / 4\) & 11.00 & 6.60 \\
    \hline Fis 4005 & 500 & 40 & \(11 / 6 \times 31 / 6\) & 3.80 & 2.28 \\
    \hline FE 4010 & 1000 & 10 & \(1 \% \times 4 \%\) & 8.50 & 3.90 \\
    \hline FB 4020 & 2000 & 40 & \(13 / 4 \times 41 /\) & 9.00 & 5.40 \\
    \hline F8 4030 & 3000 & 40 & \(2 \times 41 / 6\) & 10.50 & 0.30 \\
    \hline F8 4040 & 4000 & 40 & \(21 / 2 \times 4 \%\) & 11.50 & 6.90 \\
    \hline FE 5005 & 500 & So & \(11 / 6 \times 31 / 8\) & 3.90 & 2.34 \\
    \hline FES 5010 & 1000 & 50 & \(13 / 6 \times 41 / 4\) & 7.00 & 4.20 \\
    \hline F85020 & 2000 & 50 & \(13 / 4 \times 4\) & 10.00 & 6.00 \\
    \hline FB 5030 & 3000 & 50 & \(2 \times 41 /\) & 11.50 & 6.90 \\
    \hline FE 5040 & 4000 & 50 & \(21 / 2 \times 41 / 0\) & 12.50 & 7.50 \\
    \hline
    \end{tabular}
    - When JAN.C. 62 units must be supplied, order occording to specific CE typo designotions,

    \title{
    
    }

    UP, UPT \& UPE TWIST-PRONG BĀSE ELECTROLYTICS
    

    Types UP ond UPT copocitors ore smoll, conveniently-mourisd, round con-type electrolytic units furnished with bokelise and metol mounting woshers. Terminols ore tinned for soldering. They ore dependoble in operotion over wide lemperoture voriotions with minimum copocily chonge,
    Units ore especiolly designed for use in television, rodio, omplifier ond other equipment where extremely high lemperotures, voltoge surges ond ripple currents ore encountered. They ore porticulorly populor as replocement copocitors for all stondord television receivers.§
    Type UPE unils ore designed for use in selenium rectifier circuits. When using selenium rectifiers in televison, rodio or other equipment, core must be token to employ ONLY this type electrolytic copocitor and protective resistor.
    TEMP. RANGE: to incl. 475 V.D.C.W. \(+85^{\circ} \mathrm{C}\).
    over 475 V.D.C.W. \(+65^{\circ} \mathrm{C}\).
    Single Section
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cap. Volts & Retational Steck Ne . & \[
    \begin{aligned}
    & \text { Cat. } \\
    & \mathrm{NoO}_{1}
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Sizt-Ins. } \\
    \text { Oia, } 1 \text { lgth. }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Pret } \\
    \text { Pricte }
    \end{gathered}
    \] \\
    \hline 10! 30 CPS . & A001 & UPT 102 & \(3 / 4 \times 2\) & \$2.00 & \$1.20 \\
    \hline .5!? 15,750 CPS. & A002 & UPT 100 & \(1 \times 2\) & 2.20 & 1.36 \\
    \hline 1 ! 60 CPS . & A003 & UPT 101 & \(11 / 6 \times 3\) & 2.80 & 1.08 \\
    \hline 2000 \% & A004 & UPT 2 M -6 & \(13 / 2 \times 2\) & 2.55 & 1.53 \\
    \hline 300010 & A00s & UP 3M.10 & \(11 / 18 \times 21 / 2\) & 2.90 & 1.74 \\
    \hline 1000/15 & A006 & UP 1M-15 & \(1 \times 21 / 2\) & 2.55 & 1.53 \\
    \hline 200015 & A007 & UP 2M.15 & \(131 / 21 / 2\) & 3.45 & 2.07 \\
    \hline 3000/15 & A00 \({ }^{\text {a }}\) & UP 3M.15 & \(11 / 8 \times 3\) & 3.52 & 2.11 \\
    \hline 40/25 & A009 & UP 40.25 & \(1 / 4 \times 2\) & 1.35 & . 81 \\
    \hline 100/25 & -A010 & UP 100.25 & 1/4x2 & 1.60 & . 96 \\
    \hline 500/25 & AO11 & UPT 103* & \(1 \times 21 / 2\) & 2.55 & 1.33 \\
    \hline 500/25 & A012 & UP 500.25 & \(1 \times 2\) & 2.55 & 1.33 \\
    \hline 1000/25 & 4013 & UP 1M-25 & \(11 / 4 \times 2\) & 3.55 & 2.13 \\
    \hline 100/50 & AOLA & UP 100.50 & 1/4×2 & 1.65 & . 99 \\
    \hline 150/50 & AO15 & UP 150.50 & \(1 \times 2\) & 1.80 & 1.08 \\
    \hline 500/50 & AO16 & UP 500.50 & \(13 / 6 \times 2\) & 2.65 & 1.50 \\
    \hline 1000/50 & A017 & UP 1M. 50 & \(11 / 4 \times 31 / 6\) & 3.75 & 2.25 \\
    \hline 30/150 & 0018 & UP 3015 & 1/4×2 & 1.55 & . 93 \\
    \hline 40/150 & AOIP & UP 4015 & \(1 \times 2\) & 1.80 & . 90 \\
    \hline 50/150 & \({ }^{4} 020\) & UP 5015 & \(1 \times 2\) & 1.65 & . 9 \\
    \hline 60/150 & A022 & UP 6015 & \(1 \times 2\) & 1.75 & 1.05 \\
    \hline 80/150 & +A023 & UPT 8015 & \(\times 2\) & 1.85 & 1.11 \\
    \hline 100/150 & thant & UP 10015 & \(1 \times 21 / 2\) & 2.00 & 1.20 \\
    \hline 120/150 & AO2 5 & UPT 12015 & \(12 \times 2\) & 2.10 & 1.26 \\
    \hline 150/150 & +A026 & UP 15015 & \(1 \times 3\) & 2.15 & 1.29 \\
    \hline 20/250 & A027 & UP 2025 & \(3 / 4 \times 2\) & 1.60 & . 96 \\
    \hline 30/250 & A028 & UP 3025 & \(1 \times 2\) & 1.70 & 1.02 \\
    \hline 40/250 & † 4020 & UP 4025 & \(1 \times 2\) & 1.80 & 1.08 \\
    \hline 60/250 & A030 & UP 8025 & 1 \(\times 21 / 2\) & 2.05 & 1.23 \\
    \hline 80/250 & A031 & UP 8025 & \(1 \times 3\) & 2.15 & 1.29 \\
    \hline
    \end{tabular}

    Single Section (Cont'd)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cap. Volis & Rotalienal Stock No. & \[
    \begin{aligned}
    & \text { Cat. } \\
    & \text { No. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Size-Ifs. } \\
    & \text { Dia. } x \text { Lglh. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Pist } \\
    \text { Price }
    \end{gathered}
    \] & Nat Price \\
    \hline 50/300 & -A032 & UP 5030 & \(1 \times 21 / 2\) & \$2.05 & \$1.23 \\
    \hline 80/300 & 1033 & UP 8030 & \(1 \times 3\) & 2.55 & 1.53 \\
    \hline 100/300 & 4034 & UPT 10030 & \(11 / 2 \times 3\) & 2.90 & 1.74 \\
    \hline 100/300 & A035 & UPT 104 & \(1 \times 35 / 1\) & 2.90 & 1.74 \\
    \hline 15/350 & - \({ }^{\text {- }}\) & UP 1535 & \(1 \times 2\) & 1.65 & . 99 \\
    \hline 30/350 & - 1037 & UP 3035 & \(1 \times 2\) & 1.90 & 1.14 \\
    \hline 40/350 & - Aว3s & UP 4035 & \(1 \times 21 / 2\) & 2.00 & . 20 \\
    \hline 50/350 & A039 & UP 5035 & \(1 \times 3\) & 2.10 & 1.26 \\
    \hline 80/350 & 1 1040 & UP 8035 & \(13 / 2 \times 21 / 2\) & 2.85 & 1.71 \\
    \hline 125/350 & +4041 & UP 12535 & \(11 / 2 \times 3\) & 3.65 & 2.19 \\
    \hline 80/400 & -A042 & UP 8040 & \(11 / 2 \times 3\) & 2.95 & 1.77 \\
    \hline 10/450 & A043 & UP 1045 & \(1 \times 2\) & 1.55 & . 93 \\
    \hline 10/450 & A044 & UP 1AJS7 & \(1 / 4 \times 2\) & 1.55 & . 03 \\
    \hline 15/450 & A045 & UP 1545 & \(1 \times 2\) & 1.70 & 1.02 \\
    \hline 20/450 & 4046 & UP 2045 & \(1 \times 2\) & 1.80 & 1.08 \\
    \hline 30/450 & 1047 & UP 3045 & \(1 \times 21 / 2\) & 1.95 & 1.17 \\
    \hline 40/450 & A048 & UPT 4045 & \(1 \times 3\) & 2.05 & . 23 \\
    \hline 50/450 & A049 & UP 5045 & \(1 \times 3 \%\) & 2.35 & 1.41 \\
    \hline 60/450 & A050 & UP 6045 & \(12 / 2 \times 21 / 2\) & 2.60 & 1.56 \\
    \hline 80/450 & AOS 1 & UP 8045 & \(12 / 1 \times 3\) & 3.05 & 1.83 \\
    \hline 10/500 & AO52 & UP 1050 & \(1 \times 2\) & 1.60 & . 96 \\
    \hline 20/500 & A0S3 & UP 2050 & \(1 \times 21 / 2\) & 1.85 & 1.11 \\
    \hline 25,500 & AOS 8 & UP 2550 & \(1 \times 21 / 2\) & 1.95 & 1.17 \\
    \hline 30/500 & ta0s 4 & UP 3050 & \(1 \times 3\) & 2.00 & 1.20 \\
    \hline 40/500 & AOSS & UP 4050 & \(1 \times 33 / 6\) & 2.50 & 1.50 \\
    \hline 80/500 & A0S 6 & UP 8050 & \(13 / 4 \times 35 / 4\) & 3.20 & 1.92 \\
    \hline 90/500 & A0S7 & UP 9050 & \(13 / 18 \times 35\) & 3.50 & 2.10 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{Dual Section} \\
    \hline \begin{tabular}{l}
    .5!) 15,750 CPS \\
    2.5!! 60 CPS.
    \end{tabular} & B00 1 & UPT 202 & \(13 / 4 \times 2\) & 3.90 & 2.34 \\
    \hline 1000-500 6 VNP & 8002 & UPT 203 & \(13 / 1 \times 2\) & 3.85 & 2.31 \\
    \hline 1000.1000/15 & 8003 & UPT 201 & \(1 \times 35 / 4\) & 4.40 & 2.64 \\
    \hline 1000.1000/15 & 8004 & UP 11 M .15 & \(11 / 1 \times 21 / 2\) & 4.40 & 2.64 \\
    \hline 20-20, 25 & 8005 & UP 22.25 & \(1 \times 2\) & 1.45 & . 87 \\
    \hline 40.40/25 & 8006 & UP 44-25 & \(1 \times 2\) & 1.60 & . 96 \\
    \hline 150.50/25 & 8007 & UPT 205 & \(1 \times 2\) & 1.90 & 1.14 \\
    \hline \(50.50 \cdot 50\) & 8008 & UP 55.50 & \(1 \times 2\) & 1.70 & 1.02 \\
    \hline 20.20150 & +8009 & UP 2215 & \(1 \times 2\) & 1.70 & 1.02 \\
    \hline \(30.20 / 150\) & 8010 & UP 3215 & \(1 \times 2\) & 1.75 & 1.05 \\
    \hline 30-30/150 & 8011 & UP 33:5 & \(1 \times 2\) & 1.85 & 1.11 \\
    \hline 40.20/150 & 8012 & UP 4215 & \(1 \times 2\) & 1.80 & 1.08 \\
    \hline 40.30/150 & 8013 & UP 4315 & \(1 \times 2\) & 1.85 & 1.11 \\
    \hline 40-40/150 & +8014 & UP 4415 & \(1 \times 2\) & 1.90 & 1.14 \\
    \hline 50.30 '150 & 8015 & UP 5315 & \(1 \times 2\) & 2.00 & 1.20 \\
    \hline 50-50/150 & +8016 & UP 5515 & \(1 \times 21 / 2\) & 2.15 & 1.29 \\
    \hline
    \end{tabular}

    \footnotetext{
    5 For application doto on C-D types UP, UPT and UPE Capacitors osk your jobber for C-D TELEVISION REPLACEMENT GUIDE, No. TVR7. t Superseded by equivalent ETCHED CATHODE Type UPE
    - Recommend Stocking Next Higher Voltoge Rating,
    }

    \section*{}

    UP, UPT \& UPE TWIST-PRONG BASE ELECTROLYTICS
    Dual Section (Cont'd)

    \footnotetext{
    Dual Section (Cont'd)
    }
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cap Volls & Rotatical Slock Nb. & \[
    \begin{aligned}
    & \mathrm{C}_{21} \\
    & \mathrm{NO}_{2}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Sire Ins, } \\
    & \text { Dia. } \mathrm{I} \text { Iglh. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \begin{tabular}{l}
    Nel \\
    Price
    \end{tabular} & Cap. Volts & Rofational Stsck No. & \[
    \begin{gathered}
    \text { Cat. } \\
    \mathrm{No}
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Sire Ims. } \\
    & \text { Dia. x Lgih. }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { pist } \\
    \text { Pice }
    \end{gathered}
    \] & Nel Price \\
    \hline & & & & & & 20/450 2025 & 8064 & UP 2045 C & \(\times 2\) & \$2.00 & \$1.20 \\
    \hline 75.75/150 & B017 & UP 75015 & \(1 \times 3\) & \(\$ 2.60\) & \$1.56 & 2045010025 & B089 & UP 2045C10 & * \(21 / 2\) & 2.20 & 1.32 \\
    \hline \(80.40 / 150\) & +801 & UP 8415 & 1/2 & 2.30 & 1.38 & 40/450 20/25 & B065 & UP 4045 C & \(\times 3\) & 2.45 & 1.47 \\
    \hline 200-5 150 & 8078 & UPT 207 & \(13 / 1 \times 21 / 2\) & 2.70 & 1.62 & 404505050 & B090 & UPT 4045V5 & \(1 \times 3 \%\) & 3.00 & 1.80 \\
    \hline 80.60 200 & 8019 & UPT 6620 & \(1 \% \times 2\) & 2.55 & 1.53 & 80/450 20/25 & B060 & UP 8045C & \(13 / 2 \times 3\) & 3.40 & 2.04 \\
    \hline 10-10/250 & B020 & UP 1125 & \(1 \times 2\) & 1.70 & 1.02 & 10/450 100/50 & B067 & UPT 204 & \(1 \% \times 2\) & 2.05 & 1.23 \\
    \hline 20-20/250 & 8021 & UP 2225 & \(1 \times 2\) & 1.90 & 1.14 & 2045080350 & 3068 & UPT 245-835 & \(13 / 1 \times 3\) & 3.65 & 2.19 \\
    \hline 30-30/250 & 8022 & UP 3325 & \(1 \times 21 / 2\) & 2.30 & 1.38 & 20450100,100 & B069 & UPT 245.1010 & \(13 / 2 \times 2\) & 2.65 & 1.59 \\
    \hline 40-20/250 & 8023 & UP 4225 & \(1 \times 21 / 2\) & 2.20 & 1.32 & 3045040150 & 8070 & UPT 345-415 & \(13 / 18 \times 2\) & 2.50 & 1.50 \\
    \hline 40.40/250 & +8024 & UP 4425 & \(1 \times 3\) & 2.55 & 1.53 & 40'450 10/350 & 8071 & UPT 445-135 & \(13 \times 2\) & 2.60 & 1.56 \\
    \hline 150.150/250 & 8025 & UPT 150D25 & \(13 / 2 \times 41 / 1\) & 5.15 & 3.09 & 80/450 50/50 & 8072 & UPT 8045V5 & \(1 \% \times 3\) & 3.50 & 2.10 \\
    \hline 50.50/300 & B026 & UP 5530 & \(13 / 1 \times 21 / 2\) & 3.35 & 2.01 & 1550020300 & 8073 & UPT 15850-230 & \(\times 21 / 2\) & 2.30 & 1.38 \\
    \hline 80.80/300 & B027 & UP 8830 & \(13 / 2 \times 3\) & 4.05 & 2.43 & \(20 / 500100300\) & B074 & UPT 250-1030 & \(13 \% \times 3\) & 3.95 & 2.37 \\
    \hline 120.20/300 & B028 & UPT 12230 & \(13 / 1 \times 3\) & 3.80 & 2.28 & 40/500 50/200 & B075 & UPT 450-520 & \(11 / 2 \times 21 / 2\) & 3.35 & 2.01 \\
    \hline 120-40 300 & 8079 & UPT 12430 & 13/2*3\% & 4.35 & 2.61 & 60/500 80/150 & 8076 & UPT 650-815 & \(13 / 4 \times 3 / 4\) & 3.75 & 2.23 \\
    \hline 15-15/350 & 8029 & UP 15035 & \(1 \times 2\) & 2.25 & 1.35 & 80/500 50/50 & 8077 & UPT 8050V5 & \(13 / 1 \times 35 / 4\) & 3.80 & 2.28 \\
    \hline 20-20/350 & 8030 & UP 2235 & \(1 \times 21 / 2\) & 2.30 & 1.38 & & & & & & \\
    \hline 30-30/350 & 8031 & UP 3335 & \(1 \times 3\) & 2.90 & 1.74 & \multicolumn{6}{|c|}{Triple Section} \\
    \hline 50.30/350 & 8032 & UP 5335 & \(1318 \times 21 / 2\) & 3.15 & 1.89 & & & & & & \\
    \hline 80-80/350 & 8033 & UPT 8835 & \(13 / 183 / 4\) & 4.70 & 2.82 & 20.20.20 25 & COOI & UPT 222.25 & \(\times 2\) & \$1.95 & \$1.17 \\
    \hline 40-120 400 & 8080 & UPT 213 & \(13 / 1 \times 41 / 6\) & 4.75 & 2.85 & 40-40-40/25 & c002 & UP 444-25 & \(\times 2\) & 2.15 & 1.29 \\
    \hline 60-60/400 & -8034 & UPT 6640 & \(13 / 4 \times 33 / 8\) & 4.40 & 2.64 & 30-30.30'50 & COO3 & UP 333-50 & \(\times 2\) & 2.15 & 1.29 \\
    \hline 80-10/400 & - BO 3 & UP 8140 & \(11 / 2 \times 3\) & 3.40 & 2.04 & 20-20-20 150 & +COO4 & UP 22215 & \(\times 2\) & 2.35 & 1.41 \\
    \hline 80.80 .400 & 8081 & UPT 8640 & \(13 / 1 \times 35 / 4\) & 4.45 & 2.67 & 30-30-10/150 & coos & UP 33115 & \(1 \times 2\) & 2.35 & 1.41 \\
    \hline 4.4/450 & B036 & UPT 4D45 & \(1 \times 2\) & 1.65 & . 99 & 40-20-10 150 & c006 & UP 42115 & \(1 \times 2\) & 2.35 & 1.41 \\
    \hline 10.10/450 & B037 & UPT 1145 & \(1 \times 2\) & 1.90 & 1.14 & 40-20-20 150 & +C007 & UP 42215 & \(1 \times 2\) & 2.40 & 1.44 \\
    \hline 15-10/450 & B082 & UPT 210 & \(1 \times 21 / 2\) & 2.05 & 1.23 & 40-30.20/150 & coos & UP 43215 & \(1 \times 2\) & 2.50 & 1.50 \\
    \hline 15.15/450 & 8038 & UP 15045 & 1. \({ }^{11 / 2}\) & 2.25 & 1.35 & 40-40-40/150 & coos & UP 44415 & \(1 \times 21 / 2\) & 2.60 & 1.50 \\
    \hline 20-10/450 & 8039 & UP 2145 & \(1 \times 21 / 2\) & 2.25 & 1.35 & 40.70-40/150 & colo & UP 47415 & \(1 \times 3\) & 2.95 & 1.77 \\
    \hline 20-20/450 & 8040 & UP 2245 & \(\times 3\) & 2.55 & 1.53 & 60.40-20/150 & coll & UP 64215 & \(1 \times 21 / 2\) & 2.75 & 1.65 \\
    \hline 30-10/450 & 3041 & UPT 3145 & 3 & 2.50 & 1.50 & 80-40-20 150 & coll & UP 84215 & \(1 \times 21 / 2\) & 2.90 & 1.74 \\
    \hline 30.10/450 & B042 & UPT 206 & \(13 \times 2\) & 2.40 & 1.44 & 20-20-10/250 & CO13 & UP 22125 & \(\times 2\) & 2.50 & 1.50 \\
    \hline \(30.30 / 450\) & 1043 & UP 3345 & \(131 / \times 21 / 2\) & 3.05 & 1.83 & 30.20.80 250 & coll & UP 32125 & \(1 \times 21 / 2\) & 2.70 & 1.62 \\
    \hline 40.5450 & 8083 & UPT 208 & \(\times 3\) & 2.55 & 1.53 & 40-20-10 250 & cols & UPT 42125 & \(13 \times 2\) & 2.85 & 1.71 \\
    \hline 40.20/450 & 8044 & UP 4245 & \(13 / 2 \times 21 / 2\) & 3.00 & 1.80 & 40.20-20/250 & cols & UP 42225 & \(\times 3\) & 2.90 & 1.74 \\
    \hline 40-40,450 & 8045 & UPT 4445 & \(11 / 4 \times 3\) & 3.45 & 2.07 & 80-80-60 250 & c017 & UPT 88625 & \(13 \times 35 / 4\) & 4.90 & 2.94 \\
    \hline 60.20/450 & B046 & UPT 6245 & \(13 / 2 \times 3\) & 3.55 & 2.13 & 20-80-10 300 & cols & UPT 28130 & \(13 / 1 \times 21 / 2\) & 3.80 & 2.28 \\
    \hline 60.60450 & B084 & UPT 6645 & \(13 / 2 \times 3 \%\) & 4.50 & 2.70 & 60-20-10/300 & cols & UPT 62130 & \(13 / 1821 / 2\) & 3.45 & 2.07 \\
    \hline 80-10/450 & 8047 & UPT 8145 & \(13 / 1 \times 3\) & 3.60 & 2.16 & 80-40-40 300 & C154 & UPT 84430 & \(11 / 8 \times 3\) & 4.75 & 2.85 \\
    \hline 80.40/450 & 8048 & UP 8445 & \(11 / 6 \times 33 / 2\) & 4.35 & 2.61 & 120.50.40/300 & c020 & UPT 125430 & \(13 / 1 \times 41 / 4\) & 5.65 & 3.39 \\
    \hline 10-10,500 & 8049 & UP 1150 & \(1 \times 21 / 2\) & 1.95 & 1.17 & 10.10.10/350 & \({ }^{-} \mathrm{CO21}\) & UP 11135 & \(\times 2\) & 2.40 & 1.44 \\
    \hline 20.20/500 & s0s0 & UP 2250 & \(11 / 2 \times 21 / 2\) & 2.85 & 1.71 & 20-20-10.350 & CO22 & UP 22135 & \(\times 3\) & 2.95 & 1.77 \\
    \hline 25.40/500 & B0S 1 & UPT 255450 & \(11 / 4 \times 3\) & 3.65 & 2.19 & 60.40.20 350 & CO23 & UPT 64235 & \(13 / 2 \times 3\) & 4.25 & 2.55 \\
    \hline 30-10/500 & cos2 & UPT 3150 & \(13 / 2 \times 21 / 2\) & 2.60 & 1.50 & 60.40.40 350 & c1s0 & UPT 64435 & \(13 / 4 \times 36\) & 4.70 & 2.82 \\
    \hline 40.40,500 & s03 3 & UP 4450 & \(13 / 23 / 2\) & 4.30 & 2.58 & 10-10.10 450 & c024 & UP 11145 & \(\times 21 / 2\) & 2.60 & 1.36 \\
    \hline -00-40,500 & 54 & UPT 6450 & \(13 / 183 / 2\) & 4.60 & 2.76 & 15.15.10 450 & CO25 & UP 150145 & \(\times 3\) & 2.95 & 1.77 \\
    \hline 250/10 1000/6 & B05s & UPT 200 & \(11 / 4 \times 2\) & 2.85 & 1.71 & 20.10.10 450 & CO26 & UP 21145 & - 3 & 2.95 & 1.77 \\
    \hline 40/150 150/25 & 8057 & UP 4015 Cl 5 & \(\times 2\) & 2.05 & 1.23 & 20.20.20 450 & C027 & UP 22245 & \(13 / 2 \times 21 / 2\) & 3.60 & 2.16 \\
    \hline 40/150 20/50 & 8050 & UP 4015 V 2 & \(1 \times 2\) & 1.70 & 1.02 & 30-20-20 450 & - \({ }^{\text {co28 }} 8\) & UP 32245 & \(13 / 2 \times 3\) & 3.85 & 2.31 \\
    \hline \(50 / 150500 / 5\) & 8085 & UPT 209 & \(1 \times 21 / 2\) & 2.45 & 1.47 & 30-30.20 450 & co29 & UPT 33245 & \(13 / 1 \times 3\) & 4.10 & 2.46 \\
    \hline 6020012525 & B086 & UPT 212 & \(1 \times 3\) & 2.40 & 1.44 & 30-30.30 450 & c030 & UPT 33345 & \(13 / 8 \times 3\) & 4.35 & 2.61 \\
    \hline 40/250 20/25 & B058 & UP 4025C & \(1 \times 2\) & 2.00 & 1.20 & 30.60.10 450 & CO3 1 & UPT 36145 & \(11 / 2 \times 35 / 4\) & 4.50 & 2.70 \\
    \hline 50/250 100/50 & 8059 & UPT 5025V10 & \(13 \times 2\) & 2.60 & 1.56 & 40.10.10/450 & CO32 & UPT 41145 & \(13 \times 3\) & 3.35 & 2.01 \\
    \hline 100/250 150/50 & 8060 & UPT 10025V15 & \(13 / 1 \times 3\) & 3.65 & 2.19 & 40-30-20 450 & CO33 & UP 43245 & \(11 / \times 3\) & 4.30 & 2.58 \\
    \hline 80300100,50 & B087 & UPT 8030V10 & \(13 / 2 \times 21 / 2\) & 15 & 1.89 & 40.40.10 450 & CO34 & UPT 44145 & \(11 / 18 \times 3\) & 4.15 & 2.49 \\
    \hline 20/350 20/25 & -8061 & UP 2035C & \(1 \times 2\) & 1.90 & 14 & 40.40.20 450 & C155 & UPT 44245 & \(13 / 2 \times 35 / 4\) & 4.45 & 2.67 \\
    \hline 2035010075 & 8088 & UPT 211 & \(1 \times 21 / 2\) & 2.25 & 35 & 40.40.40 450 & CO35 & UPT 44445 & \(13 / 2 \times 35 / 4\) & 4.90 & 2.94 \\
    \hline 40/350 20/25 & -8062 & UP 4035C & \(1 \times 21 / 2\) & 2.35 & 1.41 & 60.20-20 450 & co36 & UPT 62245 & \(13 / 2 \times 3 \%\) & 4.60 & 2.76 \\
    \hline 10/450 20/25 & 8063 & UP 1045C & \(\times 2\) & 1.75 & 1.02 & 80.40-20 450 & C037 & UPT \(842+5\) & \(13 / 2 \times 41 / 2\) & 5.40 & 3.24 \\
    \hline
    \end{tabular}

    \footnotetext{
    § For opplicotion doto on C.D fypes UP, UPT and UPE Copocitors osk your robber for C.D TELEVISION REPIACEMENT GUIDE, NO. TVR7
    + Superseded by equivolent ETCHED CATHODE Type UFE
    }

    \section*{}

    \section*{UP, UPT \& UPE TWIST-PRONG BASE ELECTROLYTICS}

    Triple Section (Cont'd)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cab. Voils & Retational Stect Ne . & Cat. & \[
    \begin{aligned}
    & \text { Size-Ims. } \\
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    \underset{\text { Price }}{\substack{\mathrm{NeI}}}
    \] & Cap./Volls & Rotational Slock No. & \[
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    \begin{aligned}
    & \text { Sire-tus. } \\
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    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { ritce }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \mathrm{Net} \\
    \text { Price }
    \end{gathered}
    \] \\
    \hline 10.30.30/475 & C156 & UPI 320 & \(13 / 4 \times 3 / 4\) & \$5.15 & \$3.09 & 10.10/450 20/25 & c091 & UP 1145C & \(1 \times 2\) & \$2.40 & \$1.44 \\
    \hline 10.10.10/500 & C03 8 & UP 11150 & \(1 \times 3\) & 2.70 & 1.62 & 10.10/450 40/50 & CO92 & UPT 1145 V 4 & \(1 \times 21 / 2\) & 2.50 & 1.50 \\
    \hline 30-20-20/500 & C039 & UPT 32250 & \(11 / 1 \times 3\) & 4.20 & 2.52 & 10-10/450 50/100 & coss & UPT 1145-510 & \(13 \times 2\) & 2.65 & 1.50 \\
    \hline 40.10.10/500 & CO40 & UPT 41150 & \(13 / 18\) & 3.90 & 2.34 & 15-15/450 20/25 & c094 & UP 15D4SC & \(1 \times 21 / 2\) & 2.75 & 1.65 \\
    \hline 40.40.10/500 & C041 & UPT 44150 & \(13 / 18 \times 3 / 4\) & 5.05 & 3.03 & 15-15/450 10/300 & - \(\mathbf{C 0 9 5}\) & UP 15D45.130 & \(\times 3\) & 2.90 & 1.74 \\
    \hline 15.15/150 1200/1.5 & C042 & UP 4CJ69 & \(1 \times 2\) & 3.05 & 1.83 & 20.10/450 20/25 & C096 & UP 2145C & \(1 \times 21 / 2\) & 2.75 & 1.65 \\
    \hline 20.20/150 20/25 & +CO43 & UP 2215C & \(1 \times 2\) & 2.20 & 1.32 & 20-10/450 50/50 & c097 & UPI 2145 V S & \(\times 3\) & 2.85 & 1.71 \\
    \hline 20.20/150 100/10 & CO44 & UP \(2215 \times 10\) & \(\times 2\) & 2.35 & 1.41 & 20-15/450 20/25 & c098 & UP 215545 C & \(\times 3\) & 2.90 & 1.74 \\
    \hline 20.20/150 250/10 & CO4 5 & UP \(2215 \times 25\) & \(\times 2\) & 2.60 & 1.56 & 20.20,450 20/25 & cose & UP 2245C & \(\times 3\) & 3.05 & 1.83 \\
    \hline 30.30/150 20/25 & COA 6 & UP 3315C & \(1 \times 2\) & 2.35 & 1.41 & 20.20/450 100/50 & C159 & UPT 2245 V 10 & \(13 / 4 \times 21 / 2\) & 3.50 & 2.10 \\
    \hline 30.30/150 200/10 & CO47 & UP \(3315 \times 20\) & \(1 \times 2\) & 2.50 & 1.50 & 20.20/450 60/350 & c100 & UPT 2245.635 & \(13 / 18 \times 3\) & 4.05 & 2.43 \\
    \hline 40.20/150 20/25 & rcoss & UP 4215C & \(1 \times 2\) & 2.30 & 1.38 & \(30 \cdot 20.450\) 30/150 & C101 & UPT 3245.315 & 13/6 x \(21 / 2\) & 3.50 & . 10 \\
    \hline 10-20/150 100/25 & co49 & UP 4215 Cl 10 & \(\times 2\) & 2.50 & 1.50 & 30-30/450 20/25 & C102 & UPT 3345C & \(13 / 4 \times 21 / 3\) & 3.55 & .1 \\
    \hline 40.20/150 100/10 & - coso & UP \(4215 \times 10\) & \(\times 2\) & 2.40 & 1.44 & 30.30/450 40/50 & C103 & UP 3345 V & \(13 / 4 \times 3\) & 3.6 & 2.19 \\
    \hline 40-20/150 200/25 & cos 1 & UP \(4215 \mathrm{SC20}\) & \(1 \times 21 / 2\) & 2.70 & 1.62 & 30-30/450 125/25 & C160 & UPT 322 & \(11 / 4 \times 3\) & 3.95 & 2.37 \\
    \hline 40.20/150 200/10 & - cos 2 & UP \(4215 \times 20\) & \(\times 2\) & 2.50 & 1.50 & 35-25/450 100.50 & C161 & UPT 323 & \(13 / 8 \times 3\) & 10 & 2.46 \\
    \hline 40.20/150 250/10 & CO53 & UP \(4215 \times 25\) & \(\times 2\) & 2.70 & 1.62 & 40-10/450 100'50 & c104 & UPT 4145 SVIO & \(13 / 8 \times 3\) & 3.55 & 2.13 \\
    \hline 40-30/150 20/25 & cos 4 & UP 4315 SC & \(\times 2\) & 2.35 & 1.41 & 40-10/450 80/200 & C105 & UPT 4145.820 & \(13 \times 3\) & 3.90 & 2.34 \\
    \hline \(40.40 / 150\) 20/25 & +COS5 & UP 44156 & \(\times 2\) & 2.40 & 1.44 & 40.20/450 20/25 & c106 & UP 4245 C & \(13 / 1 \times 21 / 2\) & 3.50 & 2.10 \\
    \hline 50-30/150 20/25 & cos 6 & UP S315C & \(1 \times 2\) & 2.50 & 1.50 & 40-40/450 20/25 & c107 & UP 4445C & \(13 / 1 \times 3\) & 3.95 & 2.37 \\
    \hline 50.30/150 100/25 & C057 & UP 5315C10 & \(1 \times 21 / 2\) & 2.70 & 1.02 & 40-40'450 4025 & C108 & UPT 4445C4 & \(13 / 18 \times 3\) & 2.45 & 1.47 \\
    \hline \(50.50 / 15020 / 25\) & CO58 & UP S515C & \(\times 21 / 2\) & 2.65 & 1.59 & 40.40 450 100/50 & c109 & UPT 4445 V 10 & \(13 / 1 \times 3 \%\) & 4.35 & 2.58 \\
    \hline 60.20/150 20/25 & coso & UP 62150 & \(1 \times 2\) & 2.55 & 1.53 & 40.40/450 40/150 & c110 & UPT 4445-415 & \(13 / 1 \times 33 / 4\) & 4.15 & . 49 \\
    \hline 60.40/150 20/25 & coso & UP 6415 C & \(1 \times 21 / 2\) & 2.85 & 1.59 & 60.404507550 & C162 & UPT 324 & \(13 / 4 \times 33 / 4\) & 4.65 & . 79 \\
    \hline \(80.40 / 15020 / 25\) & C061 & UP 84I5C & 1 \(\times 21 / 2\) & 2.80 & 1.68 & 80.10450125 .25 & C163 & UPT 325 & \(13 / 1 \times 33 / 6\) & 4.45 & . 67 \\
    \hline 120.60/150 20/25 & CO62 & UPT 12615 C & \(11 / 4 \times 21 / 2\) & 3.35 & 2.01 & 80.2045010050 & C164 & UPT 8245V10 & \(13 / 1 \times 41 / 4\) & 4.80 & 2.88 \\
    \hline 30-20/200 20/25 & COO3 & UP 3220C & \(1 \times 2\) & 2.55 & 1.53 & \(80.40 .450 \quad 100 / 25\) & c111 & UPT 8445C10 & \(13 / 4 \times 41 / 4\) & 5.10 & 3.06 \\
    \hline 40-80/200 100:50 & c157 & UPT 321 & \(13 \times 3\) & 3.50 & 2.10 & 10-10'500 100/50 & C112 & UPT 1150 V 10 & \(1 \times 3\) & 2.85 & 1.71 \\
    \hline 100.10/200 40/50 & cos 4 & UPT 10120V4 & \(13 \times 2\) & 3.15 & 1.89 & \(10.10 / 5004 / 350\) & C113 & UPT 318 & \(1 \times 21 / 2\) & 2.50 & 1.50 \\
    \hline 15-15/250 20/25 & cobs & UP 15D25C & 1 \(\times 2\) & 2.35 & 1.41 & 20.10/500 100/50 & C115 & UPT 2150 V 10 & \(1 \times 33 / 4\) & 3.30 & 1.98 \\
    \hline 20.15/250 20/25 & c066 & UP 215525 C & \(\times 2\) & 2.35 & 1.41 & 20.20 '500 60/400 & C116 & UPT 2250.640 & \(11 / 4 \times 3 \%\) & 4.8 & 2.88 \\
    \hline 30-30/250 20/25 & c067 & UP 3325C & . \(21 / 2\) & 2.80 & 1.68 & \(30.10^{\prime} 5002050\) & C117 & UPT 3150 V 2 & \(13 / 8 \times 21 / 2\) & 3.10 & . 36 \\
    \hline 40.40/250 10/200 & cis \({ }^{\text {s }}\) & UPT 4425.120 & \(\times 3\) & 2.95 & 1.77 & 40.40/500 100/200 & C118 & UPT 4450.1020 & \(11 / 4 \times 4 \%\) & 5.85 & 3.51 \\
    \hline 70-70/250 20/50 & coss & UPT 7725V2 & \(13 \times 3\) & 3.90 & 2.34 & 100/100 50-25/25 & C119 & UPT 308 & \(1 \times 3\) & 2.65 & 1.59 \\
    \hline 80-80/250 10/450 & c069 & UPT 8825-145 & \(13 / 1 \times 33 / 6\) & 4.20 & 2.52 & 20/150 250.100/15 & C120 & UPT 310 & \(13 / 4 \times 2\) & 2.90 & 4 \\
    \hline 10.10/300 15/250 & coro & UPT 309 & \(1 \times 2\) & 2.45 & 1.47 & 120/3C0 15-10/450 & c121 & UPT 305 & \(13 \times 3 \%\) & 4.50 & \% \\
    \hline 20-20/300 20/25 & -c071 & UP 2230C & \(1 \times 2\) & 2.75 & 1.65 & \(4 / 350100.4025\) & C165 & UPT 326 & \(\times 2\) & 2.2 & 1.35 \\
    \hline 30.30/300 25/50 & c072 & UP 3330V2 & \(1 \times 3\) & 2.90 & 74 & 30/350 20.10/250 & -C122 & UP 335.2125 & \(\times 3\) & 3.00 & 10 \\
    \hline 10.15/300 20/25 & +CO73 & UP 415530 C & \(1 \times 3\) & 2.95 & 1.77 & 80/400 20.10/300 & C123 & UPT 840.2130 & \(13 \times 35 / 4\) & 4.25 & . 5 \\
    \hline 10.5/350 30/50 & c1 13 & UPT 319 & \(1 \times 21 / 2\) & 2.55 & 1.53 & 10/450 20.10, 25 & C160 & UPT 32 & \(1 \times 2\) & 2.15 & . 29 \\
    \hline 10.5/350 150/50 & c074 & UPT 316 & \(1 \times 3\) & 2.70 & 1.62 & 20/450 40.10/250 & C124 & UPT 245.4125 & \(13 / 182\) & 3.15 & . 3 \\
    \hline 10.10/350 20/25 & -c075 & UP 11356 & \(1 \times 2\) & 2.25 & 1.35 & \(2045080-10350\) & C167 & UPT 245-8135 & \(13 / 4 \times 3 \%\) & 4.25 & 2.55 \\
    \hline 10.15/350 20/25 & - \({ }^{\text {co7 }} 6\) & UP 115535 C & \(1 \times 2\) & 2.50 & 1.50 & 30/450 100.25/25 & C123 & UPT 304 & \(13 / 1 \times 2\) & 3.00 & . 80 \\
    \hline 15-10/350 20/25 & c077 & UP 155135C & \(1 \times 2\) & 2.50 & 1.50 & 40/450 90-50/150 & C126 & UPT 445.9515 & \(13 / 1 \times 3\) & 4.00 & 2.40 \\
    \hline 20.10/350 20/25 & \({ }^{-}\)c078 & UP 2135 C & \(1 \times 2\) & 2.55 & 1.53 & 60,450 40-20 350 & C168 & UPT 645-4235 & \(13 / 1 \times 35 / 4\) & 4.80 & . 76 \\
    \hline 20.10/350 5/250 & c079 & UP 4CJ66 & \(1 \times 2\) & 2.55 & 1.53 & \(80.450 \quad 100-2050\) & c169 & UPT 328 & \(13 / 1 \times 3 \%\) & 4.25 & . 55 \\
    \hline 20-20/350 20/25 & coso & UP 2235 C & \(1 \times 21 / 2\) & 2.80 & 1.68 & \(40,47540.10250\) & c170 & UPT 329 & \(13 / 1 \times 21 / 2\) & 4.00 & 2.40 \\
    \hline 30.10/350 20/25 & CO8 1 & UP 31356 & 1 \(\times 21 / 3\) & 2.85 & 1.71 & 4047580.10300 & c171 & UPT 330 & \(13 / 1 \times 35\) & 4.80 & . 88 \\
    \hline 30-10/350 20/250 & COS2 & UP 3135-225 & \(1 \times 3\) & 3.05 & 1.83 & \(40 / 475\) 20-20 450 & c172 & UPT 331 & \(13 \times 3\) & 4.50 & . 70 \\
    \hline 30-20/350 20/25 & coss & UPT 3235C & 3 & 3.10 & . 86 & 10/500 80-10/150 & C151 & UPT 150-8115 & \(1 \times 3 \%\) & 2.85 & . 7 \\
    \hline 30.30/350 20/25 & cosa & UP 3335C & \(13 / 8 \times 2\) & 3.40 & 4 & 40/150 25/25 130/15 & C127 & UPT 314 & \(\times 3\) & 2.35 & . 4 \\
    \hline 40.20/350 10/100 & cos 5 & UPI 4235-110 & \(11 \% \times 2\) & 2.85 & 71 & \(50 / 150100502025\) & c173 & UPT 332 & \(\times 3\) & 2.85 & 1.71 \\
    \hline 20.40/350 10/150 & cos 6 & UPT 2435-115 & \(\times 3\) & 3.20 & 1.92 & 80/250 40/150 50/50 & C128 & UPT 825-415V5 & \(13 / 2 \times 21 / 2\) & 3.30 & 1.98 \\
    \hline 40-40/350 50/25 & cos 7 & UPT 4435C5 & \(11 / 2 \times 21 / 2\) & 3.75 & 2.25 & 100/300 80/150 20/25 & C129 & UPT 1030.615C & \(11 / 8 \times 3\) & 4.20 & 2.52 \\
    \hline 30.10/400 150/50 & -coss & UPT 3140 V 15 & \(13 / 2 \times 21 / 2\) & 3.40 & 2.04 & 20/350 50/100 100/75 & C130 & UPT 307 & \(\times 3\) & 3.10 & 1.86 \\
    \hline \(80.40 / 400150 / 50\) & cose & UPT 8440V15 & \(11 / 2 \times 33 / \%\) & 5.15 & 3.09 & 30/350 30/300 20/25 & c 131 & UP 335.330C & \(1 \times 3\) & 3.15 & 1.89 \\
    \hline 100.10/400 20/50 & C152 & UPT 10140V2 & \(11 / 8 \times 35\) & 4.50 & 2.70 & 50/350 10/250 500/5 & C 132 & UPT 302 & \(13 / 4 \times 21 / 2\) & 3.60 & 2.16 \\
    \hline 15.5/450 15/350 & c090 & UP OCJ68 & \(1 \times 3\) & 2.85 & 1.71 & 10/400 50/350 30/25 & C133 & UPT 140-535C3 & \(1 \times 3\) & 3.10 & . 86 \\
    \hline
    \end{tabular}

    \footnotetext{
    § For application data on C.D types UP, UPT and UPE Capacitors ask your iobber for C-D TELEVISION REPLACEMENT GUIDE, No. TVR7.
    \(\$\) Superseded by equivalent ETCHED CATHODE Type UPE
    }

    \title{
    UP, UPT \& UPE TWIST-PRONG BASE ELECTROLYTICS
    }
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cas./Volls & Rolational Stich Ne . & \[
    \begin{gathered}
    \text { Cat. } \\
    \mathbf{N e} .
    \end{gathered}
    \] &  & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Prite }
    \end{aligned}
    \] & Met Price \\
    \hline 60/400 40/300 20/25 & c134 & UPT 640-430C & \(11 / 2 \times 3 \%\) & \$4.20 & \$2.32 \\
    \hline 10/450 50/150 100/25 & C133 & UPT 313 & \(1 \times 3\) & 2.75 & 1.63 \\
    \hline 10/450 40/300 10/150 & c136 & UPT 306 & \(13 \times 2\) & 3.10 & 1.86 \\
    \hline 10/450 40/3501 100,50, & C174 & UPT 333 & \(14 / 4 \times 34\) & 3.40 & 2.04 \\
    \hline 10/450 30/400 30/300 & C137 & UPT 301 & \(1318 \times 21 / 2\) & 3.35 & 2.01 \\
    \hline 15/450 20/350 20/250 & C138 & UP 6 CJIT & \(1 \times 3\) & 3.00 & 1.80 \\
    \hline 20/450 60/250 100/25 & c139 & UPT 312 & \(13 / 8 \times 21 / 2\) & 3.65 & 2.19 \\
    \hline 20/450 15/350 10/300 & C140 & UP 6 C 167 & \(1 \times 3\) & 3.05 & 1.83 \\
    \hline 20/450 80/350 100/50 & c141 & UPT 317 & 1818 \(\times 3 \%\) & 4.50 & 2.70 \\
    \hline 30/450 40/350 50/25 & C149 & UPT 345-435C5 & \(1 \times 41 / 4\) & 3.70 & 2.22 \\
    \hline 30/450 50/400 40/25 & C142 & UPT 345-540C4 & \(12 / 8 \times 3\) & 3.95 & 2.37 \\
    \hline 40/450 40/150 130/50 & C143 & UPT 300 & \(12 / 8 \times 3\) & 3.65 & 2.19 \\
    \hline 40/450 100/150 50/50 & C144 & UPT 311 & \(1 \% \times 3\) & 3.95 & 2.37 \\
    \hline 40/450 50,350 50/300 & C175 & UPT 334 & \(11 / 4 \times 41 / 4\) & 4.85 & 2.91 \\
    \hline 10/475 4 \(35040 / 250\) & c176 & UPT 335 & \(13 / 8 \times 2\) & 2.75 & 1.65 \\
    \hline 20/475 50, 50 20/25 & c177 & UPT 336 & \(1 \times 3\) & 2.75 & 1.65 \\
    \hline 10/500 100/200 40/50 & C145 & UPT 315 & \(14 / 8 \times 21 / 2\) & 3.35 & 2.01 \\
    \hline 20/500 20/300 40/25 & c140 & UPT 250.230C4 & \(11 / 8 \times 2\) & 3.10 & 1.86 \\
    \hline 40/500 40/250 100/50 & C147 & UPT 303 & \(11 / 6 \times 3\) & 4.30 & 2.58 \\
    \hline 40/500 40/400 25,50 & C148 & UPT \(450-440 \mathrm{~V} 2\) & \(13 \times 3\) & 4.30 & 2.58 \\
    \hline
    \end{tabular}

    \section*{Quadruple Section}
    \(40.40 \cdot 40-30 / 150\) 40-20.10.10/300 40-40-20-10 300 \(60.40 \cdot 10.10300\) \(10-10-10-10^{\circ} 350\) \(80-10-10-10 / 350\) \(30.30-20.20 / 400\) 80-10-10-10 400 \(80.20-10-10,400\) 4-4.4.4 450 5-5.5-5, 450 \(10.10 .10-5450\) 10.10.10.10/450 15-30-30-10 450 \(15 \cdot 30-30-30.450\) \(20.10-10.10 .450\) 20-20-20-20/450 30.15-15.15/450 35-35-10.5/450 40.10-10.10/450 40.20-10.10/450 40.40 .4 .4450 \(40-40-20-20450\) \(40.40 .30-30,450\) 70.10.10.5, 450 10-10-10-10/500 20-20.20/150 20/25 30.20-20/150 200/10 \(30-30.30 / 15040 / 25\) 10-20-20/150 20/25 40-40-20/150 200/10 40-40.30/150 20/25 40-40-40/150 20/25 \(40.40-40 / 150100 / 25\) 40-40-40/150 160/25
    \begin{tabular}{|c|c|c|c|c|}
    \hline DOO 1 & UP 444315 & \(13 \times 2\) & \$3.35 & \$2.01 \\
    \hline D 111 & UPT 421130 & \(11 / 8 \times 2\) & 3.95 & 2.37 \\
    \hline D002 & UPT 442130 & \(13 / 1 \times 21 / 2\) & 4.55 & 2.73 \\
    \hline D112 & UPT 641130 & 11/6=35/1 & 4.55 & 2.73 \\
    \hline - D003 & UPT 111135 & \(11 / 2\) & 3.10 & 1.86 \\
    \hline -0004 & UPT 811135 & 1\% = \(3 \%\) & 4.60 & 2.76 \\
    \hline D00s & UPT 332240 & \(1 \% \times 3\) & 4.85 & 2.91 \\
    \hline 0118 & UPT 811140 & \(11 / 2 \times 3 \%\) & 4.70 & 2.82 \\
    \hline D006 & UPT 821140 & \(13 / 4 \times 3 / 4\) & 5.05 & 3.03 \\
    \hline D007 & UPT 4Q4S & \(1 \%\) : 2 & 2.90 & 1.74 \\
    \hline D008 & UP SQ45 & \(1 \% \times 2\) & 3.00 & 1.80 \\
    \hline D119 & UPT 441 & \(13 \times 2\) & 3.25 & 1.95 \\
    \hline D009 & UPT 111145 & \(1 \% \times 2\) & 3.35 & 2.01 \\
    \hline D010 & UPT 15S33145 & \(13 / 2 \times 3\) & 4.70 & 2.80 \\
    \hline D011 & UPT 15S33345 & \(13 / 18 \times 3 \%\) & 5.30 & 3.18 \\
    \hline DO12 & UPT 211145 & \(13 / 1 \times 21 / 2\) & 3.70 & 2.22 \\
    \hline 0013 & UPT 222245 & \(13 / 6 \times 3\) & 4.70 & 2.82 \\
    \hline D014 & UPT 315 T4S & \(13 / 18\) & 4.45 & 2.67 \\
    \hline DO13 & UPT 420 & \(13 / 6 \times 35\) & 4.65 & 2.79 \\
    \hline D016 & UP 411145 & \(13 / 1 \times 3\) & 4.15 & 2.49 \\
    \hline D017 & UPT 421145 & \(13 \times 3\) & 4.45 & 2.67 \\
    \hline D 120 & UPT 442 & \(13 / 18 \times 3 / 6\) & 4.65 & 2.79 \\
    \hline D121 & UPT 442245 & \(13 / 6 \times 41 / 2\) & 5.55 & 3.33 \\
    \hline D122 & UPT 443345 & \(13 / 18 \times 4 \%\) & 6.05 & 3.63 \\
    \hline D123 & UPT 443 & \(13 / 18 \times 38\) & 4.75 & 2.85 \\
    \hline D018 & UPT 111150 & \(13 / 6 \times 2\) & 3.50 & 2.10 \\
    \hline D019 & UP 22215 C & \(13 \times 2\) & 2.90 & 1.74 \\
    \hline D020 & UP \(32215 \times 20\) & \(13 / 6 \times 2\) & 3.10 & 1.86 \\
    \hline DO2 1 & UP 33315 SC & \(13 / 1 \times 2\) & 3.10 & 1.86 \\
    \hline D022 & UPT 42215 C & \(1 \% \times 2\) & 2.95 & 1.77 \\
    \hline D023 & UP \(44215 \times 20\) & \(13 / 182\) & 3.25 & 1.95 \\
    \hline D024 & UP 44315 C & \(13 / 1 \times 2\) & 3.10 & 1.86 \\
    \hline DO2 5 & UP 44415C & \(13 / 8 \times 2\) & 3.15 & 1.89 \\
    \hline DO26 & UP 44415C10 & \(13 / 14 \times 2\) & 3.35 & 2.01 \\
    \hline D027 & UP 44415C16 & \(11 / 10 \times 2\) & 3.55 & 2.13 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cas/Valts & Relational Stach Ne . & \begin{tabular}{l}
    Cat \\
    Ne .
    \end{tabular} &  & \[
    \begin{gathered}
    \text { List } \\
    \text { Price }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Nol } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 50-30-30/150 100/25 & 0028 & UP 53315C10 & \(12 \times 2\) & \$3.45 & \$2.07 \\
    \hline 50.50.50/150 20/25 & 0029 & UP 55sisc & \(13 / 182\) & 3.55 & 2.13 \\
    \hline 60.40.20/150 200/10 & D030 & UP \(64215 \times 20\) & 1\%x2 & 3.50 & 2.10 \\
    \hline 75.75-75/150 30/25 & D03 1 & UP 75115 SC & \(1 \% \times 3\) & 4.30 & 2.58 \\
    \hline 80.40-40/150 20/25 & D032 & UP 84AISC & \(11 / 8 \times 2\) & 3.55 & 2.13 \\
    \hline 80.40-40/150 100/25 & D03 3 & UP 84415C10 & \(18 \times 21 / 2\) & 3.75 & 2.25 \\
    \hline 40-20-10/250 20/25 & D034 & UP 4212SC & \(12 / 8 \times 2\) & 3.40 & 2.04 \\
    \hline 80.60.40/250 20/150 & 0035 & UPT 86425-215 & \(12 / 4 \times 3 \%\) & 5.10 & 3.06 \\
    \hline 100-40-10/250 100/50 & D036 & UPT 415 & 1\% \(\times 3 \%\) & 5.15 & 3.09 \\
    \hline 40-40-40/300 20/150 & D037 & UPT 44430-215 & 1\% \(\times 3\) & 4.90 & 2.94 \\
    \hline 60.40-20/300 50/25 & Dos: & UPT 64230CS & \(12 / 6 \times 3\) & 4.70 & 2.82 \\
    \hline 10-10.10/350 20/25 & - D039 & UP 11135C & \(13 \times 2\) & 2.95 & 1.77 \\
    \hline 15-15-15/350 50/50 & 0040 & UPT I St35V5 & \(13 \times 2\) & 3.80 & 2.28 \\
    \hline 20.10.5/350 20/25 & D041 & Ue 2is3se & \(11 / 18 \times 2\) & 3.10 & 1.86 \\
    \hline 30-20-20/350 20/25 & - 0042 & UP 32235C & \(1 \% \times 21 / 2\) & 4.10 & 2.46 \\
    \hline 40-40-20/350 20/25 & 0043 & UP 44235 C & \(13 / 18 \times 3\) & 4.70 & 2.82 \\
    \hline 40-20-20/350 25/25 & 0044 & UPT 42235 C & \(11 / 2 \times 21 / 2\) & 4.25 & 2.55 \\
    \hline 40.30.10/350 50/50 & D043 & UPT 43135 V & \(11 / 4 \times 3\) & 4.40 & 2.64 \\
    \hline 40-40-40/350 40/25 & D046 & UPT 44435C4 & \(13 / 18 \times 3\) & 5.20 & 3.12 \\
    \hline 40.40-40/350 150/50 & D047 & UPT 44435V1S & \(1 \% \times 3 \%\) & 5.70 & 3.42 \\
    \hline 20-10-10.400 25,25 & D124 & UPT 21140 C & \(13 \times 2\) & 3.25 & 1.95 \\
    \hline 80-40-30-400 4025 & 0125 & UPT 84340CA & 13/ x 4 \(1 / 4\) & 5.95 & 3.37 \\
    \hline 10.10-10/450 20/25 & D048 & UPT 11145C & \(13 \times 2\) & 3.15 & 1.89 \\
    \hline 10.10.10/450 100/25 & 0049 & UPT 11145C10 & \(1 \% \times 2\) & 3.35 & 2.01 \\
    \hline 10-10-10/450 150/50 & Doso & UPT 11145V15 & \(13 / 1 \times 21 / 2\) & 3.70 & 2.22 \\
    \hline 15.10.10 4502025 & D 126 & UPT issilasc & \(1 \% \times 2\) & 3.3 & 1.98 \\
    \hline 20.10-10.450 100/25 & DOS 1 & UPT 21145 SClO & \(13 / 18 \times 2\) & 3.70 & 2.22 \\
    \hline 20-20-20/450 20/25 & DOS 2 & UP 22245C & \(13 / 7 \times 21 / 2\) & 4.15 & 2.49 \\
    \hline 20-20-20/450 100/50 & 0083 & UPT 22245V10 & \(13 / 18 \times 3\) & 4.55 & 2.73 \\
    \hline 30-15.15/450 40, 25 & Dos4 & UP 31 SD45C4 & \(11 / 1 \times 21 / 2\) & 4.15 & 2.49 \\
    \hline 30-20.20/450 20/25 & Doss & UP 32245C & \(12 / 12 \times 3\) & 4.40 & 2.64 \\
    \hline 30-30-15/450 30 50 & DOS6 & UPT 400 & \(13 \times 3\) & 4.15 & 2.49 \\
    \hline 30-30-15/450 10050 & 0037 & UPT 40.4 & \(13 / 2 \times 3 \%\) & 4.80 & 2.94 \\
    \hline 30.30.10/450 20/25 & DOS 8 & UP 33145C & \(11 / 2 \times 3\) & 4.35 & 2.61 \\
    \hline 30-30-20/450 20/25 & Dos9 & UP 33245C & \(1 \% \times 3\) & 4.85 & 2.79 \\
    \hline 35.35-10/450 10.200 & 0103 & UPT 434 & \(13 / 2 \times 33 / 4\) & 4.60 & 2.76 \\
    \hline 40-10-10,450 25025 & 0060 & UPT 4114SC25 & \(13 / 8 \times 3\) & 4.25 & 2.35 \\
    \hline 40.10-10 45040300 & 0127 & UPT 444 & \(13 / 6 \times 31 / 2\) & 4.65 & 2.79 \\
    \hline 40.20-10/450 25/25 & 0061 & UPT 42145 C & \(13 / 8 \times 3\) & 4.25 & 2.35 \\
    \hline 40.20.10/450 100/50 & 0062 & UPT 42145 VIO & 13/2 \(\times 35 / 4\) & 4.65 & 2.79 \\
    \hline 40-20-20/450 20/25 & 0082 & UPT 42245 C & \(13 / 8 \times 3\) & 4.60 & 2.76 \\
    \hline 40.20-20/450 40/25 & D063 & UPT 42245 C 4 & \(13 / 8 \times 3\) & 4.65 & 2.79 \\
    \hline 40.30-10/450 20/25 & D064 & UP 43145C & \(13 / 4 \times 3\) & 4.50 & 2.70 \\
    \hline 40-40-10/450 25,50 & D065 & UPT 44145V2 & \(13 / 4 \times 33 / 4\) & 4.70 & 2.82 \\
    \hline 40-40-10/450 100/100 & 0066 & UPT 403 & \(13 / 2 \times 31 / 2\) & 5.35 & 3.21 \\
    \hline 40.40.10/450 10/350 & 0128 & UPT 445 & \(13 / 6 \times 33 / 2\) & 4.80 & 2.88 \\
    \hline 50-40-5,450 2025 & 0129 & UPT 446 & \(13 \times 3 \%\) & 4.80 & 2.88 \\
    \hline 60-10-10/450 20/150 & 0067 & UPT 81145.215 & \(1 \% \times 3\) & 4.60 & 76 \\
    \hline \(40 \cdot 10.20 / 47510 / 25\) & 0068 & UPT 407 & \(1 \% \times 3\) & 4.85 & 2.91 \\
    \hline 20-20.10/500 10/300 & 0069 & UPT 22150.130 & \(13 / 2 \times 21 / 2\) & 4.30 & 2.38 \\
    \hline 50.30-10/500 20/300 & 0102 & UPT 53150.230 & \(13 / 8 \times 3 \%\) & 5.60 & 3.36 \\
    \hline 10/300 200-140-30/150 & 0110 & UPT 437 & \(13 / 2 \times 5\) & 5.10 & 3.06 \\
    \hline 20,475 60.40.10.350 & D 130 & UPT 447 & \(13 / 6 \times 33\) & 5.20 & 3.12 \\
    \hline 20/500 80-20-10,300 & 0114 & UPT 250.82130 & \(13 / 6 \times 35\) & 5.00 & 3.00 \\
    \hline 20/300 150.150/150 100/30 & 0071 & UPT 427 & \(13 / 2 \times 4 \%\) & 5.30 & 3.18 \\
    \hline 15/350 80-40/200 200/25 & 0072 & UPT 402 & \(13 / 6 \times 3\) & 4.50 & 2.70 \\
    \hline 20/350 150-80/150 20/25 & 0106 & UPT 430 & \(11 / 8 \times 3\) & 4.55 & 2.73 \\
    \hline 40/350 50-20/150 80/50 & 0107 & UPT 431 & \(14 \times 3\) & 4.05 & 2.43 \\
    \hline
    \end{tabular}
    \$ for opplication doto on C-D types UP, UPT and UPE Copacitops ask your iobber for C-D TELEVISION REPIACEMENT GUIDE, NO. TVRT.
    \(\dagger\) Superseded by equivalent ETCHED CATHODE Type UPE - Recommend Stocking Next Migher Voltoge Roting

    \title{
    Corinimi (c) DU:InनH:
    }

    \section*{UP, UPT \& UPE TWIST-PRONG BASE ELECTROLYTICS}

    Quodruple Section (Cont'd)
    UPE Single Section Units (Cont'd)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Cap./Volls & Relational Steck No. & \[
    \begin{aligned}
    & \mathrm{C}_{21} . \\
    & \mathrm{No.}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Size-Ins. } \\
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    \] & \[
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    & \text { List } \\
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    & \text { Me1 } \\
    & \text { Price }
    \end{aligned}
    \] & Cap. Volls & Relational Stock Ne . & \[
    \begin{gathered}
    \text { Cat. } \\
    \mathrm{Ne}
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Size-Ins. } \\
    & \text { Dia. } 1 \text { Leth. }
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    \] & \[
    \begin{gathered}
    \text { List } \\
    \text { Prites }
    \end{gathered}
    \] & \[
    \begin{gathered}
    \text { Mat } \\
    \text { Price }
    \end{gathered}
    \] \\
    \hline 10/400 50-30/350 30/25 & 0073 & UPT 428 & \(13 / 1 \times 3\) & \$4.40 & \$2.64 & 300/150 & XA005 & UPE 30015 & 13/2 \(\times 3\) & \$2.80 & \$1.68 \\
    \hline 80/400 40-10/350 10/25 & 0131 & UPT 448 & \(13 / 4 \times 33 / 4\) & 5.30 & 3.18 & 80/200 & XA006 & UPE 8020 & 13/2 \(\times 2\) & 1.95 & 1.17 \\
    \hline 10/450 100.20/300 20/25 & - \({ }^{\text {d } 108}\) & UPT 435 & 13/2×3\% & 4.90 & 2.94 & 150/200 & XA007 & UPE 15020 & \(13 / 2 \times 21 / 2\) & 2.80 & 1.68 \\
    \hline \(10 / 450\) 100-20/300 20/200 & D116 & UPT 439 & \(13 / 1 \times 36\) & 5.05 & 3.03 & 40/250 & XA008 & UPE 4025 & \(1 \times 2\) & 1.80 & 1.08 \\
    \hline 10/450 80.40/350 25/25 & D074 & UPT 424 & \(13 \times 35\) & 4.60 & 2.76 & 60/300 & X \(\times\) 009 & UPE 6030 & \(1 \times 21 / 2\) & 2:10 & 1.26 \\
    \hline 10/450 100-10/350 20/25 & D075 & UPT 419 & \(13 / 2 \times 3 \%\) & 5.25 & 3.15 & 80/300 & XAOIO & UPE 8030 & \(1 \times 3\) & 2.55 & 1.53 \\
    \hline 20/450 80-20/200 50/50 & 0076 & UPT 421 & \(13 / 4\) & 4.15 & 2.49 & 80/350 & \(\times\) X 011 & UPE 8035 & \(13 / 1 \times 21 / 2\) & 2.85 & 1.71 \\
    \hline 20/450 80.50/350 100/50 & D132 & UPT 449 & \(13 / 4 \times 41 / 4\) & 6.00 & 3.6 & 125/350 & XAO12 & UPE 12535 & \(11 / 1 \times 3\) & 3.65 & 2.19 \\
    \hline 30/450 125-125/25 30/450 & D078 & UPT 409 & \(13 \times 3\) & 4.90 & 2.94 & 30/500 & \(\times \mathrm{XOT3}\) & UPE 3050 & \(\times 3\) & 2.00 & 1.20 \\
    \hline 30/450 40.40/350 10/200 & 0077 & UPT 425 & 13/1 \(\times 35\) & 5.15 & 3.09 & & & & & & \\
    \hline 40/450 40-40/250 20/25 & 0133 & UPT 445.4425C & \(13 / 4 \times 3\) & 4.55
    5 & 2.73
    3.12 & \multicolumn{6}{|c|}{\multirow[t]{2}{*}{UPE Duol Section Units}} \\
    \hline 10/500 100.30/300 100/25 & 0117 & UPT 440 & \(13 / 1 \times 35\) & . 20 & 3.12 & & & & & & \\
    \hline 5-5/75 25/25 100/15 & D134 & UPT 450 & \(13 \times 2\) & 2.6 & 1.59. & 20.20/150 & X8001 & UPE 2215 & \(\times 2\) & \$1.70 & \$1.02 \\
    \hline \(5.5 / 400\) 50/300 80/250 & D079 & UPT 401 & 13/1 \(\times 3\) & 4.65 & 2.79 & 40-40/150 & x8002 & UPE 4415 & \(\times 2\) & 1.90 & 1.14 \\
    \hline 40-60/400 40/350 10/50 & 0080 & UPT 429 & \(13 / 6 \times 35 / 6\) & 5.75 & 5 & 50-50/150 & \(\times 8003\) & UPE 5515 & \(1 \times 21 / 2\) & 2.15 & 1.29 \\
    \hline 10-10/450 60/200 100/50 & D08 8 & UPT 411 & \(13 / 2 \times 3\) & 3.85 & 2.31 & 80.40/150 & XB004 & UPE 8415 & \(1 \times 21 / 2\) & 2.30 & 1.38 \\
    \hline \(35-25 / 450\) 20/200 100/50 & D104 & UPT 433 & \(13 / 4 \times 3 / 4\) & 4.65 & 2.79 & 80.80/150 & \(\times 8003\) & UPE 8815 & \(13 / 2 \times 2\) & 2.65 & 1.39 \\
    \hline 10.5/475 80/450 40/50 & 0083 & UPT 423 & \(13 / 1 \times 3 / 6\) & 4.95 & 2.97 & 100.100/150 & \(\times 8006\) & UPE 101015 & \(13 / 1 \times 21 / 2\) & 3.25 & 1.93 \\
    \hline 15-15/475 80/300 40/50 & 0084 & UPT 417 & \(13 / 183\) & 4.80 & 2.88 & 150-150/150 & \(\times 8007\) & UPE 150015 & \(13 / 2 \times 3\) & 3.50 & 2.10 \\
    \hline 40-10/475 4/350 40/300 & D105 & UPT 432 & \(11 / 2 \times 3\) & 4.95 & 2.97 & 200-150,150 & \(\times 8008\) & UPE 201515 & \(13 / 1835\) & 3.7 & 2.23 \\
    \hline 40.40/150 40.40/25 & DO8 5 & UP 4415C44 & \(13 / 1 \times 2\) & 3.05 & 1.83 & 200-200/150 & \(\times 8009\) & UPE 202015 & \(13 / 2 \times 35 / 3\) & 4.00 & 2.40 \\
    \hline 40-40/150 100-100/25 & 0086 & UP 4415 CDIO & \(13 \times 2\) & 5 & 2.01 & 100.100/200 & \(\times 8010\) & UPE 101020 & \(13 / 6 \times 3\) & 3.50 & 2.10 \\
    \hline 100-10/300 200-30/150 & 0109 & UPT 436 & \(1 \% \times 5\) & 5.90 & 3.54 & 40.40/250 & \(\times 8011\) & UPE 4425 & \(1 \times 3\) & 2.55 & 1.53 \\
    \hline \(60.4 / 350100.40 / 25\) & D135 & UPT 451 & \(13 / 6 \times 21 / 2\) & 3.80 & 2.28 & 80.40/250 & x8012 & UPE 8425 & \(13 / 1 \times 21 / 2\) & 3.00 & 1.80 \\
    \hline 40.10/400 80-10/250 & D087 & UPT 4140.8125 & \(11 / 18 \times 3 \%\) & 4.70 & 2.82 & 40.40/300 & \(\times 8013\) & UPE 4430 & \(1 \times 3\) & 3.00 & 1.80 \\
    \hline 10.10/450 20-20/25 & DO8 8 & UPT 1145CC & \(13 / 8 \times 2\) & 2.95 & 1.77 & 80.40/300 & XBO14 & UPE 8430 & \(13 / 6 \times 21 / 2\) & 3.55 & 2.13 \\
    \hline 20-20/450 20.20/25 & D089 & UP 224scc & \(1 \% \times 2\) & 3.60 & 2.16 & 80.40/300 & & & & & \\
    \hline 20.20/450 30.30/350 & D090 & UP 2245-3335 & \(13 / 2 \times 3\) & 5.05 & . 03 & \multicolumn{6}{|c|}{\multirow[b]{2}{*}{UPE Triple Section Units}} \\
    \hline 30-10/450 150.30/50 & -0136 & UPT 452 & \(11 / 18\) & 4.10 & 2.46 & & & & & & \\
    \hline 40-10/450 35.10/350 & 0091 & UPT 408 & 1\% \(12 \times 3\) & 4.60 & 2.76 & 20-20-20/150 & xCOO1 & UPE 22215 & \(1 \times 2\) & \$2.35 & \$1.41 \\
    \hline 40-20/450 80-10,350 & D115 & UPT 4245.8135 & \(13 / 1 \times 4 \%\) & 5.80 & 3.48 & 40-20.20/150 & xC002 & UPE 42215 & \(1 \times 2\) & 2.40 & 1.44 \\
    \hline 40.40,450 100.60,200 & 0137 & UPT 453 & \(13 / 4 \times 41 /\) & 6.05 & 3.63 & 50-50-50/150 & xC003 & UPE 55515 & \(1 \times 3\) & 3.00 & 1.80 \\
    \hline 40.40/450 30.30/350 & -0092 & UPT 4445-3335 & \(13 / 1 \times 41 / 4\) & 5.90 & 3.54 & 80.80.80/150 & xcoos & UPE 88815 & \(13 / 1 \times 3\) & 3.75 & 2.25 \\
    \hline 100/300 40/50 80-20/25 & 0070 & UPT 414 & \(13 / 1 \times 21 / 2\) & 4.55 & 2.73 & 120-80-40/150 & xcoos & UPE 128415 & \(13 / 183\) & 3.70 & 2.22 \\
    \hline \(20,40050 / 35080-4025\) & 0139 & UPT 455 & \(13 / 1 \times 21 / 2\) & 4.15 & 2.49 & 20-20/150 20/25 & xc006 & UPE 2215C & \(1 \times 2\) & 2.20 & 1.32 \\
    \hline \(3050010 / 450150 \cdot 30 / 50\) & 0113 & UPT 438 & \(13 / 6 \times 3\) & 420 & 2.52 & 40-20/150 20/25 & xc007 & UPE 4215 C & \(\times 2\) & 2.30 & 1.38 \\
    \hline : 20/300 20/250 2025 100/50 & 0093 & UPT 405 & \(13 \times 41 / 4\) & 5.05 & 3.03
    3.27 & 40-40/150 20/25 & xc008 & UPE 4415C & \(1 \times 2\) & 2.40 & 1.44 \\
    \hline 200/300 20/250 20/25 100/50 & 0094 & UPT 406 & \(13 \times 5\) & 5.4 & 3.27 & 80.30/150 300/25 & xcoiz & UPE 8315C30 & \(13 / 1 \times 21 / 2\) & . 6 & 2.19 \\
    \hline 20/350 40/300 10/150 250/50 & D095 & UPT 418 & \(13 / 2 \times 3\) & 4.60 & 2.76 & 40-20/300 20/25 & xcoo9 & UPE 4230 C & \(1 \times 21 / 2\) & 0 & 1.86 \\
    \hline \(10400100,30010,75100.25\) & D138 & UPT 454 & \(1 \% \times 3\) & 4.45 & 2.67 & 100/300 60-20/250 & xcolo & UPE 1030-6225 & \(13 / 2 \times 41 / 6\) & 4.90 & 2.94 \\
    \hline \(1045080 / 300\) 40/250 100,50 & D140 & UPT 456 & \(13 / 1 \times 35 / 8\) & 4.90 & 2.94 & 200/300 20.60/250 & xcoll & UPE 2030-2625 & \(13 \times 5\) & 5.45 & 3.27 \\
    \hline 60.450 40/250 10, 150 80. 50 & D141 & UPT 457 & \(13 / 8 \times 3 \%\) & 4.80 & 2.88 & & & & & & \\
    \hline 80/450 10/400 30/300 40/150 & 0096 & UPT 412 & \(13 / 1 \times 41 / 6\) & 5.2 & 3.15 & & & & & & \\
    \hline
    \end{tabular}
    0. 450 40/250 10, 150 80.50 \(80 / 450\) 10/400 30/300 40/150 \(10 / 47540 / 35080 / 200 \quad 100 / 50\) \(10 / 47540 / 400 \quad 100,50 \quad 10 / 25\) \(10 / 47540 / 4004 / 350100 / 50\) \(10 / 47510 / 45080 / 200\) 50/60 \(10 / 47580 / 450 \quad 30 / 400 \quad 125 / 50\) 20/475 40/300 100/50 80/25 25/475 20/450 40/300 100/50. 40/475 40/250 50/150 80/50

    \section*{SELENIUM RECTIFIER CAPACITORS}

    Type UPE are etched anode and cathode units especially engineered to prevent capacity drop due ta high ripple and surge cuprents normally encountered in selenium rectifier circuits. A pratective series-resistor of approximately 50 ohms far a 100 ma. load, and af least 10 ahms for a 250 ma . load, should always be used to protect both the rectifier and filter capacitors.

    Use only type UPE in selenium rectifier circuits.

    \section*{UPE Single Section Units}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cap. Volls & Relatienal Slack Ne. & Cat. & \[
    \begin{gathered}
    \text { size-Ins. } \\
    \text { Dia. } x \text { Lgth. }
    \end{gathered}
    \] & \[
    \begin{gathered}
    \text { Pist } \\
    \text { Litat }
    \end{gathered}
    \] & Net Price \\
    \hline 40/150 & X \({ }^{\text {a }} 001\) & UPE 4015 & \(3 / 4 \times 2\) & \$1.60 & \$.96 \\
    \hline 80/150 & X \({ }^{\text {10022 }}\) & UPE 8015 & \(1 \times 2\) & 1.85 & 1.11 \\
    \hline 100/150 & \(\times \mathrm{X} 003\) & UPE 10015 & \(1 \times 21 / 2\) & 2.00 & 1.20 \\
    \hline 150/150 & \(\times \mathrm{AOO4}\) & UPE 15015 & \(\times 3\) & 2.15 & 1.29 \\
    \hline
    \end{tabular}

    \section*{HARDWARE FOR TYPE UP, UPT \& UPE CAPACITORS}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { Port } \\
    & \text { No. }
    \end{aligned}
    \] & Itom & Deseription & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 22272 & Wrench for & Mgg. Units & \$1.24 & \$.74 \\
    \hline 19891 & Bokelite Washer & For 3/4" & . 07 & . 04 \\
    \hline 19884 & Bokelite Wosher & For 1" & . 07 & . 04 \\
    \hline 19888 & Bakelite Wosher & For 1\%" & . 07 & . 04 \\
    \hline 19890 & Metal Wosher & For \(1 / 4\) " & . 07 & . 04 \\
    \hline 19883 & Metal Wosher & For 1* & . 07 & . 04 \\
    \hline 19887 & Metal Washer & For 1\%" & . 07 & . 04 \\
    \hline 21368-1 & Mounting Clip & For \(1 / 4\) " & . 15 & . 04 \\
    \hline 21368.2 & Mounting Clip & For 1" & . 13 & . 0 \\
    \hline 21368-3 & Mounting Clip & For 13/" & . 18 & . 09 \\
    \hline 28521-1 & Insuloting Tube & For 3/4* \(\times 2\) " & . 07 & . 09 \\
    \hline 28521.4 & Insuloting Tube & For 1" \(\times 2\) " & . 07 & . 0 \\
    \hline 28521.6 & Insuloting Tube & For 1"×3" & 07 & . 04 \\
    \hline 28321-7 & Insuloting Tube & For 13" \(\times 2\) " & . 07 & . 0 \\
    \hline 28321.9 & Insulating Tube &  & . 07 & . 04 \\
    \hline 30035 & Bokelite Wosher & For \(1^{\prime \prime}\) in 13/* Hoio Mrg. & . 07 & . 04 \\
    \hline 30036 & Motol Wosher & For \(1^{\prime \prime}\) in \(1 \%{ }^{\text {" Holo Mrg. }}\) & . 07 & . 04 \\
    \hline 28521-5 & Insuloting Tube & For 1" \(\times 21 / 2^{\prime \prime}\) & . 07 & . 04 \\
    \hline 28521-8 & Insulating Tube & For 13"**21/2" & . 07 & . 04 \\
    \hline 28521-12 & Insulating Pube & For 13/4"3\%" & . 07 & . 04 \\
    \hline 28521.19 & Insuloting Tube & For \(1^{\prime \prime} \times 35 / 8\) & . 07 & 04 \\
    \hline 28521-15 & Insulating Iube & For \(13 \% \times 41 /{ }^{\prime \prime}\) & . 07 & . 04 \\
    \hline
    \end{tabular}

    \footnotetext{
    For opplicotion doto on C-D types UP, UPT ond UPE Copocitors osk your jobber for C-D TELEVISION REPLACEMENT GUIDE, No. TVR7.
    }
    - Recommend Stocking Next Highor Voltoge Roting-

    \title{
     \\ ROUND CAN-TYPE ELECTROLYTICS
    }
    
    

    Type EB electrolytic capecitors are especially suited for replacement purposes in radio receivers to replace units of larger physical sizes. They are identical in mounting tole dimensions and general construstion to Type WR capacitars except thet they ore pravided with insulated color-coded wire leads \(8^{\prime \prime}\) long. Bakelite threaded neck.

    TYPEER-450-VOLT D.C. WKG.
    TEMPERATURE RANGE to \(\div 65^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|}
    \hline E8 \({ }_{\text {cat }}\) No. & Cap. Mid. & Size-Inches Dia. \(\times\) Lgth. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Pisice }
    \end{aligned}
    \] & \begin{tabular}{l}
    Ne: \\
    Price
    \end{tabular} \\
    \hline EB9080 & 8 & \(13 / 2 \times 43 / 8\) & \$2.20 & \$1.32 \\
    \hline E8 9100 & 10 & \(13 / 8 \times 4 \%\) & 2.20 & 1.38 \\
    \hline +89120 & 12 & \(11 / 2 \times 41 / 2\) & 2.40 & 1.44 \\
    \hline EB9160 & 16 & \(11 / 2 \times 41 / 2\) & 2.45 & 1.47 \\
    \hline EB 9180 & 18 & \(11 / 2 \times 41 / 2\) & 2.55 & 1.53 \\
    \hline [B9200 & 20 & \(11 / 2 \times 41 / 8\) & 2.75 & 1.65 \\
    \hline E88800 & 8-8 & \(11 / 2 \times 41 / 2\) & 3.00 & 1.80 \\
    \hline
    \end{tabular}

    REPLAEEMENTS FOR WET ELECTROLYTICS TYPE WR-500.VOIT O.C

    LOCK WASHER THREADED
    

    WET ELECTROLYTIC REPLACEMENT
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline WRe cot. \({ }_{\text {col }}^{\text {No. }}\) & Cop. Mfd. & Replocement for & \[
    \begin{aligned}
    & \text { Size-Ins. } \\
    & \text { Dio. } \times \text { lath. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Lis! } \\
    & \text { Price }
    \end{aligned}
    \] & \begin{tabular}{l}
    Nel \\
    Price
    \end{tabular} \\
    \hline WR 10 & 10 & 4 to 12 mfd . & \(13 / 1 \times 21 / 2\) & \$2.30 & \$1.38 \\
    \hline WR 20 & 20 & 161020 mfd . & \(13 / 1 \times 21 / 2\) & 2.70 & 1.62 \\
    \hline WR 30 & 30 & 20 to 30 mfd . & \(13 / 18\) & 2.95 & 1.77 \\
    \hline WR 40 & 40 & 304040 mfd . & \(11 / 6 \times 31 / 4\) & 3.15 & 1.89 \\
    \hline
    \end{tabular}
    

    The: \(\mathrm{K} \boldsymbol{2}\) and KRC single-hole mounting units are compact etched foil type dry electralytic capscitars firi.hed in reend finvericel mounting) aluminum cans. Avaibable in single, dual and triple sections with colarsoded leads. Metal threaded neck.

    TYPE KR
    temperature range to \(+65^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline KR \({ }_{\text {cot }}^{\text {cat. }}\) & Cap. Mid. & w. Volts & Size-Inches
    \[
    \text { Dic. } \times \text { lgth. }
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline KR 504 & \({ }^{4}\) & 450 & \(1 \times 21 / 2\) & \$2.0s & \$1.23 \\
    \hline KR 503 & 8 & 450 & \(1 \times 21 / 2\) & 2.20 & 1.32 \\
    \hline KR 312a & 12 & 450 & \(1 \times 21 / 2\) & 2.40 & 1.44 \\
    \hline KR Stiga & 10 & 450 & \(1 \times 31 / 2\) & 2.45 & 1.47 \\
    \hline KR 520 & 20 & 450 & \(13 / 6 \times 21 / 2\) & 2.75 & 1.63 \\
    \hline KR 530 & 30 & 450 & \(13 / 8 \times 31 / 2\) & 3.00 & 1.80 \\
    \hline KR 540 & 40 & 450 & \(13 / 2 \times 43 / 2\) & 3.15 & 1.89 \\
    \hline KR 604C & 4 & 800 & \(13 / 6 \times 31 / 2\) & 2.95 & 1.75 \\
    \hline KR 600c & 8 & 800 & \(13 / 4 \times 4 \%\) & 3.15 & 1.89 \\
    \hline KR 6169 & 16 & 800 & \(13 / 2 \times 4 \%\) & 3.75 & 2.25 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline KR 548A & 48 & 450 & \(13 / 8 \times 3\) & \$3.70 & \$2.22 \\
    \hline KR S88A & 88 & 450 & \(13 / 4\) & 3.75 & 2.25 \\
    \hline KR 5816a & 816 & 450 & \(13 / 8 \times 41 / 2\) & 4.10 & 2.46 \\
    \hline KR 5888A & 8-8-8 & 450 & \(13 \% \times 41 / 2\) & 6.25 & 3.75 \\
    \hline \multicolumn{6}{|c|}{Camman Negative Units} \\
    \hline KRC 548 & 4-8 & 450 & \(1 \times 3\) & \$2.95 & \$1.7\% \\
    \hline KRCS 88 & 8-8 & 450 & \(11 / 6 \times 21 / 2\) & 3.00 & 1.80 \\
    \hline KRC 5116 & 16-16 & 450 & \(11 / 6 \times 31 / 2\) & 3.55 & 2.13 \\
    \hline KRC \(\$ 220\) & 20-20 & 450 & \(13 / 6 \times 4 \%\) & 3.80 & 2.28 \\
    \hline KRCS888 & 8-8-8 & 250 & \(11 / 6 \times 31 / 2\) & 5.00 & 3.00 \\
    \hline
    \end{tabular}

    \section*{}

    \section*{MOLDED TUBULAR CAPACITORS}
    
    "The CUB"
    \begin{tabular}{|c|c|c|c|c|}
    \hline CUB \({ }_{\text {Cot }}^{\text {No }}\) & Cop. mfd. & \begin{tabular}{l}
    Size-1nches \\
    Dio. \(\times\) length
    \end{tabular} & \[
    \begin{aligned}
    & \text { Lis! } \\
    & \text { Price }
    \end{aligned}
    \] & Net
    Price \\
    \hline & & 400 V. D.C. & & \\
    \hline CUB 451 & . 01 & \(3 / 1 \times 1\) & \$.25 & \$.15 \\
    \hline CUB 452 & . 02 & \(x \times 1 \frac{1}{4}\) & 25 & . 15 \\
    \hline CUB 4522 & . 022 & 16x \(\times 1 \frac{1}{4}\) & 25 & . 15 \\
    \hline CUB 4547 & . 047 & \(16 \times 1 \frac{1}{4}\) & 30 & . 18 \\
    \hline CUB 455 & . 05 & 16 \(\times 1 \frac{1}{4}\) & . 30 & . 18 \\
    \hline CUB 4568 & . 068 & \(93 \times 11 / 2\) & . 35 & .21 \\
    \hline CUB 4P1 & . 1 & \({ }^{4}+2 \times 11 / 2\) & . 35 & . 21 \\
    \hline CUE 4P15 & . 15 & \({ }^{11_{16} \times 1 \%}\) & . 35 & .21 \\
    \hline CUB 4P22 & . 22 & \({ }^{11}{ }_{6} \times 1 \mathrm{~m}\) & 40 & .24 \\
    \hline CUB 4P25 & . 25 & \(11_{16} \times 1 / 4\) & 40 & . 24 \\
    \hline CUB 4P47 & 47 & \(3 / 4 \times 21 / 4\) & . 60 & . 36 \\
    \hline CUB 4P5 & 5 & \(31 / 4 \times 21 / 4\) & . 60 & . 36 \\
    \hline *ST 4 W1 & 1.0 & \(1 \times 21 / 3\) & . 90 & . 54 \\
    \hline & & 600 V. D.C. & & \\
    \hline CUE 681 & . 0001 & \(3 / 1 \times 1\) & \$. 25 & \$.15 \\
    \hline
    \end{tabular}
    capacitar unequaled by any malded fubular heretafare developed. The 'CUB'" passesses characteristics that will meet the wide and demanding applicatians faund in critical industrial, militory and experimental electranic equipment.
    this is the unit recommended far general replocement service.t The "CUB" is malded igh laugh, durabl the unil is processed by specic impregnatian-the 200 and 400 vall series are impregnated with HT campaund and the 600 valt and up series are impregnated with ail (Dykanal "C").
    In countless productian test runs, the "CUB" has survived an average of 30 cycles of the punishing JAN and MIL Temperoture and Immersian Cycling Test
    The "CUB" is dry assembly pracessed ond sealed immediately affer impregnatian. This technique results in life lang high insulation resistance, law pawer factar, and exceptianal capacitance stability. Each unit is tested at several times its rated valtage ta insure high dielectric strength.
    At least a \(50 \%\) greater resistance to humidity and o 15\%-25\% greater valtage breakdawn aver comparable malded tubulars, is built into the C.D 'CUB'
    Extra strang capper-weld leads eliminate breakage during as. sembly and thraughaut service life. The leads are salder sealed securely to the unit
    TEMP. RANGE: HT Campound \(-40^{\circ} \mathrm{C} 10: 90^{\circ} \mathrm{C}\)
    Dykanal " C " \(-55^{\circ} \mathrm{C}\) ta \(100^{\circ} \mathrm{C}\)
    THE CUB
    \begin{tabular}{|c|c|c|c|c|}
    \hline CUB \(\begin{aligned} & \text { Cap. } \\ & \text { No. }\end{aligned}\) & Cop. Mfd. & \begin{tabular}{l}
    Size-Inches \\
    Dio. x tength
    \end{tabular} & List Price & Ne: Price \\
    \hline & & 200 V. D.C. & & \\
    \hline CuB 252 & . 02 & \(3 / 8 \times 1\) & 5.25 & \$.15 \\
    \hline CUB 2547 & . 047 & . \(1 . \times 11 / 8\) & . 25 & . 15 \\
    \hline CuB 253 & 05 & 1 \(1 \times 11 / 4\) & . 25 & . 15 \\
    \hline CUB 2P1 & .1 & ,. \(\times 11 / 8\) & . 35 & .21 \\
    \hline CUB 2P15 & . 15 & 1\% \(\times 1 \frac{1}{2}\) & . 35 & .21 \\
    \hline CUB 2P22 & . 22 & \(11_{1} \times 1 / 8\) & . 40 & . 24 \\
    \hline C14 \({ }^{\text {2P2 }}\) 2 & . 25 & \(14 \times \times 17 / 8\) & . 40 & . 24 \\
    \hline CUB 2P47 & . 47 & \(13 \times 17 / 8\) & . 60 & . 36 \\
    \hline CUB 2PS & . 5 & 11, \(\times 17 / 1\) & . 60 & +36 \\
    \hline CUB 2 WY & 1.0 & \(3 / 4 \times 21 / 4\) & . 90 & . 54 \\
    \hline
    \end{tabular}

    CUS opz CUB 6P2 CUB6P25 516 PS

    CUB 1601
    CUB 16015
    CUB 1602 CUB 16022 CUB 1603 UB 1603 UB 16033 UB 1604 CUB 1605 CUB 1606 CUB 16068 CUB 1607 CU8 16075 CUB 1608 CUB 1651 CUB 16515 CUB 1652 CUB 16522 CUB 1653 CUB 1654 CUB 1655

    CUB 6015
    CUB 6001 CUB 6005

    CUB YOOTS
    005

    CUB 125723
    .22
    .25
    .5
    

    \title{
     MOLDED MYLAR* TUBULARS
    }
    

    MYLAR* Polyester Film
    \begin{tabular}{|c|c|c|c|c|}
    \hline PM \({ }^{\text {Cor. }}\) No. & Cap. Mid. & Dimensions-Inches Diameter \(\times\) Length & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net
    Price \\
    \hline & & 1600 V. D.C.W. & & \\
    \hline PM 1001 & . 0010 & 3/18 \(\times 1 / 4\) & \$1.90 & 51.14 \\
    \hline PM 16015 & . 0015 & \% \(\times 11 / 4\) & 1.90 & 1.14 \\
    \hline PM 16022 & . 0022 & \% \(\times 11 / 4\) & 1.90 & 1.14 \\
    \hline PM 16033 & 0033 & \% \(\times 11 / 4\) & 2.00 & 1.20 \\
    \hline PM 16047 & 0047 & \({ }^{7} 16 \times 11 / 4\) & 2.10 & 1.26 \\
    \hline PM 16068 & 0068 & \(1 / 2 \times 11 / 2\) & 2.10 & 1.26 \\
    \hline PM 1651 & 010 & 1/2 \(\times 11 / 2\) & 2.20 & 1.32 \\
    \hline PM 16515 & 015 & 1/2 \(\times 11 / 2\) & 2.30 & 1.38 \\
    \hline PM 16522 & 022 & \(5 \times 17 / 8\) & 2.40 & 1.44 \\
    \hline PM 16533 & 033 & \(51 / 8 \times 1 / 6\) & 2.50 & 1.50 \\
    \hline PM 16547 & . 047 & \({ }_{11}^{16} \times 1{ }^{1 / 5}\) & 2.70 & 1.62 \\
    \hline PM 16568 & 068 & \(31 / 4 \times 21 / 4\) & 3.00 & 1.80 \\
    \hline PM 16P1 & . 10 & \(1 \times 21 / 8\) & 3.50 & 2.10 \\
    \hline
    \end{tabular}
    "MINIROC"
    MYLAR* Polyester Film
    end-fill lighlly bonds to the lead wires and steotite tubes pre venting the entry of ony moisture while of the some lime locking the copocitor section ond leod wires in ploce. Polykone will not soften, melt or flow of ony operoting lemperature.

    Nonductive canstruction is employed with soldered to the extended foils, insuring low resistonce connec tions and low radio frequency impedance. The duroble thermo
    †For metal-cased MYLAR tubulars-See Type TWM
    TEMPERATURE RANGE: \(-55^{\circ} \mathrm{C}\) to \(130^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|}
    \hline \(P M_{\mathrm{Cop}}^{\mathrm{Co}} \mathrm{C}\) & Cop. Mid. & \begin{tabular}{l}
    Dimensions-Inches \\
    Diometer \(\times\) length
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline & & 400 V. D.C.W. & & \\
    \hline PM 4S1 & . 010 & \({ }^{5} \times 1\) & \$1.80 & \$1.08 \\
    \hline PM 4515 & . 015 & 3/6 \(\times 1 / 4\) & 1.80 & 1.08 \\
    \hline PM 4522 & . 022 & \(3,16 \times 11 / 4\) & 1.90 & 1.14 \\
    \hline PM 4533 & . 033 & ? \(16 \times 11 / 4\) & 1.90 & 1.14 \\
    \hline PM 4547 & . 047 & \(9 \times 11 / 4\) & 2.00 & 1.20 \\
    \hline PM 4568 & . 068 & \(1 / 2 \times 11 / 2\) & 2.10 & 1.26 \\
    \hline PM 4P1 & .10 & \(1 / 2 \times 11 / 2\) & 2.30 & 1.38 \\
    \hline PM 4P15 & . 15 & \(915 \times 19\) & 2.40 & 1.44 \\
    \hline PM 4P22 & . 22 & \(3 / 2 \times 178\) & 2.50 & 1.50 \\
    \hline PM 4P33 & . 33 & \(11^{16} \times 1{ }^{16}\) & 2.70 & 1.62 \\
    \hline PM 4P47 & . 47 & \(3 / 4 \times 21 / 4\) & 2.90 & 1.74 \\
    \hline PM 4P68 & . 68 & \(1 \times 21 /\) & 3.30 & 1.98 \\
    \hline PM 4WI & 1.00 & \(1 \times 21 /\) & 3.80 & 2.28 \\
    \hline & & 600 V. D.C.W. & & \\
    \hline PM 675 & . 0005 & \({ }^{5}\) is \(\times 1\) & 1.80 & 1.08 \\
    \hline PM ODI & . 0010 & 36. \(\times 1\) & 1.80 & 1.08 \\
    \hline PM ODIS & . 0015 & \(516 \times 1\) & 1.80 & 1.08 \\
    \hline PM 6022 & . 0022 & \(5 \times 1\) & 1.80 & 1.08 \\
    \hline PM 6 D3 3 & . 0033 & \(5 \times 1\) & 1.80 & 1.08 \\
    \hline PM 6047 & . 0047 & \(3 / 6 \times 11 / 4\) & 1.80 & 1.08 \\
    \hline PM 6D68 & . 0068 & 1/8×11/4 & 1.80 & 1.08 \\
    \hline PM 651 & .010 & \(2 / 1 \times 11 / 4\) & 1.90 & 1.14 \\
    \hline PM 6515 & . 015 & \(3 / 8 \times 11 / 4\) & 1.90 & 1.14 \\
    \hline PM 6522 & . 022 & ? \(6 \times 11 / 4\) & 2.00 & 1.20 \\
    \hline PM 6533 & . 033 & \(1 / 2 \times 11 / 2\) & 2.10 & 1.26 \\
    \hline PM 6547 & . 047 & \(1 / 2 \times 11 / 2\) & 2.30 & 1.38 \\
    \hline PM 6568 & . 068 & - \(\times 1\) \% & 2.40 & 1.44 \\
    \hline PM 6P1 & .10 & 5/1\% & 2.50 & 1.30 \\
    \hline PM 6PIS & . 15 & 11 隹 \({ }^{15}\) & 2.70 & 1.62 \\
    \hline PM 6P22 & . 22 & \(3 / 4 \times 21 / 4\) & 2.90 & 1.74 \\
    \hline PM 6P33 & .33 & \(1 \times 21 /\) & 3.30 & 1.98 \\
    \hline PM 6P47 & . 47 & \(1 \times 21 / 0\) & 3.80 & 2.28 \\
    \hline
    \end{tabular}

    \section*{corivinh（d）DU：ThFI：}

    \section*{STEATITE－CASED tUBULAR CAPACITORS}
    

    C－D＂BUDROC＂capacitars are made with nan－inductive paper and extended foil elements haused in the finest grade ceramic （steatite）tubes with Polykane end－seals．
    The steatite tube provides exceptional protection against heat and humidity．The Polykane end－fill is tightly banded to the steatite tube and lead wires，cannot soften，melt or flow at any rated operating temperature．This assures a permanent seal to moisture and humidity besides providing a rigid support for the lead wires．Miniaturized versions of the BUDROC（Type STT）are available in capacitances from .0005 to 0.1 mfd ．and in voltages \(100,200,400\) and 600 VDCW．See Eng．Bul． 159.

    \section*{TEMPERATURE RANGE：}
    ＂BUDROC＂capacitors rated up to and including 400 VDCW are impregnated with high quality HT compound \(-40^{\circ} \mathrm{C}\) to \(+90^{\circ} \mathrm{C}\) ．Units rated above 400 volts VDCW are impregnated with C．D Vikane \(\left(-55^{\circ} \mathrm{C}\right.\) to \(+100^{\circ} \mathrm{C}\) ）．
    \begin{tabular}{|c|c|c|c|c|}
    \hline ST Car. & Capacity Mfd． & \[
    \begin{aligned}
    & \text { Size-inches } \\
    & \text { D } \times \mathrm{L}
    \end{aligned}
    \] & List Price & Net Price \\
    \hline & & 200 VDCW & & \\
    \hline St 252 & ． 02 & \(3 / 6 \times 11 / 4\) & \＄． 25 & \＄． 15 \\
    \hline St 255 & ． 05 & \(3 / 8 \times 11 / 4\) & ． 25 & ． 15 \\
    \hline St 2 Pl & .10 & \(7_{16} \times 11 / 4\) & ． 35 & .21 \\
    \hline ST 2P25 & ． 25 & 11 估 \(\times 17\) & ． 40 & ． 24 \\
    \hline St 2 PS & ． 50 & \(11_{16} \times 17\) & ． 60 & ． 36 \\
    \hline St 2 Wl & 1.00 & \(1 \times 21 / 4\) & ． 90 & .54 \\
    \hline & & 400 VDCW & & \\
    \hline ST 451 & ． 01 & \({ }^{3} 16 \times 1\) & ． 25 & .15 \\
    \hline ST 452 & ． 02 & \(3 / 18\) & ． 25 & .15 \\
    \hline ST 4522 & ． 022 & \(3 / 6 \times 11 / 4\) & ． 25 & .15 \\
    \hline ST 4547 & ． 047 & \(716 \times 11 / 4\) & ． 30 & .18 \\
    \hline ST4S5 & ． 05 & 1／6x \(11 / 4\) & ． 30 & .18 \\
    \hline ST 4568 & ． 068 & \(1 / 2 \times 11 / 2\) & ． 35 & .21 \\
    \hline ST 4P1 & ． 10 & \(1 / 2 \times 11 / 2\) & ． 35 & .21 \\
    \hline ST 4P15 & ． 15 & \(11 / 6 \times 17 /\) & ． 35 & .21 \\
    \hline ST 4P22 & ． 22 & \(11 / 16 \times 17\) & ． 40 & .24 \\
    \hline ST 4P25 & ． 25 & \(11 / 16 \times 17 / 8\) & ． 40 & .24 \\
    \hline ST 4P5 & ． 50 & 13 16 \(\times 21 / 4\) & ． 60 & .36 \\
    \hline ST 4WI & 1.00 & \(1 \times 27 /\) & ． 90 & .54 \\
    \hline & & 600 VDCW & & \\
    \hline ST 675 & ． 0005 & \({ }^{3}{ }_{16} \times 1\) & ． 25 & ． 15 \\
    \hline ST 601 & ． 001 & \({ }^{516} \times 1\) & ． 25 & .15 \\
    \hline ST 6015 & ． 0015 & \(516 \times 1\) & ． 25 & .15 \\
    \hline ST 6D2 & ． 002 & 5／16x1 & ． 25 & ． 15 \\
    \hline ST 6022 & ． 0022 & 5近 \(\times 1\) & ． 25 & ． 15 \\
    \hline ST 603 & ． 003 & \(5 / 16 \times 1\) & ． 25 & .15 \\
    \hline ST 6033 & ． 0033 & 3 化 \(\times 1\) & ． 25 & .15 \\
    \hline ST 6D4 & ． 004 & \({ }_{5}^{6} \times 1\) & 25 & .15 \\
    \hline ST 6047 & ． 0047 & \({ }^{3}\) inic \(\times 1\) & ． 25 & .15 \\
    \hline ST 605 & ． 005 & \(3 / 8 \times 11 / 4\) & ． 25 & .15 \\
    \hline ST 6068 & ． 0068 & \(3 / 8 \times 11 / 4\) & ． 30 & ． 18 \\
    \hline ST 651 & ． 01 & \(3 / 1811 / 4\) & ． 30 & .18 \\
    \hline ST 6Sis & ． 015 & \(3 / 10 \times 11 / 4\) & ． 30 & ． 18 \\
    \hline ST 652 & ． 02 & 710 \(\times 11 / 4\) & ． 30 & .18 \\
    \hline ST 6522 & ． 022 & 1伯× \(11 / 4\) & ． 30 & .18 \\
    \hline ST 6S25 & ． 025 & 7／16 \(\times 11 / 4\) & ． 35 & .21 \\
    \hline St 6S3 & ． 03 & \(716 \times 11 / 4\) & ． 35 & .21 \\
    \hline ST 6S4 & ． 04 & \(1 / 2 \times 11 / 2\) & ． 35 & .21 \\
    \hline ST 6547 & ． 047 & \(1 / 2 \times 11 / 2\) & ． 40 & .24 \\
    \hline ST 655 & ． 05 & \(1 / 2 \times 11 / 2\) & ． 40 & .24 \\
    \hline ST 6568 & ． 068 & 11 们× \(\times 17\) & ． 45 & ． 27 \\
    \hline ST 6P1 & ． 10 & 11 化× \(17 /\) & ． 45 & .27 \\
    \hline ST 6P25 & ． 25 & 13 亿19 \(\times 21 / 4\) & ． 55 & .33 \\
    \hline ST 6P5 & ． 50 & \(1 \times 27 /\) & ． 80 & ． 48 \\
    \hline
    \end{tabular}

    \section*{METAL CASED DYKANOL PAPER CAPACITORS}
    

    TYPE TMJ．．．．4P
    C－D type TMJ－4P is a non－magnetic metal－cased，ungrounded section，tubular paper capacitor，the body of which is covered with a non－hygroscopic plastic insulating tube．The unit is also available with a mounting strap＊on request．
    The TMJ is impregnated with Dykanol＂C＂（oil）and meets MIL－C－25A temperature Characteristic＂\(E\)＂．
    STANDARD TOLERANCE：\(\pm 20 \%\)
    TEMPERATURE RANGE：\(-55^{\circ} \mathrm{C}\) 10 \(+85^{\circ} \mathrm{C}\)
    \begin{tabular}{|c|c|c|c|c|}
    \hline Tis \({ }_{\text {Cat．}}^{\text {No．}}\) & Cap． Mid． & Bady Dimensions Overall Dia，\(\times\) length & List Price & Net Price \\
    \hline & & 600 VDCW & & \\
    \hline TMJ 603－4P & ． 003 & \(1 / 2 \times 1516\) & \＄1．30 & \＄．78 \\
    \hline TMJ 606－4P & ． 006 & \(1 / 2 \times 150\) & 1，30 & .78
    .78 \\
    \hline TMJ 6 S1－4P & ． 01 & \(1 / 2 \times 1516\) & 1.30 & ． 78 \\
    \hline TMJ 6S2－4P & ． 02 & \(1 / 2 \times 113\) 价 & 1，45 & ． 87 \\
    \hline TMJ 6S5－4P & ． 05 & \(1116 \times 111 / 16\) & 1.55 & ．93 \\
    \hline TMJ 6P1－4P & ． 10 & 11 in \(\times 21\) ， 16 & 1.75 & 1.05 \\
    \hline TMJ 6P25－4P & ． 25 & \(11 / 16 \times 25\)／6， & 2.40 & 1.44 \\
    \hline TMJ 6P5－4P & ． 50 & \(11 / 16 \times 2{ }^{13} 16\) & 3.05 & 1.83 \\
    \hline & & 1000 VDCW & & \\
    \hline TMJ1003－4P & ． 003 & \({ }^{11} 16 \times 1{ }^{5} \mathrm{~m}\) & 1.55 & ．93 \\
    \hline TMJ 1006 －4P & ． 006 & \({ }_{111}^{16} \times 1{ }^{16}{ }^{16}\) & 1.55 & ．93 \\
    \hline TMJ \(1051-4 \mathrm{P}\) & ． 01 & \({ }_{11}^{116} \times 16{ }^{16}{ }^{516}\) & 1.55 & ．93 \\
    \hline TMJ \(1052-4 P\) & ． 02 & \({ }^{11} 16 \times 11115\) & 1.70 & 1.02 \\
    \hline TMJ 10S5．4P & ． 05 & \(13,16 \times 113.16\) & 1.80 & 1.08 \\
    \hline TMJ IOPI－4P & ． 10 & 1 1伯 \(\times 2\) 伯， & 2.05 & 1.23
    1.62 \\
    \hline TMJ 10 P25－4P & ． 25 & 11 价 \(\times 2^{11}\) 白 & 2.70 & 1.62 \\
    \hline & & 1600 VDCW & & \\
    \hline TMJ16D3－4P & ． 003 & \(116 \times 1716\) & 1.70 & 1.02 \\
    \hline TMJ 1606－4P & ． 006 & \(11 / 16 \times 1716\) & 1.70 & 1.02 \\
    \hline TMJ \(1651-4 \mathrm{P}\) & ． 01 & 110617 & 1.70
    1.80 & 1.02
    1.08 \\
    \hline TMJ \(1652.4 P\) & ． 02 &  & 1.80
    1.95 & 1.08 \\
    \hline TMJ16S5－4P & .05
    .10 & \(\begin{array}{ll}116 & \times 2^{1 / 6} \\ 11 \\ 16 & \times 2^{5} 15\end{array}\) & 1.95
    2.55 & 1.17
    1.53 \\
    \hline
    \end{tabular}
    －For unit with mounting strap，specify type os TMJ．6P（Ex．TMJ－651－6P）．
    \begin{tabular}{|c|c|c|c|c|}
    \hline ST Cat. & Capacity Mfd． & \[
    \begin{gathered}
    \text { Size-Inches } \\
    D \times L
    \end{gathered}
    \] & List Price & Net Price \\
    \hline & & 1600 VDCW & & \\
    \hline ST 16 D 1 & ． 001 & \(3 / 8 \times 11 / 4\) & ． 65 & ． 39 \\
    \hline ST 16015 & ． 0015 & \(3 / 8 \times 11 / 4\) & ． 65 & ． 39 \\
    \hline ST 1602 & ． 002 & \(3 \times 11 / 4\) & ． 65 & ． 39 \\
    \hline ST 16022 & ． 0022 & \(3 / 4 \times 11 / 4\) & ． 65 & 39
    .39 \\
    \hline ST 1603 & ． 003 & \(7 / 16 \times 11 / 4\) & ． 65 & ． 39 \\
    \hline ST 16033 & ． 0033 & 7／16 \(\times 11 / 4\) & ． 65 & ． 39 \\
    \hline ST 1604 & ． 004 & \(760 \times 11 / 4\) & ． 65 & ． 39 \\
    \hline ST 16047 & ． 0047 & \(7 / 16 \times 11 / 4\) & ． 65 & ． 39 \\
    \hline ST 1605 & ． 005 & \({ }^{7}\) If \(\times 11 / 4\) & .65 & .39
    .39 \\
    \hline ST 16056 & ． 0056 & \({ }^{7} 16 \times 11 / 4\) & ． 65 & .39
    .39 \\
    \hline ST16068 & ． 0068 & \(1 / 2 \times 11 / 2\) & ． 65 & .39
    .39 \\
    \hline ST16082 & ． 0082 & 1／2 \(\times 11 / 2\) & ． 65 & .39
    .42 \\
    \hline ST 1651 & ． 01 & \(1 / 2 \times 11 / 2\) & ． 70 & ．42 \\
    \hline ST 16515 & ． 015 & \(1 / 2 \times 11 / 2\) & 70 & ．42 \\
    \hline ST 1652 & ． 02 & 11 is \(\times 17 / 8\) & 70 & ．42 \\
    \hline ST 16525 & ． 025 & \(11 / 16 \times 17\) & ． 70 & ．42 \\
    \hline ST 1653 & ． 03 & \(11 / 6 \times 17\) & 70
    70 & ．42 \\
    \hline ST 1654 & ． 04 & \(3 / 6 \times 21 / 4\) & ． 70 & ．42 \\
    \hline
    \end{tabular}

    \section*{Corivinht (d) DU:TMF:}

    \section*{MINIATURE METAL-CASED TUBULARS} ' \({ }^{\prime}\) DEMCONS'
    

    The Cornell-Dubilier series of "DEMICON" copocitars affer miniaturized tubular metal-cased units designed ond pracessed to meet rigid and severe aperoting requirements particularly where space limitatians are an impartant factor.
    Unique and improved manufacturing pracesses hove contributed to a product of unusual stability, dependability, and longevity. as attested to by field-test proven service over a lang peried of time.
    Cornell-Dubilier DEMICONS are hermetically sealed in metal cases, with glass-to-metol seal terminals and are available in o wide variety of maunting styles, impregnants, toleronces, and internal construetion. See Bulletins NB.i47 and NB.1sI.
    "BASIC" STYLE UNGROUNDED DEMICONS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline TWH \({ }_{\text {cot. }}^{\text {No. }}\) & Cop. Mfd. & V.D.C.W. & Size-Inches Dio. 天 length & \[
    \begin{gathered}
    \text { List } \\
    \text { Price }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline TWH 1 101 & . 001 & 100 & 175 * 3/4 & \$2.95 & \$1.77 \\
    \hline TWH 151 & . 01 & 100 & . \(175 \times 3 / 4\) & 3.00
    3.25 & 1.80
    1.95 \\
    \hline TWH IPI & 1.0 & 100
    100 & . \(312 \times 1 / \%\) & 3.25 & 1.95
    2.49 \\
    \hline TWH 201 & . 001 & 200 & . \(235 \times 3 /\) & 3.05 & 1.83 \\
    \hline IWH 251 & . 01 & 200 & . \(235 \times 1 / 4\) & 3.15 & 1.89 \\
    \hline TWH 2PI & . 1 & 200 & . \(312 \times 1 \%\) & 3.40 & 2.04 \\
    \hline TWH 2W1 & 1.0 & 200 & . \(562 \times 1 \%\) & 4.25 & 2.55 \\
    \hline TWH 301 & . 001 & 300 & . \(235 \times 1 / 4\) & 3.10 & 1.86 \\
    \hline TWH 351 & . 01 & 300 & . \(235 \times 31 / 4\) & 3.20 & 1.92 \\
    \hline TWH 3P1 & . 1 & 300 & . \(400 \times 1 /\) & 3.45 & 2.07 \\
    \hline TWH 3W1 & 1.0 & 300 & . \(670 \times 1 \%\) & 4.75 & 2.85 \\
    \hline TWH 401 & . 001 & 400 & . \(235 \times 1 / 4\) & 3.15 & 1.89 \\
    \hline TWH 451 & . 01 & 400 & . \(235 \times 1 / 4\) & 3.25 & 1.95 \\
    \hline TWH 4PI & . 1 & 400 & . \(400 \times 11 / 8\) & 3.50 & 2.10 \\
    \hline TWH 4W1 & 1.0 & 400 & . \(750 \times 2 \%\) & 5.00 & 3.00 \\
    \hline TWC \({ }_{\text {cal }}\) & Cop. & & Size-Inches & List & Net \\
    \hline & & & & & \\
    \hline Tw & . 001 & 100 & .175 x 3/4 & \$3.30 & \$1.98 \\
    \hline TWC \({ }^{\text {TW }}\) & . 01 & 100 & . \(175 \times 3 / 4\) & 3.40 & 2.04 \\
    \hline TWC IP1 & -1. & 100
    100 & . \(312 \times 1 /\) & 3.70 & 2.22 \\
    \hline TwCiwi & 1.0 & 100 & . \(562 \times 1 \%\) & 4.85 & 2.91 \\
    \hline TWC 201 & . 001 & 200 & . \(235 \times 3 / 4\) & 3.45 & 2.07 \\
    \hline TWC 251 & . 01 & 200 & . \(235 \times 3 / 4\) & 3.55 & 2.13 \\
    \hline TWC 2P1, & & 200 & . \(400 \times 1 / 8\) & 3.85 & 2.31 \\
    \hline TWC 2 W 1 & 1.0 & 200 & . \(670 \times 1 \%\) & 5.40 & 3.24 \\
    \hline TWC 301 & & 300 & & 3.50 & 2.10 \\
    \hline TWC 351 & . 01 & 300 & . \(235 \times 3 / 4\) & 3.60 & 2.16 \\
    \hline TWC 3P1, & & 300 & . \(400 \times 11 /\) & 3.90 & 2.34 \\
    \hline TWC 3W1 & 1.0 & 300 & . \(750 \times 21 /\) & 5.75 & 3.45 \\
    \hline TWC 401 & . 001 & & & 3.55 & 2.13 \\
    \hline TWC 4s) & . 01 & 400 & . \(235 \times 3 /\) & 3.65 & 2.19 \\
    \hline TWC 4P1 & . 1 & 400 & . \(400 \times 11 /\) & 4.15 & 2.49 \\
    \hline TWC 4P68 & . 68 & 400 & . \(750 \times 21 /\) & 5.75 & 3.43 \\
    \hline TWC 601 & . 001 & & & 3.60 & 2.16 \\
    \hline TWC OS1 & . 01 & 600 & . \(312 \times 1 /\) & 3.75 & 2.25 \\
    \hline TWC 6P1 & . 1 & 600 & . \(562 \times 11 /\) & 4.45 & 2.67 \\
    \hline TWC 6P47 & . 47 & 600 & . \(750 \times 21 / 1\) & 5.80 & 3.48 \\
    \hline TWC 1001 & . 001 & 1000 & . \(400 \times 7 /\) & 4.10 & 2.46 \\
    \hline rwc los & . 01 & 1000 & & 4.25 & 2.55 \\
    \hline [WC 10p1 & . 1 & 1000 & . \(562 \times 13 / 8\) & 5.00 & 3.00 \\
    \hline WC 10P47 & . 47 & 1000 & \(1.00 \times 21 / 8\) & 6.30 & 3.78 \\
    \hline
    \end{tabular}

    All Cornell-Dubilier DEMICONS will camply with applicable parts of Specifications JAN C-25 and MIL.C-25A.
    The listings on this page caver the BASIC STYIE (illustrated) far types TWH, TWC, TWU, TWM.
    STANDARD TOLERANCE: \(\pm \mathbf{2 0 \%}\).

    \section*{TEMPERATURE RANGE:}
    \begin{tabular}{lll} 
    TWH & High Temperature wax & \(-40^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\). \\
    TWC & "Dykanol". & \(-55^{\circ} \mathrm{C}\) to \(85^{\circ} \mathrm{C}\). \\
    TWU & "Dykanal U" & \(-55^{\circ} \mathrm{C}\) 10 \(125^{\circ} \mathrm{C}\). \\
    TWM & "Mylar". polyester film & \(-55^{\circ} \mathrm{C}\) ta \(+100^{\circ} \mathrm{C}\).
    \end{tabular} PRICES shawn below are for BASIC STYIE-UNGROUNDED.
    - Registered Cornell-Dubilier trsde mork.
    - Registcred Dupont trade mark.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{DEMICONS} \\
    \hline TWU \({ }_{\text {car }}^{\text {No. }}\) & Cor. Mid. & V.D.C.W. & \begin{tabular}{l}
    Size-Inches \\
    Dia. x Length
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline TWU 101 & .00! & 100 & . \(175 \times 3 / 4\) & \$4.13 & \$2.48 \\
    \hline TWU ISI & . 01 & 100 & . \(175 \times 3 / 4\) & 4.25 & 2.55 \\
    \hline TWU1PI & . 1 & 100 & . \(312 \times 1 /\) & 4.63 & 2.78 \\
    \hline TWU IWI & 1.0 & 100 & . \(562 \times 1 \%\) & 6.06 & 3.64 \\
    \hline TWU201 & . 001 & 200 & . \(235 \times \mathrm{m}\) & 4.31 & 2.59 \\
    \hline TWU251 & . 01 & 200 & . \(235 \times 1 / 4\) & 4.44 & 2.66 \\
    \hline TWU2P1 & . 1 & 200 & . \(400 \times 1 /\) & 4.81 & 2.89 \\
    \hline TWU 2 W1 & 1.0 & 200 & . \(670 \times 1 \%\) & 6.75 & 4.05 \\
    \hline TWU 301 & & 300 & . \(235 \times 1 / 4\) & 4.38 & 2.63 \\
    \hline TWU351 & . 01 & 300 & . \(235 \times 1 / 4\) & 4.50 & 2.70 \\
    \hline TWU 3P1 & . 1 & 300 & . \(400 \times 11 /\) & 4.88 & 2.93 \\
    \hline TWU 3W1 & 1.0 & 300 & . \(750 \times 21 / 4\) & 7.19 & 4.31 \\
    \hline TWU 4DI & . 001 & 400 & . \(235 \times 3 / 4\) & 4.44 & 2.66 \\
    \hline TWU 4S 1 & . 01 & 400 & . \(235 \times 1 / 4\) & 4.56 & 2.74 \\
    \hline TWU 4PI & . 1 & 400 & . \(400 \times 1 \%\) & 5.19 & 3.11 \\
    \hline TWU 4P6: & . 68 & 400 & . \(750 \times 21 / 4\) & 7.19 & 4.31 \\
    \hline TWU 001 & . 001 & 600 & . \(235 \times 3 / 4\) & 4.50 & 2.70 \\
    \hline TWU651 & . 01 & 600 & . \(312 \times 1 /\) & 4.69 & 2.81 \\
    \hline TWU 6P1 & . 1 & 600 & . \(562 \times 11 /\) & 5.56 & 3.34 \\
    \hline TWU 6P47 & . 47 & 600 & . \(750 \times 21 /\) & 7.25 & 4.35 \\
    \hline TWU 1001 & . 001 & & & & \\
    \hline TWU 1051 & . 01 & 1000 & . \(400 \times 1 /\) & 5.31 & 3.19 \\
    \hline TWU 10P 1 & .1 & 1000 & . \(562 \times 1 / 8\) & 6.25 & 3.75 \\
    \hline TWU 10p47 & . 47 & 1000 & \(1.000 \times 21 / 8\) & 7.88 & 4.73 \\
    \hline & & & & & \\
    \hline TMM \({ }^{\text {Cat. }}\) & Cop. & & Size-inches & List & Net \\
    \hline IWM No. & Mfd. & V.D.C.W. & Dia. \(x\) length & Price & Price \\
    \hline TWM 151 & . 01 & 100 & . \(235 \times \mathrm{T}\) & \$5.95 & \$3.57 \\
    \hline TWM is22 & . 022 & 100 & . \(312 \times 7\) & 6.10 & 3.66 \\
    \hline TWM 1547 & . 047 & 100 & . \(312 \times 7\) & 6.30 & 3.78 \\
    \hline TWM IPI & . 1 & 100 & . \(400 \times 7\) & 6.50 & 3.90 \\
    \hline TWM 4022 & . 0022 & 400 & & & 3.72 \\
    \hline TWM 4S1 & . 01 & 400 & . \(312 \times 1 / 8\) & 6.40 & 3.84 \\
    \hline TWM 4PI & . 1 & 400 & . \(562 \times 1\) & 7.25 & 4.35 \\
    \hline TWM 4WI & 1.0 & 400 & . \(750 \times 21 / 2\) & 10.50 & 6.30 \\
    \hline TWM 6022 & . 0022 & 600 & . \(235 \times 7 / 1\) & 8.30 & 3.78 \\
    \hline TWM 651 & . 01 & 600 & . \(312 \times 1\) & 6.55 & 3.93 \\
    \hline TWM 6PI & . 1 & 600 & . \(562 \times 1 \%\) & 7.80 & 4.68 \\
    \hline TWM 6WI & 1.0 & 600 & \(1.000 \times 2^{11} 16\) & 12.75 & 7.65 \\
    \hline
    \end{tabular}

    \title{
    
    }

    METAL CASED DYKANOL PAPER CAPACITORS
    

    TYPE YAT
    Types YAT ond YAB ore impregnoled and filled with Dykonol ＂\(G\)＂（chlorinoted diphenyl）o synthetic，non．inflommoble，non－ oxidizoble liquid compound．They ore especiolly suited for use in byposs，oudio frequeney coupling circuits ond other oppli－ cotions．Units ore seoled in drown metol shell contoiners ond provided with leokproof terminols either on top or bothom of the con contoiners，designoted os Types YAT ond YAB．They will meel MIL－C．25A performonce ond test requirements．

    TEMPERATURE RANGE：\(-55^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\) ．
    STANDARD TOLERANCE：\(+20 \%,-10 \%\) ．
    \begin{tabular}{|c|c|c|c|c|}
    \hline YAT－YAR \({ }_{\text {cor }}^{\text {No．}}\) & Cop． Mid． & \[
    \begin{aligned}
    & \text { Size-Inches } \\
    & \text { L. } \approx \text { W. } \approx H \text { H }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline & & 600 V．D．C．Work． & & \\
    \hline Yat or Yas 6005 & ． 05 & \(13 / 8 \times 1116\) & \＄3．60 & \＄2．16 \\
    \hline YAT or Yais 6010 & ． 1 & \(13 \times 3 \times 16\) & 3.60 & 2.16 \\
    \hline YAT or Yab 6025 & ． 25 & \(13 / 4 \times 1{ }^{1} \times 1 / 2\) & 3.85 & 2.31 \\
    \hline YAT or YAB 6050X & ． 5 & 13／4 \(\times\) \％ \(16 \times 2\) & 4.15 & 2.49 \\
    \hline Yat or Yais 6100 & 1.0 & \(11 / 9 \times 16 \times 21 / 2\) & 4.70
    3.65 & 2.82
    2.19 \\
    \hline YAT or YAB 60055 Yat or YaB 6011 & ． \(05-.05\) &  & 3.65
    4.70 & 2.19
    2.82 \\
    \hline Yat or Yai 6022 X & ．25－．25 & \(13 / 4 \times 2 \times 2\) & 4.70 & 2.82 \\
    \hline YAT or YAB 6055 & 5－． 5 & \(13 / 4 \times 16 \times 21 / 2\) & 5.50 & 3.30 \\
    \hline Yat or Yai 60555 & ．05－．05－．05 & \(13 / 8 \times 16 \times 115\) & 5.25 & 3.15 \\
    \hline Yat or Yaib 6111 & ．1－．1－．1 & \(13 / 4 \times 16 \times 1 \frac{1}{2}\) & 5.50 & 3.30 \\
    \hline YAT or Yas 6222 & ．25－．25－． 25 & \(13 / 4 \times\) 脈 \(\times 21 / 2\) & 5.80 & 3.48 \\
    \hline & & 1000 V．D．C．Work． & & \\
    \hline YAT or YAB 10005 & ． 05 & \(13 / 4 \times{ }^{26} \times 11_{16}\) & & 2.22 \\
    \hline YAT or Yá 10010 & ． 1 & \(13 / 8 \times 16 \times 1\) 的 & 4.00 & 2.40 \\
    \hline YAT or Yab 10025 x & ． 25 & \(13 / 4 \times 16 \times 2\) & 4.15 & 2.49 \\
    \hline YAT or Yab 10050 & ． 5 & \(13 / 4 \times 16 \times 21 / 2\) & 4.40 & 2.64 \\
    \hline YAT or Yai 100055 & ．05－．05 & \(13 / 4 \times 16 \times 16\) & 4.40 & 2.64 \\
    \hline Yat or Yai 10011 & ．1－． 1 & \(13 / 4 \times 16 \times 1 / 2\) & 4.95 & 2.97 \\
    \hline YAT or Yas 10022 & 25－． 25 & \(13 / 2 \times 16 \times 21 / 2\) & 5.25 & 3.15 \\
    \hline YAJ or Yas 100555 & 05－．05－．05 & \(13 / 4 \times 16 \times 11 / 2\)
    \(13 \times 21 / 2\) & 5.80
    6.35 & 3.48
    3.81 \\
    \hline YAT or Yas 10111 & ．1－．1－．1 & \(13 / 4 \times 16 \times 21 / 2\) & 6.35 & 3.81 \\
    \hline
    \end{tabular}
    

    Types WAT ond WAB Copocitors are smoller size units of similo construction and electricol chorocteristics but only supplied in single section units with two terminols．These units ore ideolly suited for use in ossemblies where spoce is limited ond multiple units may be mounted close together．They will meet MIL．C－25A periormonce ond test requirements．
    TEMPERATURE RANGE：\(-55^{\circ} \mathrm{C}\) 10 \(+85^{\circ} \mathrm{C}\) ．
    STANDARD TOLERANCE：\(+20 \%,-10 \%\) ．
    \begin{tabular}{|c|c|c|c|c|}
    \hline WAT－WAB \(\begin{gathered}\text { Cot．} \\ \text { No．}\end{gathered}\) & Cop． Mid． & \[
    \begin{aligned}
    & \text { Size-Inches } \\
    & \text { L. } x \text { W. } \times H .
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline & & 600 V．D．C．Work． & & \\
    \hline WAT O WAE 6005x & ． 05 &  & \＄3．85 & \＄2．31 \\
    \hline WAT O WAE 6010 & ． 1 & \(1{ }^{16} \times 1116 \times 13 / 8\) & 4.15 & 2.49
    2.64 \\
    \hline WAT or WAE 6025 & ． 25 & \(1516 \times 115 \times 15 / 8\) & 4.40 & 2.64 \\
    \hline WAT O WAE 6050 & ． 5 & \(116 \times 116 \times 2\) & 4.70 & 2.82 \\
    \hline WAT Or WAE 6100 & 1.0 & \(1_{16} \times 11 / 16 \times 21 / 2\) & 5.25 & 3.15 \\
    \hline & & 1000 V．D．C．Work． & & \\
    \hline War or WaE 10005 & ． 05 & 1 16 \(\times{ }^{11}\) 的 \(\times 13\) & 4.15 & \(2.49^{\circ}\) \\
    \hline Wat or Wat 10010 & ． 1 & \(1316 \times 1126 \times 11 / 6\) & 4.15 & 2.49 \\
    \hline WAT or WAA 10025 & .25 &  & 4.40
    4.40 & 2.64
    2.64 \\
    \hline WAT or WAB 10050 & ． 5 & \(1{ }_{16} \times{ }^{16}{ }_{16} \times 21 / 2\) & 4.40 & \\
    \hline
    \end{tabular}

    \section*{}

    \section*{DYKANOL TRANSMITTING CAPACITORS}
    

    TYPE T (Without mountings) "6 SELF - \({ }_{\text {TAPPING SCREW }}{ }^{9 / 2}\)
    
    

    INSULATORS \({ }^{-1}\)-E
    

    FOR INVERTED MOUNTING
    CLAMP BRACKET OVER BOTTOM BEAD OF CONTAINER TYPE TJH

    TYPE TJL
    

    MOUNTING STRAP FOR TYPE TJU
    TYPE TJU
    (WITH MOUNTING STKAP) Prices below inelude mounting brockeps or universal mounting strap
    when ordered ascording to these fype numbers.
    TYPE DESIGNATIONS—Type I (bosis units) ore without mauntings, io order Types TJH, Hh or TJU with mountings os shown obove, odd lefler symbols of type mountings desired to Col. No. as follows:
    TYPE T-(Bosic unit) without mountings.
    TYPE TJL-With mounting foot brockets.
    TYPE TJH—With screw spode-lug brockels.
    TYPE TJU-With universal mounting strop.
    Prices bolow include mounting brackeps or universal mounting strap when ordered according to these iype numbers.

    TEMPERATURE RANGE: \(-55^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\). STANDARD TOLERANCE: \(\pm 10 \%\).
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline T \(\begin{gathered}\text { Cor. } \\ \text { No. }\end{gathered}\) & Cop. Mid. & A & & ension
    \[
    c
    \] & \[
    -\operatorname{lng}
    \] & & F & \[
    \begin{aligned}
    & \text { Lit1 } \\
    & \text { Price }
    \end{aligned}
    \] & Not Price \\
    \hline & & \multicolumn{6}{|c|}{600 V. D.C. Working} & & \\
    \hline ¢ 6005 & . 5 & 21/0 & \(1{ }^{18} 18\) & \(1{ }^{13}\) & \(\%\) & \(18 / 15\) & 21/4 & \$4.70 & \$2.82 \\
    \hline 16010 & 1 & 21/6 & & & \% & \(18 / 16\) & \(21 / 4\) & 5.80 & 3.48 \\
    \hline 16020 & 2 & 2\% & \(1^{15} 16\) & 116 & \% & \(12 / 16\) & 21/4 & 7.15 & 4.29 \\
    \hline 16030 & 3 & 3\% & \(1^{1316}\) & \(1{ }^{16}\) & \% & \({ }^{16}\) & 21/4 & 8.25 & 4.95 \\
    \hline 16040 & 5 & 33/ & 21/2 & & \% & 11/6 & & 9.10 & 5.46 \\
    \hline 16050 & 5 & 43/4 & \({ }^{11} 16\) & \(1^{114}\) & \% & 1916 & 21/4 & 10.45 & 6.27 \\
    \hline 16060 & 6 & 41\% & \(21 / 2\) & \({ }^{31} 16\) & \% & \(11 / 0\) & 3 & 11.30 & 6.78 \\
    \hline 16080 & 8 & \(3^{13} 16\) & \(31 / 4\) & 11/4 & \% & 2 & \(43 / 1\) & 13.50 & 8.10 \\
    \hline 16100 & 10 & 45\% & \(33 / 4\) & \(11 / 4\) & \% & & 4\% & 15.15 & 9.09 \\
    \hline & & \multicolumn{6}{|c|}{1000 V. D.C. Working} & & \\
    \hline 110001 & .1 & 2 & \(1^{13}\) & & \% & & 21/4 & 4.15 & 2.49 \\
    \hline 1100025 & . 25 & 210 & \(1^{13} 16\) & & \% & \({ }_{1} 16\) & \(21 / 4\) & 4.70 & 2.82 \\
    \hline 110005 & . 5 & 21\% & \(1^{1316}\) & \(1{ }^{16}\) & \(\%\) & 13 is & 21/4 & 4.95 & 2.97 \\
    \hline 110010 & 1 & 21/9 & \(1{ }^{1316}\) & 1116 & \% & \({ }_{13} 16\) & 21/4 & 6.35 & 3.81 \\
    \hline 110020 & 2 & 4 & \(1{ }^{19} 1\) & \(1^{1{ }^{1 / 6}}\) & \% & \(11^{16}\) & 21/4 & 8.25 & 4.95 \\
    \hline 110030 & 3 & \(31 / 2\) & \(21 / 2\) & \({ }^{13} 16\) & \% & 11\% & 3 & 9.85 & 5.79 \\
    \hline 110040 & 4 & 4\% & \(21 / 2\) & \(1^{116}\) & \% & 1\% & 3 & 10.45 & 6.27 \\
    \hline 110050 & 5 & \(3^{17} 16\) & \(33 / 4\) & 11/4 & \% & 2 & 43 & 12.85 & 7.59 \\
    \hline 110060 & - & 41/4 & \(33 / 4\) & 11/4 & \% & 2 & 43\% & 14.05 & 8.43 \\
    \hline 110080 & 8 & 41/4 & 31/4 & \(11 /\) & \% & 2 & 4\% & 15.15 & 9.09 \\
    \hline 110100 & 10 & \(41 / 4\) & \(33 / 4\) & 13/ & \% & 2 & 4\% & 18.80 & 10.08 \\
    \hline 110120 & 12 & \(313 / 6\) & \(33 / 4\) & 21/4 & \% & 2 & 4\% & 18.15 & 10.89 \\
    \hline 110150 & 15 & 43/4 & 31/4 & 21/2 & \% & 2 & 4\% & 20.10 & 12.06 \\
    \hline & & & 500 & v. 0. & W & oking & & & \\
    \hline 115005 & . 5 & 27\% & & & \% & & 21/4 & 6.35 & 3.81 \\
    \hline 715010 & 1 & 4 & 11516 & 116 & \% & 196 & 21/4 & 7.45 & 4.47 \\
    \hline T15020 & 2 & 41\% & & & \% & 11\% & 3 & 10.20 & 6.12 \\
    \hline 115030 & 3 & 41/4 & \(21 / 2\) & 1's & \% & \(11 \%\) & 3 & 12.40 & 7.44 \\
    \hline 115040 & 4 & \(48 / 0\) & \(33 / 4\) & \(11 / 4\) & \% & 2 & 4\% & 14.05 & 8.43 \\
    \hline 115050 & 5 & 41/4 & 31/4 & 1\% & \% & 2 & 4\% & 15.15 & 9.09 \\
    \hline 715060 & 6 & \(41 / 4\) & \(33 / 4\) & 11/4 & \% & 2 & 4\% & 17.05 & 10.23 \\
    \hline 115080 & 8 & 41/4 & \(31 / 4\) & \(21 / 2\) & \% & 2 & 42\% & 20.90 & 12.54 \\
    \hline * 15100 & 10 & 41/4 & \(33 /\) & \(3{ }^{33}\) & \% & 2 & 41\% & 25.05 & 15.03 \\
    \hline *T15120 & 12 & \(43 / 4\) & \(31 / 4\) & \(33 \cdot 18\) & \% & 2 & 41\% & 27.25 & 16.35 \\
    \hline 1*1 13150 & 15 & \(4 \%\) & 33 & \(43_{16}\) & \% & 2 & 4\% & 30.00 & 18.00 \\
    \hline
    \end{tabular}

    NOTES-* Type TJU units ore not furnished in thete larger sizes.
    Types TJl ond TJH units furnithed with iwo mounting holes or spode luga 31/4 apert. All other units furnished with o single mounting hole or spode lug
    *Whon JAN.C. 25 units must bo suppliad, order accading to pecific CP tyo designatlans linted in C.D Paper Capacitar Catalog No. 400

    \section*{METAL CASED DYKANOL PAPER CAPACITORS}

    \section*{DYKANOL THREADED NECK CAPACITORS}
    

    TYPE DYR (Similar to CP53) *
    

    THIS TERMINAL
    

    Type DYR Dykanal Bypass Capacitars are nan-inductively waund and meet the need for dependable capacitars af fractional capacities that will operate efficiently in R.F. and A.F. bypass, oudio frequency coupling under all humidity conditians. They ore built to meet MIL.C25A perfarmance and test requirements ond have been specially designed to fill the severe requirements of aircraft, submarine, marine and trapical applications.

    TEMPERATURE RANGE: \(-55^{\circ} \mathrm{C}\) to \(-85^{\circ} \mathrm{C}\).
    STANDARD TOLERANCE: \(+20 \%,-10 \%\)
    \begin{tabular}{|c|c|c|c|c|}
    \hline DYR \({ }_{\text {cot }}^{\text {cot. }}\) & cop.
    mpd. & Size-Inches Lth. \(x\) Wid. \(x\) Thick. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net
    Price \\
    \hline & & 600 V. D.C. Wark. & & \\
    \hline DYR 6005 & . 05 & \(1{ }^{13} 5 \times 1 \times 8\) & \$2.90 & \$1.74 \\
    \hline DYR 6010 & . 5 &  & 2.95
    3.10
    3 & 1.77 \\
    \hline DYR 6025
    DYR 6050 & . 55 &  & 3.30
    3 & 1.98 \\
    \hline DYR 6050 & 3 & \(2 \times 13 \times 1 / 4\) & 3.75 & 2.25 \\
    \hline DYR 6200 & 2.0 & \(2 \times 2 \times 11 / 4\) & 5.00 & 3.00 \\
    \hline DYR 60055 & .05-.05 &  & 3.65
    3 & 2.19
    2.22 \\
    \hline DYR 6011 & . \(25-25\) &  & 3.75 & 2.25 \\
    \hline DYR 6022 x & \(\xrightarrow{.25-.25}\) & 2 \({ }^{1616 \times 1 / 4 \times 1 / 8}\) & 4.30 & 2.58 \\
    \hline DYR 6110 & 1.-1. & \(2 \times 2 \times 1 / 4\) & 5.30 & 3.18
    2.52 \\
    \hline DYR6111 & &  & 4.20
    4.75 & 2.52
    2.85 \\
    \hline DYR 6222
    DYR 655 & \(\xrightarrow{.25-.25-.5-.55}\) & \(\times 1 / 4 \times 11^{16}\) & 4.75 & 3.45 \\
    \hline & & 1000 v. D.C. Work. & & \\
    \hline DYR 10005 & . 05 & \(1{ }^{1316 \times 1} \times 3 / 4\) & 3.05 & 1.83 \\
    \hline DYR 10010 & . 1 & \(113 \times \times 1 \times 3 / 4\) & 3.15 & 1.89 \\
    \hline DYR 10025 & . 25 & \({ }^{1316 \times 16} \times 1 \times 1 / 4\). & 3.25 & 1.95 \\
    \hline Pr \({ }^{\text {Pr }} 10050\) & & \(\frac{2}{2} \times 13 / 4 \times 1{ }^{13 / 4}\) & 3.40
    4.40 & 2.64 \\
    \hline DYR 10100
    DYR 100055 & .05-.05 & \({ }_{1 / 3}^{2} \times 6 \times 1\) & 3.85 & 2.31 \\
    \hline DYR 10011 & . \(1-.1\) & \(11316 \times 1 \times \times 1 / 4\) & 4.00 & 2.40 \\
    \hline DYR 10022 & \[
    .25-.25
    \] & & & 3.27 \\
    \hline DYR 10055 & \[
    \begin{aligned}
    & .5-.5 \\
    & 1-1-.1
    \end{aligned}
    \] & \(\times 2 \times 1 / 4 \times 1 / 8\) & 4.60 & 2.76 \\
    \hline OYR \(10111 \times\) & . \(25-.25-.25\) & \(2 \times 2 \times 1 / 8\) & S0 & 3.30 \\
    \hline
    \end{tabular}
    

    Type TLA Capacitars are tharaughly impregnated and filled with Dykanol " \(G\) " (chlarinated diphenyl), a non-infommable, firepraof, nan-oxidizoble liquid compaund which provides o high factar of safety and exceptionally lang life. They will meet MIL-C 25A performance and test requirements.
    TEMPERATURE RANGE: \(-55^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\).
    STANDARD TOLERANCE: \(+20 \%,-10 \%\).
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline T1A \({ }_{\text {cat }}^{\text {Na. }}\) & Cop. Mfd. & W.C. Volts & \[
    \begin{aligned}
    & \text { Size-Inches } \\
    & \text { tgth. \& Diom. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline TLA 6020 & 2 & 600 & \(27 / 1 \times 11 / 2\) & \$4.60 & \$2.76 \\
    \hline TLA 6040 & 4 & 600 & \(41 / 2 \times 11 / 2\) & 6.30 & 3.78 \\
    \hline TLA 10010 & 1 & 1000 & \(27 / 4 \times 11 / 2\) & 4.20 & 2.52 \\
    \hline TLA 10020 & 2 & 1000 & \(41 / 2 \times 11 / 2\) & 5.45 & 3.27 \\
    \hline TLA 15005 & . 5 & 1500 & \(27 / 2 \times 11 / 2\) & 5.00 & 3.00 \\
    \hline TLA 15010 & 1 & 1500 & \(41 / 2 \times 11 / 2\) & 5.45 & 3.27 \\
    \hline
    \end{tabular}

    TEMPERATURE RANGE: \(-55^{\circ} \mathrm{C}\) to \(85^{\circ} \mathrm{C}\) STANDARD TOLERANCE: \(+20 \%,-10 \%\)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline TNAD \({ }_{\text {Nop }}^{\text {Cop }}\) & Cap. Mfd. & W. Volts & Size Inches Lgth. \(\times\) Diam. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline *TNAD 6020 & 2 & 600 & \(2 \% \times 11 / 2\) & \$5.40 & \$3.24 \\
    \hline *TNAD 6040 & 4 & 600 & \(41 / 2 \times 11 / 2\) & 7.10 & 4.26 \\
    \hline *TNAD 10010 & 1 & 1000 & \(27 / 1811 / 2\) & 5.00 & 3.00 \\
    \hline *TNAD 10020 & 2 & 1000 & \(41 / 2 \times 11 / 2\) & 6.30 & 3.78 \\
    \hline *NAD 15005 & . 5 & 1500 & \(21 / 8 \times 11 / 2\) & 5.85 & 3.51 \\
    \hline *TNAD 15010 & 1 & 1500 & \(41 / 2 \times 11 / 2\) & 6.30 & 3.78 \\
    \hline
    \end{tabular}

    Type INAD formerly TLAD-iwo solder lug terminals insulated from case. This lype similor to CP41.

    \section*{}

    COMPACT METALIZED－PAPER CAPACITORS
    

    Cornell－Dubilier self－healing，metalized poper capacitors have bettep electrical choracteristics and extra long service life． Units are light and compoct．
    ＂PUP＂units have bare wire leads securely onchored in metal end－caps，wax－impregnated and dip－sealed against humidity． All units are extended foil－non－inductive waund for low im－ pedance of high frequencies，have high insulation resistance， low power factor and small capacity change with temperature and life．
    ＂METAPUPS＂ore one piece metal iubular cosed，prearure sealed by spin－over on synthelic rubber goskets．
    ＂SEALPUPS＂ore o high quality metelized peper cepacitor， designed for smellest size ond positive seal ogoinst moisture． They are hermetically seoled in metal coses with solder－ seal glass terminals．Especiolly recommended in militory and commersial equipment where miniature size and light weight are poramount．

    For further dato on C．D metalized copacitors，wite for Bulle． tins 142－3－4 and NB－152．

    TEMPERATURE RANGE：\(-40^{\circ} \mathrm{C}\) to \(-+60^{\circ} \mathrm{C}\)
    ＇PUP＇＇METAL END－CAP CARDEOARD TUBULARS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat． No． & Cop． Mfd． & Voltoge DCW & Size－linches Diom．\(\times\) length & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \(\mathrm{Nef}_{1}\) Price \\
    \hline MP 2SS & ． 05 & 200 & 3／8 5 \(/ 8\) & \＄．65 & \＄．39 \\
    \hline MP 2PI & ． 1 & 200 & \(3 / 8 \times 5\) & ． 70 & .42 \\
    \hline MP 2P25 & ． 25 & 200 & 13／32 \(\times 5 / 8\) & ． 90 & .34 \\
    \hline MP 2P3 & ． 5 & 200 & \(13 / 8 \times 11 / 8\) & 1.05 & .63 \\
    \hline MP 2 Wl & 1.0 & 200 & 9\％\(\times 11 / 8\) & 1.30 & ． 78 \\
    \hline MP 2 W2 & 2.0 & 200 & 5／6 \(\times 1 \%\) & 1.80 & 1.08 \\
    \hline MP 4ss & ． 05 & 400 & 1356n \(\times\) 5／8 & ． 70 & .42 \\
    \hline MP 4P1 & ． 1 & 400 & \(15 / 32 \times 11 / 2\) & ． 80 & ． 48 \\
    \hline MP 4P23 & ． 25 & 400 & 2／ & 1.00 & ． 60 \\
    \hline MP 4PS & ． 5 & 400 & \(5 / 8 \times 15\) & 1.15 & ． 69 \\
    \hline MP 4W1 & 1.0 & 400 & 19 \(21 \times 2 \%\) & 1.80 & ． 96 \\
    \hline MP 651 & ． 01 & 600 & \(3 / 8 \times 3 / 8\) & ． 70 & ． 42 \\
    \hline MP 6P1 & ． 1 & 600 & 15／3，11／8 & .90 & ． 34 \\
    \hline MP 6P25 & ． 25 & 600 & \(5 / 8 \times 11 / 8\) & 1.10 & ． 66 \\
    \hline MP ops & ． 5 & 600 & 碞页× 15 & 1.45 & ．87 \\
    \hline MP 6WI & 1.0 & 600 & \(23^{3} \mathrm{j} \times 21 / 8\) & 1.80 & 1.08 \\
    \hline
    \end{tabular}

    TEMPERATURE RANGE：－ \(55^{\circ} \mathrm{C}\) ．to \(+95^{\circ} \mathrm{C}\) ．
    ＂METAPUP＂＇ONE－PIECE MEYAL TUBULARS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline MTM \({ }_{\text {Not．}}^{\text {No．}}\) & Cop． Mfd． & Voltage DCW & \[
    \begin{aligned}
    & \text { Size-Inches } \\
    & \text { Diom. } \times \text { Length }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { List } \\
    \text { Price }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline MYM 253 & ． 05 & 200 & \(3 \times 1516\) & \＄1．90 & \＄1．14 \\
    \hline MTM 2P1 & ． 1 & 200 & 2，后 \(\times 15\) & 1.95 & 1.17 \\
    \hline Mim \(2 P 25\) & ． 25 & 200 & 1／2× \({ }^{15} / 16\) & 2.10 & 1.26 \\
    \hline MTM 2PS & ． 5 & 200 & \(1 / 2 \times 11 / 4\) & 2.20 & 1.32 \\
    \hline MTM 2W： & 1.0 & 200 & 5／8×17／60 & 2.60 & 2．36 \\
    \hline MTM 2W2 & 2.0 & 200 & \(5 / 2 \times 15\) & 3.10 & 1.86 \\
    \hline MTM 4ss & ． 05 & 400 & 7／60 \(\times 1816\) & 1.95 & 1.17 \\
    \hline MTM 4PI & ． 1 & 400 & 1／6× \(\times 11 / 4\) & 2.10 & 1.26 \\
    \hline MTM 4P25 & ． 25 & 400 & \(5 / 6 \times 11 / 4\) & 2.30 & 1.38 \\
    \hline MTM 4PS & ． 5 & 400 & 各 \(\times 113\) \％ & 2.50 & 1.50 \\
    \hline MTM 4WI & 1.0 & 400 & \(3 / 4 \times 27\) \％ & 3.00 & 1.80 \\
    \hline MTM 4 W2 & 2.0 & 400 & \(1 \times 21 / 6\) & 4.10 & 2.46 \\
    \hline MTM 651 & ． 01 & 600 & \(3 / 2 \times 15 / 16\) & 1.90 & 1.14 \\
    \hline MTM 6PI & ． 1 & 600 & \(1 / 2 \times 1916\) & 2.20 & 1.32 \\
    \hline MTM 6p2 3 & ． 25 & 600 & 5／6×19／15 & 2.50 & 1.50 \\
    \hline MTM 6PS & ． 5 & 600 & \(3 / 4 \times 13510\) & 2.90 & 1.74 \\
    \hline MTM 6 Wl & 1.0 & 600 & \({ }^{13}\) 化 \(\times\) 2 \({ }^{1 \%}\) & 3.50 & 2.10 \\
    \hline MTM 6 W2 & 2.0 & 600 & \(11 / 4 \times 2\) ¢́c & 4.53 & 2.70 \\
    \hline
    \end{tabular}
    －OEDUCT \(50 \mathrm{c}^{6}\) fram list Price for Basic GROUNDED style
    TEMPERATURE RANGE：\(-55^{\circ} \mathrm{C}\) to \(+95^{\circ} \mathrm{C}\) ．
    ＇SEALPUP＇＂GLASS－METAL END－SEALED TUBULARS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline MTY \({ }_{\text {Cot．}}^{\text {No．}}\) & Cop． Mfd． & Voltage DCW & Size－Inches Diam，\(\times\) length & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Nel Price \\
    \hline MTW 253 & ． 05 & 200 & ． \(235 \times 1 / 4\) & \＄3．35 & \＄2．01 \\
    \hline MTW 2PI & ． 1 & 200 & ． \(312 \times 1 / 4\) & 3.45 & 2.07 \\
    \hline MTW 2P2S & ． 25 & 200 & ． \(312 \times 11 / 10\) & 3.90 & 2.34 \\
    \hline MTW 2 P5 & ． 5 & 200 & ． \(400 \times 11 / 6\) & 4.50 & 2.70 \\
    \hline MTW 2W1 & 1.0 & 200 & ． \(562 \times 11 / 4\) & 5.20 & 3.12 \\
    \hline MTW awis & 1.5 & 200 & ． \(562 \times 1 \%\) & 5.90 & 3.34 \\
    \hline MTW 2 W2 & 2.0 & 200 & ． \(562 \times 11 / 4\) & 7.30 & 4.38 \\
    \hline MTW 4ss & ． 05 & 400 & \(.400 \times 3 / 4\) & 3.80 & 2.16 \\
    \hline MTW 4PI & ． 1 & 400 & ． \(400 \times 11 / 16\) & 3.80 & 2.28 \\
    \hline MTW 4P2S & ． 25 & 400 & ． \(562 \times 11 / 6\) & 4.45 & 2.67 \\
    \hline MTW 4Ps & ． 5 & 400 & ． \(562 \times 11 / 4\) & 5.35 & 3.28 \\
    \hline MTW 4W1 & 1.0 & 400 & ． \(670 \times 21 / 4\) & 6.15 & 3.69 \\
    \hline MTW 651 & ． 01 & 600 & ． \(312 \times 3 / 4\) & 3.40 & 2.04 \\
    \hline MTW 6P1 & ． 1 & 600 & ． \(500 \times 11 / 4\) & 4.15 & 2.49 \\
    \hline M1W 6P2S & ． 25 & 800 & ． \(670 \times 1 \%\) & 5.00 & 3.00 \\
    \hline MTW SPS & ． 5 & 800 & ． \(750 \times 11 / 4\) & 6.35 & 3.81 \\
    \hline MTW 6W1 & 1.0 & 800 & ． \(750 \times 21 / 4\) & 7.20 & 4.32 \\
    \hline
    \end{tabular}

    \section*{Corivi=ht (o) DU:TMMAI}

    \section*{HIGH TEMPERATURE Metalized-Paper CAPACITORS}
    - POLYKANE-IMPREGNATED: This impregnonl insures excelient electricol properties aver long service life
    - MOISTURE RESISTANT: MTX fubuiors have the finest gioss-to-metal solder seal terminals for maximum protection against moisture. MPX fubulors have POLYKANE-impregnoted poper fubes, bonded securely to the POLYKANE fill. An external flash wax dip provides an increased moisture seal far extra long storage and service conditions under extremes af humidity.
    - NON-LEAKING: "POLYKANE" is a solid thermosetting plastic that will nat soften, crask, or leak at the maximum lemperature. No oil or wax is used internally with these units.

    MPXł-HIGH TEMPERATURE Paper-Cased TUBULARS STANDARD TOLERANCE:
    \[
    \begin{aligned}
    & +40-20 \% \text { to } 1 \mathrm{mid} . \\
    & +30-20 \% \text { over } 1 \mathrm{mfd} .
    \end{aligned}
    \]

    TEMP. RANGE: \(-55^{\circ} \mathrm{C}\) ta \(+130^{\circ} \mathrm{C}\)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline MPX \({ }_{\text {Coq. }}^{\text {No. }}\) & Cop. Mfd. & Voltage DCW & \begin{tabular}{l}
    Size-Inches \\
    Dic. \& Length
    \end{tabular} & List Price & Nel Price \\
    \hline MPX 255 & . 05 & 200 & 1/4× \({ }^{13} 111\) & \$1.60 & \$.96 \\
    \hline MPX \(2 P 1\) & . 10 & 200 & \% \(6 \times 1.18\) & 1.75 & 1.05 \\
    \hline MPX 2P25 & . 25 & 200 & \(17 \%\) \% \({ }^{19}\) & 2.00 & 1.20 \\
    \hline MPX 2PS & . 50 & 200 & \(19 \times 11 / 8\) & 2.50 & 1.50 \\
    \hline MPX 2 W 1 & 1.0 & 200 & \% \(\times 1\) & 3.00 & 1.80 \\
    \hline MPX 2 W 2 & 2.0 & 200 & \(5 / 6 \times 11 / 2\) & 4.00 & 2.40 \\
    \hline MPX 455 & . 05 & 400 & 3/8× \({ }^{1}\) & 1.65 & . 99 \\
    \hline MPX 4PI & .10 & 400 & 3/8 \(\times 11 / 8\) & 1.80 & 1.08 \\
    \hline MPX 4P25 & . 25 & 400 & ¢ \(\times 10\) & 2.10 & 1.26 \\
    \hline MPX 4P5 & . 50 & 400 & \(5 / 8 \times 13 / 4\) & 2.85 & 1.71 \\
    \hline MPX 4W1 & 1.0 & 400 & \(1 \times 11 / 8\) & 3.50 & 2.10 \\
    \hline MPX 4W2 & 2.0 & 400 & 1/2 \(\times 23 / 8\) & 5.50 & 3.30 \\
    \hline MPX 651 & . 01 & 600 & \(1 / 4 \times 1{ }^{10}\) & 1.45 & . 87 \\
    \hline MPX 6P1 & . 10 & 600 & \(1 / 4 \times 11 / 6\) & 1.90 & 1.14 \\
    \hline MPX 6P25 & . 25 & 600 & \(5 / 8 \times 11\) & 2.25 & 1.35 \\
    \hline MPX 6PS & . 50 & 600 & \(1110 \times 11 / 2\) & 3.00 & 1.80 \\
    \hline MPX OWI & 1.0 & 600 & \({ }^{11} 10 . \times 17 / 8\) & 4.00 & 2.40 \\
    \hline MPX 6 W2 & 2.0 & 600 & \(1 \times 21 / 6\) & 6.00 & 3.60 \\
    \hline
    \end{tabular}

    MTX \(\dagger\)-HIGH TEMPERATURE Metal-Cased \(\ddagger\) TUBULARS
    STYLE BASIC (Ungrounded) STANDARD TOLERANCE: \(\begin{aligned}+40-20 \% \text { ta } 1 \mathrm{mfd} . \\ +30-20 \% \text { over } 1 \mathrm{mfd}\end{aligned}\) TEMP. RANGE: \(-55^{\circ} \mathrm{C}\) 1a \(+130^{\circ} \mathrm{C}\)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline MTX \({ }_{\text {Cot. }}^{\text {No. }}\) & Cop. Mid. & Voltage DCW & Size-Inches Diam, \(\times\) length & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Lisice }
    \end{aligned}
    \] & Nel Price \\
    \hline MTX 255 & . 05 & 200 & . \(235 \times 18\) & \$3.90 & \$2.34 \\
    \hline MTX 2P1 & . 10 & 200 & . \(312 \times 1{ }^{1 / 6}\) & 3.95 & 2.37 \\
    \hline MTX 2P25 & . 25 & 200 & . \(312 \times 11 / 8\) & 4.50 & 2.70 \\
    \hline MTX 2P5 & . 50 & 200 & . \(400 \times 11 / 8\) & 5.20 & 3.12 \\
    \hline MTX 2 Wl & 1.0 & 200 & . \(562 \times 11 / 8\) & 6.00 & 3.60 \\
    \hline MTX 2 W 15 & 1.5 & 200 & . \(562 \times 111\) in & 6.75 & 4.05 \\
    \hline MTX 2 W 2 & 2.0 & 200 & . \(562 \times 1{ }^{17} 16\) & 7.50 & 4.50 \\
    \hline MTX 455 & . 05 & 400 & . \(312 \times 17\) 15 & 4.10 & 2.46 \\
    \hline MTX 4P1 & . 10 & 400 & \(400 \times 11 / 8\) & 4.35 & 2.61 \\
    \hline MTX 4P25 & . 25 & 400 & . \(500 \times 11 / 2\) & 5.15 & 3.09 \\
    \hline MTX 4PS & . 50 & 400 & . \(567 \times 1{ }^{1 / 2}\) & 6.20 & 3.72 \\
    \hline MTX 4WI & 1.0 & 400 & . \(670 \times 2.16\) & 7.50 & 4.50 \\
    \hline & & & & 3.85 & 2.31 \\
    \hline MTX OPI & . 10 & 600 & . \(400 \times 11 / 8\) & 4.80 & 2.88 \\
    \hline MTX 6P25 & . 25 & 800 & . \(562 \times 1.16\) & 5.75 & 3.45 \\
    \hline MTX 6P5 & . 50 & 600 & . \(670 \times 1{ }^{19} 16\) & 7.25 & 4.35 \\
    \hline MTX OWI & 1.0 & 600 & . \(750 \times 2\) & 9.10 & 5.46 \\
    \hline
    \end{tabular}

    \section*{CERAMIC CASED HIGH POWER MICA CAPACITORS}
    

    C-D Ceramic-cased transmitter copacitors are built to handle the high kva requirements of radio and television transmitters as well as special applications within the electrical ratings of the units.
    Used in grid, plate blocking, coupling, tank and bypass applications. Mica sections are enclased in low.loss ceramic tubes with cast aluminum end terminals which permit mounting in any position. Parallel or series combinations may be accomplished by bolting or strapping the terminal flanges fogether

    BROADCAST
    MICA TRANSMITTING CAPACITORS
    

    \section*{}
    "тэре" "Super MICADON"
    ENCAPSULATED Molded-Case MIDGET MICA CAPACITORS
    

    Cornell-Dubilier "SUPER MICADONS" represent an entirely new conception in Midget Mica Capacitor construction. The vastly improved design and construction of the new "C-D SUPER MICADONS" now makes it possible to produce miniature units of greolly increosed capocitance ond superior quolity over conventional units of the some case size. Every characteristiz desirable in a mico copacitor has been incorporated into one compost, miniofure sized unit. No mico copocitor of conven. fionol design hos ochieved this comprehensive quolity.

    SEE ENG. BUL. ISO FOR OETAILED DATA ANO COMPLETE ISSTINĒS
    \begin{tabular}{|c|c|c|c|c|}
    \hline & & tong & Wide & 「tik \\
    \hline Type & 1 A & \(53 / 64\) & \(53 / 64\) & \(9 / 32\) \\
    \hline SIZES: & \(1 A D\) & \(53 / 64\) & \(53 / 64\) & 11/32 \\
    \hline in & 5A & \(51 / 64\) & 15/32 & 7,132 \\
    \hline Inches & 22A & \(35 / 64\) & 5/16 & 7/32 \\
    \hline
    \end{tabular}

    TEMPERATURE RANGE: \(-55^{\circ} \mathrm{C}\) to \(+130^{\circ} \mathrm{C}\).
    STANDARD TOLERANCE: \(\pm 5 \% ; \pm 2 \%\) con also be supplied from stock when specified; \(\pm 1 / 2 \%\) ond \(\pm 1 \%\) ovoilable on speciol order.

    > For \(\pm 2 \%\) Tol. odd \(15 \%\) to list. For \(\pm 1 \%\) Tol. odd \(25 \%\) to List. For \(\pm 1 / 2 \%\) Tol. add \(50 \%\) to List

    CHARA
    From 1 to 24 mmfd . in Chor. "C".
    From 24 to 51 mmfd . in Char, "E".
    From 51 to \(41,000 \mathrm{mmfd}\). in Char. "E From 51 to \(41,000 \mathrm{mmfd}\). ALSO AVAllABLE in Char. "F" on special order."

    22A-5A-1A-1AD
    All units 500 VDCW, except as noted.
    \begin{tabular}{|c|c|c|c|}
    \hline Type 22 A & Cop. Mid. & List *
    Price & \begin{tabular}{l}
    Ne* * \\
    Pric
    \end{tabular} \\
    \hline 22asvs & . 000005 & 5.40 & \$. 24 \\
    \hline 22A501 & .00001 & . 40 & . 24 \\
    \hline 22A5012 & . 000012 & . 40 & . 24 \\
    \hline 22ASO15 & . 000015 & . 40 & . 24 \\
    \hline 22A5018 & . 000018 & . 40 & . 24 \\
    \hline 22A502 & . 00002 & . 40 & . 24 \\
    \hline 2245022 & . 000022 & . 40 & . 24 \\
    \hline 2245024 & . 000024 & . 40 & . 24 \\
    \hline 2245027 & . 000027 & . 40 & . 24 \\
    \hline 22AS03 & . 000030 & . 40 & . 24 \\
    \hline 2245033 & . 000033 & . 40 & . 24 \\
    \hline 2245036 & . 000036 & . 40 & . 24 \\
    \hline 2245039 & . 000039 & . 40 & . 24 \\
    \hline 2245043 & . 000043 & . 40 & .24 \\
    \hline 2245047 & . 000047 & . 40 & . 24 \\
    \hline 22asasi & . 000051 & . 40 & . 24 \\
    \hline 22A5056 & . 000056 & . 40 & . 24 \\
    \hline 2245062 & . 000082 & . 40 & .24 \\
    \hline 22A506 & . 0000088 & . 40 & . 24 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline TYPE 22A & Cop. Mid. & \[
    \begin{aligned}
    & \text { List* } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Net* } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 2245075 & . 000075 & . 40 & .24 \\
    \hline 22A5082 & . 000082 & . 40 & . 24 \\
    \hline 2145091 & .000081 & . 40 & .24 \\
    \hline 224511 & . 0001 & . 40 & . 24 \\
    \hline 2245111 & . 00011 & . 45 & . 27 \\
    \hline 22A5112 & . 00012 & . 45 & . 27 \\
    \hline 2245113 & . 00013 & . 45 & .27 \\
    \hline 22Astis & 00015 & 45 & . 27 \\
    \hline 2245116 & . 00016 & . 45 & .27 \\
    \hline 22A5118 & . 00018 & . 45 & .27 \\
    \hline 22A512 & . 0002 & . 45 & .27 \\
    \hline 22AST22 & . 00022 & . 45 & . 27 \\
    \hline 22AST24 & . 00024 & . 45 & . 27 \\
    \hline 22A5127 & . 00027 & . 55 & . 33 \\
    \hline 22AST3 & . 0003 & . 55 & .33 \\
    \hline 22A5733 & . 00033 & . 55 & .33 \\
    \hline 2245736 & . 00038 & . 65 & . 39 \\
    \hline 22A5739 & . 00039 & . 65 & . 39 \\
    \hline 22A5743 & . 00043 & . 65 & . 39 \\
    \hline 2245747 & . 00047 & . 70 & .42 \\
    \hline 22A5t51 & . 00051 & . 70 & .42 \\
    \hline 22A5756 & . 00058 & . 85 & .31 \\
    \hline 2245762 & . 00002 2 & . 85 & .51 \\
    \hline 22A5768 & . 000088 & . 85 & . 51 \\
    \hline 22A5TTS & . 00075 & . 95 & . 57 \\
    \hline 22A5182 & . 00082 & . 95 & . 57 \\
    \hline 22A5T91 & . 00091 & 1.00 & . 60 \\
    \hline 22A501 & . 001 & 1.10 & . 66 \\
    \hline
    \end{tabular}

    Type 5A
    \begin{tabular}{l|l|l|l}
    \hline SASDI1 & .0011 & 1.10 & .66 \\
    SASDI2 & .0012 & 1.35 & .81 \\
    SASD13 & .0013 & 1.35 & .81 \\
    SASD15 & .0015 & 1.35 & .81 \\
    SASD16 & .0016 & 1.35 & .81 \\
    SASD18 & .0018 & 1.35 & .81 \\
    SASD2 & .002 & 1.35 & .81 \\
    SASD22 & .0022 & 1.80 & 1.08 \\
    SASD24 & .0024 & 1.80 & 1.08 \\
    SASD27 & .0027 & 2.05 & 1.23 \\
    SASD3 & .003 & 2.05 & 1.23 \\
    SASD33 & .0033 & 2.05 & 1.23 \\
    SASD36 & .0036 & 2.15 & \(\mathbf{1 . 2 9}\) \\
    \hline
    \end{tabular}

    Type 1A
    \begin{tabular}{|c|c|c|c|}
    \hline 145039 & .0039 & 2.15 & 1.29 \\
    \hline 145043 & . 0043 & 2.15 & 1.29 \\
    \hline 14SD47 & . 0047 & 2.25 & 1.35 \\
    \hline 1ASDS 1 & . 0051 & 2.25 & 1.35 \\
    \hline 1ASDS6 & . 0058 & 2.25 & 1.35 \\
    \hline 1A5D62 & . 00082 & 2.25 & 1.35 \\
    \hline 1ASD6 & . 0088 & 2.50 & 1.50 \\
    \hline 1ASD75 & . 0075 & 2.50 & 1.50 \\
    \hline 1ASD82 & . 00082 & 2.50 & 1.50 \\
    \hline 1ASD91 & . 0091 & 2.50 & 1.50 \\
    \hline 1A551 & . 01 & 2.50 & 1.50 \\
    \hline 1A5511 & . 011 & 2.80 & 1.6\% \\
    \hline 1A5512 & . 012 & 3.05 & 1.83 \\
    \hline 145513 & . 013 & 3.05 & 1.83 \\
    \hline 3A5515 & . 015 & 3.05 & 1.83 \\
    \hline
    \end{tabular}

    Type 1 AD
    \begin{tabular}{|c|c|c|c|}
    \hline 1ADS516 & . 016 & 3.55 & 2.13 \\
    \hline 1ADSS18 & . 018 & 3.55 & 2.13 \\
    \hline 1ADSS2 & . 02 & 3.55 & 2.13 \\
    \hline 1ADS522 & . 022 & 4.35 & 2.61 \\
    \hline 1ADSS24 & . 024 & 4.35 & 2.61 \\
    \hline 1ADS527 & . 027 & 4.55 & 2.73 \\
    \hline 1ADSS3 & . 03 & 4.55 & 2.73 \\
    \hline t1AD3533 & . 033 & 5.85 & 3.31 \\
    \hline †1AD3536 & . 036 & 5.85 & 3.31 \\
    \hline t1AD3539 & . 039 & 5.85 & 3.51 \\
    \hline tlab3s4 & . 040 & 5.85 & 3.51 \\
    \hline
    \end{tabular}
    - PRICES Cover CHARACTERISTICS "C" or "E'" for CHAR. "F" add 25 each to list Price

    \title{
    GO:NVAht (i) DU:THFY:
    }

    MOLDED MIDGET "SILVER-MIKE" CAPACITORS
    

    HIGH-STABILITY "SILVER-MIKE"* UNITS
    Type 22R miniolure "Silver-Mike" capocitars are especially odapted for use in circuits where accuracy and stobility af capocily is af prime impartance. They are roted at 500 valls D.C.W. and tested of 1,000 volts D.C.. malded in law-lass red plastic and fully protected against physical domage ar changes in characteristics due to varying atmospheric canditions.
    STANDARD TOLERANCE \(\pm 5 \%\), but in na instance less than ذ 1 mmf . Far copacity Talerance of : \(20 \%\) deduct \(10 \%\) from list; \(10 \%\) deduct \(5 \%\) from List; \(3 \%\) add \(10 \%\) ta List; \(2 \%\) odd \(15 \%\) ta list; \(1 \%\) add \(25 \%\) to list.
    \begin{tabular}{|c|c|c|c|}
    \hline 22R \(\begin{gathered}\text { Cot. } \\ \text { No. }\end{gathered}\) & Cop. Mfd. & \[
    \underset{\text { Price }}{\text { List }}
    \] & Net Price \\
    \hline 21R 512 & . 000002 & 5.40 & \$. 24 \\
    \hline 22R 5V & . 000005 & . 40 & 24 \\
    \hline 22R 501 & 0000: & . 40 & 24 \\
    \hline 22R5012 & . 000012 & . 40 & 24 \\
    \hline 22R5015 & . 000015 & . 40 & 24 \\
    \hline 22R5018 & . 000018 & . 40 & 24 \\
    \hline 22R 502 & . 00002 & 40 & 24 \\
    \hline 22R5022 & . 000022 & 40 & 24 \\
    \hline 22R 5024 & . 000024 & 40 & 24 \\
    \hline 22R5025 & . 000025 & . 40 & . 24 \\
    \hline 22R 5027 & 000027 & . 40 & 24 \\
    \hline 22R 503 & . 00003 & 40 & . 24 \\
    \hline 22R 5033 & . 000033 & 40 & . 24 \\
    \hline 22R 5036 & . 000036 & 40 & . 24 \\
    \hline 22R 5039 & . 000039 & 40 & .24 \\
    \hline 22R 504 & . 00004 & . 40 & .24 \\
    \hline 22日 5043 & . 000043 & . 40 & . 24 \\
    \hline 222 5047 & . 000047 & 40 & . 24 \\
    \hline 22日 505 & . 00005 & 40 & . 24 \\
    \hline 22R 5051 & . 000051 & . 40 & . 24 \\
    \hline 22R5056 & 000056 & . 40 & .24 \\
    \hline 22R 5062 & 000062 & . 40 & . 24 \\
    \hline 22193068 & . 000068 & . 40 & . 24 \\
    \hline 22R507 & . 00007 & . 40 & . 24 \\
    \hline 22R 5075 & . 000075 & .40 & . 24 \\
    \hline 22R 5082 & 000082 & . 40 & . 24 \\
    \hline 22R \({ }^{\text {2091 }}\) & . 000091 & . 40 & . 24 \\
    \hline 22 STI & . 0001 & 40 & . 24 \\
    \hline 22R ST1) & . 00011 & 45 & . 27 \\
    \hline 220 ST12 & . 00012 & . 45 & . 27 \\
    \hline 22R ST13 & . 00013 & . 45 & . 27 \\
    \hline 22R 5T15 & . 00015 & 45 & . 27 \\
    \hline 22R5T16 & . 00016 & . 45 & . 27 \\
    \hline 22R ST18 & . 00018 & . 45 & . 27 \\
    \hline 22R 512 & . 0002 & 45 & . 27 \\
    \hline 22R 5122 & . 00022 & 45 & . 27 \\
    \hline 22R 5T24 & . 00024 & . 45 & . 27 \\
    \hline 22R 5T2 \({ }^{\text {S }}\) & . 00025 & . 45 & . 27 \\
    \hline
    \end{tabular}

    Nofes On Ordering 5R, IR, IDR Units
    standard caparity tolarance is \(5 \%\). Also ovoiloble, an special order, in talerance rotings of plus or minus \(3 \%\), add \(10 \%\) to list prices, \(2 \%\) odd \(15 \%\) to list prices ond \(1 \%\) odd \(25 \%\) to list prices, for within 1 mmfd whichever is greoter). All types con olso be supplied in plus or minus \(10 \%\) and \(20 \%\) talerances of lower prices. - Reg. U.S. Paf. Of.
    
    

    TVPE IR•X-jTHICK TYPE 100.X S'THICK TYPE IR \& IDR
    

    TYPE 5R

    Types 1R, 1DR, and 5R "Siver-Mike" silvered mico capacitars are designed for use in high \(Q\) electranis circuits where fre. queney stability and minimum lass must be mointained. They are ideolly suited far use in circuits where the LC praduct must be mointained canstant, and particularly adapled far use in funing IF Iransfarmers, push-bultan luning circuits and ather similar applicatians. Standard units are malded in law-lass red plastic.
    
    *When JAN-C-5 uniss must be supplied, ordes occording to specific CM type designations listed in C-D Mico Bulletin-5eries 422.

    \section*{}

    \section*{"TINYMIKE" GENERAL PURPOSE Miniature DISC Ceramic Capacitors}
    

    \section*{FEATURES OF "TINYMIKE" DISC-TYPE CERAMIC CAPACITORS}
    - Smoll. spoce-saring and lightweight.
    - Adapted for wide variety of applicotions.
    - Available in all popular ca. pocities.
    - Guoranteed minimum ca. - Law inductance, stable, de pacity tolerance.

    Minimized eddy current losses due to construction.
    - Law inductonce, stable, de pendable performance.
    - Available with temperature campensating characteristics.
    SINGLES:
    TEMPERATURE RANGE: to \(+85^{\circ} \mathrm{C}\).
    TOLERANCE: GMC
    (Guaranleed Minimum Copocity)
    600 V. D.C. W.
    \begin{tabular}{|c|c|c|c|}
    \hline & DIMENSIONS: & D Mox. & TMox. \\
    \hline & \begin{tabular}{l}
    \(K 060\) to KO 09 incl. KO71 \\
    KO72 10 KO 0 O incl. \\
    KOS 1 to KOSS inct.
    \end{tabular} &  &  \\
    \hline Rotational Stock No. & Cop. Mmf. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline K060 & 470 & & \\
    \hline K061 & 500 & & \\
    \hline K065 & 680 & & \\
    \hline K067 & 820 & & \\
    \hline K069 & 1000 & & \\
    \hline K071 & 1500 & & \\
    \hline K072 & 2000 & & 1. \\
    \hline K073 & 2200 & & \\
    \hline \(K 074\)
    \(K 075\) & 2500
    2700 & .25 & .15 \\
    \hline K075 & 2700
    3000 & & \\
    \hline K077 & 3300 & & \\
    \hline K078 & 4000 & & \\
    \hline K079 & 4700 & & \\
    \hline KOBO & 5000 & & \\
    \hline KO8 1 & 6800 & & \\
    \hline KOB2 & 10000 & \$. 30 & \$.18 \\
    \hline KOB 5 & 20000 & . 60 & . 36 \\
    \hline
    \end{tabular}

    DUALS:
    TEMPERATURE RANGE: to \(-185^{\circ} \mathrm{C}\).
    TOLERANCE: GMC
    \begin{tabular}{|c|c|c|c|}
    \hline \multicolumn{4}{|c|}{600 V. D.C. W.} \\
    \hline & DIMENSIONS: & D Mox. & T Mor \({ }_{\text {c }}\) \\
    \hline & DKO69 to DKO74 incl. DKO76 10 DKOB2 inct. & 19
    \[
    3 / 4
    \] & \({ }^{3} 38{ }^{32}\) \\
    \hline Rorational Stock No. & Cop. Mmf. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline 0kO69 & \(2 \mathrm{2x} 1000\) & \(\$ .40\) & \$.24 \\
    \hline 0KO71 & \(2 \times 1500\) & . 40 & . 24 \\
    \hline DKO72 & \(2 \times 2000\) & . 40 & .24 \\
    \hline DK073 & \(2 \times 2200\) & . 40 & . 24 \\
    \hline DK074 & \(2 \times 2500\) & 45 & .27 \\
    \hline DKO76 & \(2 \times 3000\) & . 45 & .27 \\
    \hline DKO78 & \(2 \times 4000\) & 45 & . 27 \\
    \hline DK079 & \(2 \times 4700\) & . 45 & .27 \\
    \hline DKO82 & \(2 \times 10000\) & . 50 & . 30 \\
    \hline
    \end{tabular}

    SINGLES:
    TEMPERATURE RANGE: to \(+85^{\circ} \mathrm{C}\). TOLERANCE: \(\pm 20 \%\)
    \begin{tabular}{|c|c|c|c|}
    \hline & DIMENSIONS: & D mox. & T Mox. \\
    \hline & GO11 to GO28 incl. G029 to 6042 incl 6043 to 6067 incl GO68 to GO7 1 incl. &  & \[
    \begin{aligned}
    & \text { s/4" } \\
    & \text { s.5" } \\
    & \text { s.5" } \\
    & \text { s.". } \\
    & \text { "!" }
    \end{aligned}
    \] \\
    \hline Rototional Stock No. & Cop. Mmf. & List Price & Nel Price \\
    \hline \begin{tabular}{l}
    6011
    6014 \\
    GOIS \\
    GOIS \\
    GO19 \\
    GO21 \\
    6022 \\
    6023 \\
    6024 \\
    GO2S \\
    GO26 \\
    6027 \\
    GO2
    \end{tabular} & 5.0
    7.0
    8.0
    10
    12
    15
    18
    20
    22
    24
    25
    27
    30 & & \\
    \hline \begin{tabular}{l}
    6029 \\
    6031 \\
    GO33 \\
    GO34 \\
    6035 \\
    6036 \\
    GO3s \\
    GO39 \\
    GO40 \\
    6042
    \end{tabular} & \[
    \begin{aligned}
    & 33 \\
    & 39 \\
    & 47 \\
    & 50 \\
    & 51 \\
    & 56 \\
    & 68 \\
    & 75 \\
    & 82 \\
    & 100
    \end{aligned}
    \] & & \\
    \hline \begin{tabular}{l}
    6043 \\
    6044 \\
    6046 \\
    6049 \\
    6050 \\
    6031 \\
    6053 \\
    GOS4 \\
    6055 \\
    6036 \\
    6057 \\
    6059 \\
    6060 \\
    6061 \\
    6062 \\
    6063 \\
    6065 \\
    6066 \\
    6067
    \end{tabular} & \[
    \begin{aligned}
    & 110 \\
    & 120 \\
    & 150 \\
    & 180 \\
    & 200 \\
    & 220 \\
    & 240 \\
    & 250 \\
    & 270 \\
    & 300 \\
    & 330 \\
    & 360 \\
    & 390 \\
    & 420 \\
    & 470 \\
    & 500 \\
    & 510 \\
    & 580 \\
    & 620 \\
    & 680 \\
    & 750 \\
    & 820
    \end{aligned}
    \] & \[
    .25
    \] & \[
    \text { . } 15
    \] \\
    \hline \[
    \begin{aligned}
    & G 068 \\
    & 6069 \\
    & 6070 \\
    & 6071
    \end{aligned}
    \] & \[
    \begin{array}{r}
    910 \\
    1000 \\
    1200 \\
    1500
    \end{array}
    \] & & \\
    \hline
    \end{tabular}

    \title{
    
    }

    \section*{"TINYMIKE" GENERAL PURPOSE Miniature DISC Ceramic Capacitors}

    TEMPERATURE RANGE: to \(+85^{\circ} \mathrm{C}\).
    TOLERANCE: to 2000 mmf . (incl.) \(\pm 20 \%\) over 2000 mmf . GMC.

    1000 V. D.C. W.
    

    TEMPERATURE RANGE: \(10+85^{\circ} \mathrm{C}\).
    TOLERANCE: \(\pm 20 \%\)

    1600 V. D.C. W.
    

    TEMPERATURE RANGE: to \(+85^{\circ} \mathrm{C}\).
    TOLERANCE: to 1500 mmf . (incl.) \(\pm 20 \%\) over 1500 mmf . GMC.
    \begin{tabular}{|c|c|c|c|}
    \hline & DIMENSIONS: & D Mox. & 1 Max. \\
    \hline & \multirow[t]{4}{*}{```
    V2v47 to V2T27 incl.
    V2T33 to V2T68 incl.
    V202 ond V2022
    V201,V2D15,V2033,
    V2047,V205
    ```} & 3/2" & \({ }^{5} \mathrm{ve}\) \\
    \hline & & 19 "* & s" \\
    \hline & & 19 s:" & " 8 " \\
    \hline & & 1/4" & " \({ }^{\prime \prime}\) \\
    \hline Rotorionc soort & Cop. & tist & Net Price \\
    \hline V2V47 & 4.7 & \$.35 & \$. 21 \\
    \hline V2vor & 6.8
    10
    10 & 35
    .35
    .35 & . 21 \\
    \hline v2als & 10
    15 & .35
    .35 & . 21 \\
    \hline v2a22 & 22 & . 35 & . 21 \\
    \hline \(\checkmark 2\) Q3 & 33 & . 35 & . 21 \\
    \hline \(\checkmark 2047\) & 47 & . 35 & . 21 \\
    \hline v2068 & 58 & . 35 & . 21 \\
    \hline V2T1
    \(\times 2715\) & \begin{tabular}{l}
    100 \\
    150 \\
    \hline
    \end{tabular} & .35
    .35 & . 211 \\
    \hline \(\checkmark 2722\) & 220 & . 35 & . 21 \\
    \hline V2127 & 270 & . 35 & . 21 \\
    \hline V2133 & 330 & 35 & . 21 \\
    \hline V2r39
    V 274
    V & 390
    470 & 35
    3.5 & . 211 \\
    \hline V2To8 & 680 & 55 & . 33 \\
    \hline \(\checkmark 201\) & 1000 & . 5.5 & . 33 \\
    \hline V2013 & 1500 & . 55 & . 33 \\
    \hline V202 & 2000
    2200 & . 55 & . 33 \\
    \hline \(\vee 2022\)
    \(\times 2033\) & 3200 & . 70 & . 42 \\
    \hline \(\checkmark 2047\) & 4700 & 70 & .42 \\
    \hline \(\checkmark 205\) & 5000 & . 70 & .42 \\
    \hline
    \end{tabular}

    TEMPERATURE RANGE; to \(+85^{\circ} \mathrm{C}\)
    TOLERANCE: to 1000 mmf . \(\pm 20 \%\)
    over 1000 mmf . GMC

    3000 V. D.C. W.
    \begin{tabular}{|c|c|c|c|}
    \hline \multirow[t]{6}{*}{} & DIMENSIONS: & D Max. & T Mox. \\
    \hline & \multirow[t]{5}{*}{\begin{tabular}{l}
    V3V47 to V3T22 incl. \\
    V3T27 to V3T47 inct. \\
    v3DIs \\
    v3T08 and V3DI \\
    v302 to V304 incl.
    \end{tabular}} & \%" & \multirow[t]{5}{*}{} \\
    \hline & & 1930 & \\
    \hline & & \({ }^{19} \mathrm{~s}^{\prime \prime}\) & \\
    \hline & & \(3 / 4{ }^{2}\) & \\
    \hline & & 1/4" & \\
    \hline Rorctionol & Cap. & List & Net \\
    \hline Stack No. & Mmf. & Price & Price \\
    \hline v3v47 & 4.7 & S. 40 & \$. 24 \\
    \hline  & 6.8
    10 & . 40 & .24
    .24 \\
    \hline vanis & 15 & 40 & . 24 \\
    \hline \(\checkmark 3022\) & 22 & 40 & . 24 \\
    \hline \(\checkmark 3\)-33 & 33 & 40 & .24 \\
    \hline \(\checkmark 3047\) & 47 & 40 & . 24 \\
    \hline \(* 3068\)
    \(\checkmark 311\) & 68
    100 & 40 & . 24 \\
    \hline V3rls
    V3ris & 100 & . 40 & . 24 \\
    \hline -3122 & 220 & 40 & . 24 \\
    \hline -3127 & 270 & . 40 & . 24 \\
    \hline \(\checkmark 3133\) & 330 & 40 & . 24 \\
    \hline V
    \(\times 3139\)
    \(\vee 3147\) & 390
    470 & 40 & . 24 \\
    \hline \(\checkmark 3108\) & 680 & 40 & . 24 \\
    \hline v301. & 1000 & . 60 & . 36 \\
    \hline \(\checkmark 3015\) & 1500 & . 60 & . 36 \\
    \hline \(\vee 3022\)
    \(\checkmark 302\)
    \(\checkmark 3022\) & 2000
    2200 & . 60 & .36 \\
    \hline \(\checkmark 3033\) & 3300 & . 60 & .36 \\
    \hline \(\checkmark 304\) & 4000 & 80 & . 36 \\
    \hline
    \end{tabular}

    \section*{}

    \section*{＂TINYMIKE＂GENERAL PURPOSE \\ Miniature DISC Ceramic Capacitors}

    TEMPERATURE RANGE：to \(+85^{\circ} \mathrm{C}\)
    TOLERANCE：\(\pm 20 \%\)
    5000 V．D．C．W．
    

    Miniature DISC（Axial Leads） Ceramic Capacitors
    TEMPERATURE RANGE：to \(+85^{\circ} \mathrm{C}\) ．
    TOLERANCE：\(\pm \mathbf{2 0} \%\) ．
    

    \section*{TEMPERATURE COMPENSATING CERAMIC DISCS}

    TEMPERATURE COEFFICIENTS：NPO（ZERO）and NTSO

    TEMPERATURE RANGE： \(10+85^{\circ} \mathrm{C}\) ．
    TOLERANCE：\(\pm 10 \%\) or .5 MMF （whichever is greater）

    600 V．D．C．W．
    \begin{tabular}{|c|c|c|c|c|}
    \hline & \multicolumn{2}{|r|}{DIMENSIONS：} & D Max． & T max． \\
    \hline & \multicolumn{2}{|l|}{2004 to 2016 incl． NO11 to NO26 incl} & 1／4＂ & ＂号＂ \\
    \hline & \multicolumn{2}{|l|}{2017 to 2022 inct． NO27 to NO 38 incl．} & \％＂ &  \\
    \hline & \multicolumn{2}{|l|}{2023 10 2033 incl． NO39 to NO 48 incl．} & \({ }^{13} 3\)＂ & ＂s8＂ \\
    \hline & \multicolumn{2}{|l|}{2034102040 incl． NO49 to NOS4 incl} & \(3 / 4{ }^{\prime \prime}\) & ‘ィ＂ \\
    \hline NPO Rotatiana Stack No． & \[
    \stackrel{\text { Cop. }}{\text { Minf. }} \rightarrow
    \] & \begin{tabular}{l}
    N750 \\
    Rotational \\
    Stock No．
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline 2004 & 1.5 & － & & \\
    \hline 2005 & 2.0 & － & & \\
    \hline 2006 & 2.2 & － & & \\
    \hline 2007 & 3.0 & 二 & & \\
    \hline 2008
    2009 & 3.3
    4.0 & 二 & & \\
    \hline 2009
    2010 & 4.0 & － & & \\
    \hline 2011 & 5.0 & NOIl & & ALL \\
    \hline 2012
    2013 & 6.0
    8.8 & NOI2 & & \\
    \hline 2014 & 8.8
    7.0 & NOl3
    NOI4 & .50 & .30 \\
    \hline 2015 & 8.0 & NOIS & & \\
    \hline 2016 & 8.2 & NO16 & & \\
    \hline 2017 & 9.0 & NO17 & & \\
    \hline 2018 & 10.0
    12.0 & NO18 & & \\
    \hline 2020 & 13.0 & NO2O & & \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    NPO \\
    Ratationai Stack No．
    \end{tabular} & \[
    \leftrightarrow \stackrel{\text { Cop. }}{\text { Mmf. }} \rightarrow
    \] & \begin{tabular}{l}
    N750 \\
    Ratational Stack No．
    \end{tabular} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Net Price \\
    \hline 2021 & 15.0 & NO21 & & \\
    \hline 2022 & 18.0 & NO22 & & \\
    \hline 2023 & 20.0 & NO23 & & \\
    \hline 2024 & 22.0 & NO24 & & \\
    \hline 2025 & 24.0 & NO2S & & \\
    \hline 2026 & 25.0 & NO26 & & \\
    \hline 2027 & 27.0 & NO27 & & \\
    \hline 2028 & 30.0 & NO2 8 & & \\
    \hline 2029 & 33.0 & NO29 & & \\
    \hline 2030 & 36.0 & NO30 & & \\
    \hline 2031 & 39.0 & NO31 & & \\
    \hline 2032 & 43.0 & NO32 & & \\
    \hline 2033 & 47.0 & NO33 & & \\
    \hline 2034 & 50.0 & NO34 & 5 & \\
    \hline 2035 & 51.0 & NO3 5 & & \\
    \hline 2036 & 50.0 & NO36 & & \\
    \hline 2037 & 62.0 & NO37 & & \\
    \hline 2038 & 68.0 & NO38 & & \\
    \hline 2039 & 75.0 & N039 & & \\
    \hline 2040 & 82.0 & NO40 & \[
    .5
    \] & \\
    \hline － & 91 & NO41 & & \\
    \hline － & 100 & NO42 & & \\
    \hline － & 110 & NO43 & & \\
    \hline － & 120 & NO44 & & \\
    \hline － & 130 & NO4S & & \\
    \hline － & 150 & NO46 & & \\
    \hline － & 160 & N047 & & \\
    \hline － & 175 & & & \\
    \hline － & 180 & NO49 & \[
    5
    \] & ， \\
    \hline － & 200 & NOSO & & \\
    \hline － & 220 & N051 & & \\
    \hline － & 240 & NOS 2 & & \\
    \hline － & 270 & NOS3 & & \\
    \hline － & 300 & NOS4 & & \\
    \hline
    \end{tabular}

    The MIASTER－20th Edition

    \title{
    
    }

    QUIETONE R.F. ATTENUATION FILTERS
    

    The Quietone Capacitor Filters listed in this catalog have been selected for their adaplability to a wide group of filter applications. Many odditional types in bath Feed-Thru and Pi
    circuit design for special application problems are fully covered in 12 page Bulletin NB-148.
    NOTE: See Page 37 of this cotalog for "Universal". Quietone Filters designed for TV, Rodio ond Appliance opplications.

    \section*{FEED-THRU CAPACITOR FILTERS}

    The FEED-THRU capacitor filter is a three-terminal network with internal construction and lead connectians orranged for minimum impedonce. Cornell-Dubilier FEED.THRU copacitars closely follow the reactance curve of an ideal capacitor of all fre. quencies up to 400 megacycles and even beyond.

    FEED-THRU capocitar filters ore available in single and multiple circuit ratings from 1 ampere to 350 amperes in bath \(D C\) ond AC applicotians and frequencies up to 2000 cycles. The CarnellDubilier FEED THRU capacitor filter gives maximum insertion loss per unit volume, weight ond cost of any similar type af device.
    'QUIETONE' FEED-THRU CAPACITOR FILTERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Cot. No.} & \multicolumn{2}{|r|}{Voltoge} & \multirow[b]{2}{*}{Current Amps.} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Cop. \\
    Mfd.
    \end{tabular}} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Line \\
    freq. Cycles
    \end{tabular}} & \multicolumn{8}{|c|}{Insertion Lass in Decibels \({ }^{\circ}\) at Frequency in Megacycles} & \multirow[b]{2}{*}{List} & \multirow[b]{2}{*}{Nol} \\
    \hline & AC & OC & & & & . 16 & 1.0 & 2.0 & 20 & 100 & 200 & 300 & 400 & & \\
    \hline NFT-191
    NF. 10270.5 & . . . & 50
    50 & 50
    50 & .50
    2.0 & . . . & 23
    36 & 38
    52 & 44
    56 & 55
    68 & \(80+\)
    \(80+\) & \(80+\)
    \(80+\) & \(80+\)
    \(80+\)

    \(80+\) & \(80+\)
    80 & \$ 5.20 & \$3.12 \\
    \hline NF-10270.1 & \(\cdots\) & 50 & 50 & 2.0 & . & 36 & 52 & 56 & 68 & \(80+\) & \(80+\) & \(80+\) & \(80+\) & \(12.00{ }^{\text {. }}\) & 7.20 \\
    \hline NF-10081 & & 100 & 100 & 2.25 & & 30 & 45 & 56 & 60 & \(80+\) & \(80+\) & \(80+\) & \(80+\) & 17.50 & 10.50 \\
    \hline NFT-1F246 & 115 & 200 & 20 & . 50 & 0.400 & 17 & 35 & 39 & 46 & 72 & \(80+\) & \(80+\) & \(80+\) & 4.50 & 2.70 \\
    \hline NFT-10230 & 115 & 200 & 20 & . 50 & 0.400 & 23 & 38 & 44 & 55 & \(80+\) & \(80+\) & \(80+\) & \(80+\) & 5.25 & 3.15 \\
    \hline NF-1A084J & 250 & 250 & 100 & . 55 & 0.400 & 24 & 33 & 47 & 50 & \(80+\) & \(80+\) & \(80+\) & \(80+\) & 19.50 & 11.70 \\
    \hline NFT-10086 & 330 & 600 & 20 & . 10 & 0-400 & 9 & 25 & 33 & 46 & 58 & 68 & 69 & 70 & 3.25 & 1.45 \\
    \hline NFT-10087 & 330 & 600 & 20 & 25 & 0.400 & 17 & 35 & 39 & 46 & 72 & \(80+\) & \(80+\) & \(80+\) & 3.75 & 2.25 \\
    \hline NFT-10088 & 330 & 800 & 20 & 50 & 0.400 & 23 & 38 & 44 & 55 & \(80+\) & \(80+\) & \(80+\) & \(80+\) & 4.25 & 2.55 \\
    \hline
    \end{tabular}

    PI FILTERS

    Cornell-Dubilier PI filters are ovoilable in a wide range of insertion lass characteristics to suit the requirements af every application. Several hunded standard designs have been estoblished in single and multiple circuits with current ratings up to

    350 amperes and in voltage ratings both \(D C\) and \(A C\) up 10 2000 cycles. Designed to pravide maximum insertion loss af oll frequencies from 14 kilocycles up to 1000 megacycles.
    

    NF-10280-1
    

    NF-10315-1
    NF-10335
    

    NF-10360-1 NF-1H197
    'QUIETONE" PI FILTERS
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Cot. No.} & \multicolumn{2}{|c|}{Voltoge} & \multirow[b]{2}{*}{Current Amps.} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Line \\
    Freq. Cycles
    \end{tabular}} & \multicolumn{7}{|c|}{Insertion Loss in Decibels of Frequency in Megocycles} & & \\
    \hline & AC & DC & & & . 16 & 1.0 & 20 & 50 & 100 & 200 & 400 & List & Net \\
    \hline NF-10335
    \(N F-10360.1\) & \(\cdots\) & 50
    100 & 20
    5.0 & ". & 65
    50 & 80
    80 & 65
    85 & 45
    70 & 40
    60 & 40
    55 & - 50 & \(\begin{array}{r}\$ 16.75 \\ 9.50 \\ \hline\end{array}\) & \$10.05 \\
    \hline NF-10280-1 \(\dagger\) & 125 & 300 & 2.0 & 0.60 & 55 & 70 & 80 & 50 & 40 & 40 & & 16.40 & 9.84 \\
    \hline NF-1H197 & 130 & 400 & 1.0 & 0.400 & 52 & 95 & 85 & 70 & 70 & 60 & 50 & 8.75 & 3.25 \\
    \hline NF-10315-1 & 130 & 500 & 7.0 & 0-1700 & 55 & 90+ & \(90+\) & \(90+\) & 75 & 70 & 60 & 20.60 & 12.36 \\
    \hline NF-10286-1 \(\dagger\) & 220 & 400 & 15 & \(0-60\) & 60 & \(100+\) & \(90+\) & 75 & 85 & 65 & 60 & 54.00 & 32.40 \\
    \hline
    \end{tabular}
    \(\$ 2\) Circuit lidenticolf Filter.
    INSERTION LOSS: DB volues ore as measured in o 50 ohm test circuit with complete shielding between lnput ond Output loods of the filter.

    \title{
    ARCO ELECTRONICS, ING. E L M E N C O C A P A C I T O R S
    }

    \section*{DUR-MICA The NEW MICA CAPACITOR}
    
    1. The new "Dur-Mica" is a silvered mica capacitor coated with a specially developed plastic coating for extra durability.
    2. Operating temperature range \(-55^{\circ} \mathrm{C}\). to \(125^{\circ} \mathrm{C}\).
    3. Improved moisture resistance particularly in the higher temperature range.
    4. New reduced size makes "Dur-Mica" the smallest mica capacitors.
    5. Temperature coefficient approaching the "NPO" range.
    6. New radial lead construction for reduced inductance, plug-in circuitry, and automatic assembly techniques.
    7. A versatile capacitor that gives precision performance with substantial savings in cost.
    8. The "Dur-Mica" meets or exceeds all applicable MIL and RETMA standards for mica capacitors.

    \section*{DIMENSIONS}

    DM15 \(-7 / 16 \times 9 / 32 \times 5 / 32\) to \(7 / 32\) thick
    DM19 \(-5 / 8 \times 13 / 32 \times 5 / 32\) to \(7 / 32\) thick
    DM20 - \(23 / 32 \times 13 / 32 \times 5 / 32\) to \(7 / 32\) thick

    Standard Tolerances \(\pm 10 \%\)
    Voltage Rating 500VDCW
    Except Starred (*) Items 300VDCW

    For closer tolerances: DM15 DM19, DM20 \(\pm 5 \%\) add \(10 \%\) add \(10 \%\) \(\pm 2 \%\) add \(30 \%\) add \(20 \%\)
    \(\pm 1 \%\) add \(60 \%\) add \(50 \%\)
    

    \title{
    ARCO ELECTRONICS, ING. EL-M E N C O C A P A C I T O R S
    }

    \section*{MINIATURE}

    MICA CAPACITORS

    \section*{''Smaller than your fingernail but SKY HIGH IN PERFORMANCE!"}
    
    

    Known the world over for their reliability under all operating conditions, El-Menco Capacitors are chosen by manufacturers who want successful performance and long life from their products.

    El-Menco fixed mica dielectric capacitors are compact, precision made. Manufactured in accordance with American military standards to meet Army and Navy MIL-C-5A Speciftations. All impregnated and MIL or RMA color coded. Standard specifications limits are shown.

    Moulded in low loss bakelite, tested at double the working voltage. Tests for dielectric strength, insulation resistance. temperature co-efficient and capacitance drift, humidity and life tests atcoording to MIL and RMA STANDARI)S. All units are wax dipped for salt water immersion seal.

    Far law valtage circuitry, higher copacities are available at 100 VDCW rating.

    \title{
    ARCO ELECTRONICS, ING. EL-MENCO CAPACITORS
    }
    

    \section*{STANDARD TOLERANCES:}

    Regular mica \(\pm 20 \%\) ( \(A\) and \(B\) Characteristics) For \(\pm 10 \%\) tolerance add \(10 \%\) to list price. For \(\pm 5 \%\) tolerance add \(25 \%\) to list price.
    Silvered Mica \(\pm 5 \%\) (C, D and E Characteristics) For \(\pm 2 \%\) tolerance add \(15 \%\) to list price. For \(\pm 1 \%\) tolerance add \(25 \%\) to list price.

    \section*{NOTE:}

    CM19 capacitors available only up to 1500 mmf .
    CM20 and CM25 available to 2000 mmf .

    \title{
    ARCO ELECTRONIGS，ING． EL－MENCO CAPACITOARS
    }

    \section*{MICA CAPACITORS}
    

    \section*{CM－30}
    TYPE
    OESIGNATION
    CM－30－511
    CM－30－561
    CM－30－621
    CM－30－681
    CM－30－751
    CM－30－821
    CM－30－911
    CM－30－102
    CM－30－112
    CM－30－122
    CM－30－132
    CM－30－152
    CM－30－162
    CM－30－182
    CM－30－202
    CM－30－222
    CM－30－242
    CM－30－252
    CM－30－272
    CM－30－302
    CM－30－332
    CM－30－362
    CM \(-30-392\)
    CM \(-30-432\)
    CM \(-30-472\)
    CM \(-30-502\)
    CM－30－512
    CM－30－562
    CM \(-30-622\)

    CM－35－682 CM－35－752 CM－35－822 CM－35－912 CM－35－103 CM－35－123 CM－35－153
    CM－35－682
    CM－35－752
    CM－35－822
    CM－35－912
    CM．35－103
    \begin{tabular}{|c|c|c|c|}
    \hline CAP.
    MMF. & DC WKG． VOLTAGE & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { REGULAR } \\
    & \text { MICA }
    \end{aligned}
    \] & \begin{tabular}{l}
    PRICE \\
    SILVERED MICA
    \end{tabular} \\
    \hline 510 & 500 & \＄0．30 & \＄0．70 \\
    \hline 560 & 500 & ． 30 & ． 75 \\
    \hline 620 & 500 & ． 30 & ． 75 \\
    \hline 680 & 5010 & ． 30 & ． 80 \\
    \hline \％50 & 500 & ． 30 & ． 80 \\
    \hline 820 & 500 & ． 30 & ． 85 \\
    \hline 910 & \(\therefore 00\) & ． 30 & ． 90 \\
    \hline 1000 & 500 & ． 35 & 1.00 \\
    \hline 1100 & 500 & ． 35 & 1.00 \\
    \hline 1200 & 500 & ． 35 & 1.15 \\
    \hline 1300 & 500 & ． 35 & 1.15 \\
    \hline 1500 & 500 & ． 40 & 1.25 \\
    \hline 1600 & 500 & ． 40 & 1.25 \\
    \hline 1800 & 500 & ． 45 & 1.25 \\
    \hline 2000 & 500 & ． 45 & 1.35 \\
    \hline 2200 & 500 & ． 45 & 1.35 \\
    \hline ごの0 & 500 & ． 50 & 1.60 \\
    \hline 25019 & 500 & ． 50 & 1.60 \\
    \hline 2700 & 500 & ． 50 & 1.80 \\
    \hline 3000 & 500 & ． 60 & 1.90 \\
    \hline 3300 & 500 & ． 60 & 1.90 \\
    \hline 3600 & 500 & ． 60 & 2.00 \\
    \hline 3900 & 500 & ． 65 & 2.00 \\
    \hline 4300 & 500 & ． 65 & 2.10 \\
    \hline 4700 & 500 & ． 65 & 2.10 \\
    \hline 5000 & 500 & ． 70 & 2.15 \\
    \hline 5100 & 500 & ． 70 & 2.15 \\
    \hline 56：00 & 500 & ． 70 & 2.25 \\
    \hline 6200 & 500 & ． 90 & 2.40 \\
    \hline
    \end{tabular}

    CM－35
    \begin{tabular}{rrrr}
    6800 & 300 & \(\$ 0.95\) & \(\$ 2.65\) \\
    7500 & 300 & 1.00 & 2.80 \\
    8200 & 300 & 1.15 & 3.00 \\
    9100 & 300 & 1.15 & 3.20 \\
    10000 & 300 & 1.40 & 3.50 \\
    12000 & 300 & 1.60 & 4.25 \\
    15000 & 300 & 2.00 & 5.00 \\
    6800 & 500 & 1.05 & 2.90 \\
    7500 & 500 & 1.15 & 3.05 \\
    5200 & 500 & 1.30 & 3.30 \\
    9100 & 500 & 1.30 & 3.50 \\
    10000 & 500 & 1.55 & 3.85
    \end{tabular}
    

    \section*{CM－40}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { TYPE } \\
    & \text { DESIGNATION }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { CAP. } \\
    & \text { MMF. }
    \end{aligned}
    \] & OC WKG． vOLTAGE & \[
    \begin{gathered}
    \text { LIST } \\
    \text { REGULAR } \\
    \text { MICA }
    \end{gathered}
    \] & PRICE SILVERED MICA \\
    \hline CM－40－272 & 2700 & 500 & ． 55 & 1.90 \\
    \hline CM－40－302 & 3000 & 500 & ． 60 & 2.05 \\
    \hline CM－40－332 & 3300 & 500 & ． 60 & 2.05 \\
    \hline CM－40－362 & 3600 & 500 & ． 65 & 2.10 \\
    \hline CM－40－392 & 3900 & 510 & ． 70 & 2.15 \\
    \hline CM－40－432 & 4300 & 500 & ． 70 & 2.15 \\
    \hline CM－40－472 & 4700 & 500 & ． 70 & 2.15 \\
    \hline CM－40－502 & 5000 & 500 & ． 75 & 2.25 \\
    \hline CM－40－512 & 5100 & 500 & ． 75 & 2.25 \\
    \hline CM－40－562 & 5100 & 500 & ． 75 & 2.50 \\
    \hline CM－40－622 & （i200 & 500 & 1.05 & 2.90 \\
    \hline CM－40－682 & 1；s00 & 500 & 1.15 & 3.30 \\
    \hline CM－40－752 & 7500 & 500 & 1.40 & 3.65 \\
    \hline CM．40－822 & \(\times 200\) & 500 & 1.40 & 3.85 \\
    \hline CM－40－912 & 9100 & 500 & 1.40 & 4.40 \\
    \hline CM－40－103 & 10000 & 500 & 1.70 & 4.40 \\
    \hline CM－40－912 & 9100 & 300 & 1.30 & 4.00 \\
    \hline CM－40－103 & 10000 & 300 & 1.50 & 4.00 \\
    \hline
    \end{tabular}

    \section*{ANNOUNCING A NEW MOLDED MICA EL－MENCO CAPACITOR}

    \section*{CM－42}

    A higher capacity molded mica which can be wired in cirectly without need of additional mounting facilities．
    

    \title{
    ARCO ELECTRONICS, ING. EL-MENCO CAPACITORS
    }

    \section*{TELEVISION • TRANSMITTINC • INDUSTRIAL HIGH VOLTAGE MICA CAPACITORS DC WORKING VOLTAGES: FROM 1000 TO 2500 VOLTS \\ Molded in CM-20, CM-35 and CM-40 Cases}

    \begin{abstract}
    Demand for smaller units in higher voltages designed to meet the requirements for Television, Power Amplififrs, Low Power Trangmitters, and various Indestrial. Uses has increased. EL-MENCO designed and produced units listed below are especially adaptable to compact circuits where space is an important factor. Their acceptance has been overwhelming by the various manufacturers of Television Receivers.

    In many cases, these units will do the work of capacitors molded in CM-45, CM-50, and CM-55 cases without breaking down. No Special Mountings Are Negessary; just wire right into the circuit.

    The capacitors are molded in low-loss bakelite and tested at double the branded voltage. They are tested for dielectric strength, insulation resistance, temperature coefficient, capacitance drift, susceptibility to humidity, and length of life, according to RCM Standards. All units are wax-dipped for protection against salt water immersion.
    \end{abstract}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{VCM-20} \\
    \hline TYPE designation & \[
    \begin{aligned}
    & \text { CAP. } \\
    & \text { MMF. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \hline 5000 \mathrm{VOC} \\
    & \text { TEST } \\
    & 2500 \text { VDC } \\
    & \text { WKG. } \\
    & \text { LLST } \\
    & \text { PRICE } \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{gathered}
    \hline 4000 \mathrm{VDC} \\
    \text { TEST } \\
    2000 \text { VDC } \\
    \text { WKG. } \\
    \text { LIST } \\
    \text { PRICE } \\
    \hline
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \hline 3000 \mathrm{VDC} \\
    & \text { TEST } \\
    & 1500 \mathrm{VDC} \\
    & \text { WKG. } \\
    & \text { LIST } \\
    & \text { PRICE } \\
    & \hline
    \end{aligned}
    \] & \[
    \begin{gathered}
    2000 \mathrm{VDC} \\
    \text { TEST } \\
    \text { IOOO VOC } \\
    \text { WKG. } \\
    \text { LST } \\
    \text { PRICE } \\
    \hline
    \end{gathered}
    \] \\
    \hline VCM-20-B-050 & 5 & \$0.35 & \$0.35 & \$0.35 & \$0.30 \\
    \hline VCM-20-B-100 & 10 & . 35 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-120 & 12 & . 35 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-150 & 15 & . 35 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-180 & 1.4 & . 35 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-200 & 20 & . 35 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-220 & 22 & . 35 & . 35 & . 35 & 30 \\
    \hline VCM-20-B-240 & 24 & . 35 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-270 & \(\underline{9}\) & . 35 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-300 & 30 & . 40 & . 35 & . 35 & 30 \\
    \hline VCM-20-B-330 & 33 & . 40 & . 35 & . 35 & . 30 \\
    \hline VCM-20-8-360 & 36 & . 40 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-390 & 3! & . 40 & . 35 & . 35 & . 30 \\
    \hline VCM-20-8-430 & 4.3 & . 40 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-470 & 47 & . 40 & . 35 & . 35 & . 30 \\
    \hline VCM-20-B-500 & 50 & . 40 & . 40 & . 35 & . 30 \\
    \hline VCM-20-B-510 & 51 & . 40 & . 40 & . 35 & . 30 \\
    \hline VCM-20-B-560 & 56 & . 40 & . 40 & . 35 & . 30 \\
    \hline VCM-20-B-620 & (i) & . 40 & . 40 & . 35 & . 30 \\
    \hline VCM-20-8-680 & 68 & . 45 & . 40 & . 35 & . 30 \\
    \hline VСм-20-8-750 & \(7 \%\) & . 50 & . 40 & . 35 & . 30 \\
    \hline VCM-20-8-820 & 8 & . 50 & . 40 & . 35 & . 30 \\
    \hline VCM-20-8-910 & \(!1\) & . 50 & . 40 & . 40 & . 35 \\
    \hline VCM-20-8-101 & 1010 & . 55 & . 40 & . 40 & . 35 \\
    \hline VCM-20-B-111 & 111 & . 60 & . 45 & . 40 & . 35 \\
    \hline VCM-20-B-121 & 100 & . 60 & . 45 & . 40 & . 35 \\
    \hline VCM-20-B-131 & 1:110 & . 60 & . 45 & . 40 & . 35 \\
    \hline VCM-20-8-151 & 1.11 & . 65 & . 45 & . 40 & . 35 \\
    \hline VCM-20-B-161 & \(1 \%\) & . 70 & . 50 & . 40 & . 35 \\
    \hline VCM-20-B-181 & \(1: 9\) & . 70 & . 50 & . 40 & . 35 \\
    \hline VCM-20-B-201 & 2010 & . 80 & . 60 & . 45 & . 40 \\
    \hline VCM-20-B-221 & 220 & . 85 & . 60 & . 45 & . 40 \\
    \hline VCM-20-8-241 & \(\because+11\) & . 85 & . 65 & . 45 & . 40 \\
    \hline VCM-20-B-251 & \(\because 6\) & & . 65 & . 55 & . 40 \\
    \hline VCM-20-8-271 & \(\because 71\) & & . 65 & . 55 & . 40 \\
    \hline VCM-20-B-301 & 360 & & . 70 & . 60 & . 45 \\
    \hline \(\checkmark\) CM-20-8-331 & 330 & & . 80 & . 60 & . 45 \\
    \hline VCM-20-B-361 & 36.11 & & . 80 & . 60 & . 45 \\
    \hline VCM-20-B-391 & 390 & & . 85 & . 65 & . 45 \\
    \hline \(v C M-20-8-431\) & 430 & & & . 65 & . 50 \\
    \hline SCM-20-B-471 & 450 & & & . 70 & . 50 \\
    \hline VCM-20-B-501 & 500 & & & . 70 & . 50 \\
    \hline VCM-20-B-511 & 510 & & & . 70 & . 50 \\
    \hline VCM-20-B-561 & 5 ¢0\% & & & . 80 & . 55 \\
    \hline VCM-20-B-621 & (i2) & & & . 85 & . 55 \\
    \hline VCM-20-B-681 & fisn & & & & . 60 \\
    \hline VCM-20-B-751 & -50 & & & & . 60 \\
    \hline VCM-20-B-821 & 800 & & & & . 65 \\
    \hline VCM-20-B-911 & 410 & & & & . 70 \\
    \hline VCM-20-B-102 & 1000 & & & & . 75 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{VCM-35 \& VCM-40} \\
    \hline TYPE DESIGNATION & CAP.
    \[
    M M F \text {. }
    \] & \[
    \begin{gathered}
    \hline 5000 \text { VOC } \\
    \text { TEST } \\
    2500 \text { VOC } \\
    \text { WKG. } \\
    \text { LIST } \\
    \text { PRICE } \\
    \hline
    \end{gathered}
    \] & \[
    \begin{aligned}
    & 4000 \text { VOC } \\
    & \text { TEST } \\
    & 2000 \text { VOC } \\
    & \text { WKG. } \\
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \hline 3000 \mathrm{VDC} \\
    & \text { TEST } \\
    & 1500 \text { VOC } \\
    & \text { WKG. } \\
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \hline 2000 \mathrm{VDC} \\
    & \text { TEST } \\
    & 1000 \mathrm{VDC} \\
    & \text { WKG. } \\
    & \text { LIST. } \\
    & \text { PRICE } \\
    & \hline
    \end{aligned}
    \] \\
    \hline VCM-35-B-241 & \(2+0\) & \$0.60 & & & \\
    \hline VCM-35-B-251 & 250 & . 60 & & & \\
    \hline VCM-35-B-271 & 270 & . 60 & & & \\
    \hline VCM-35-B-301 & 300 & . 65 & & & \\
    \hline VCM-35-B-331 & 3.310 & . 65 & & & \\
    \hline VCM-35-B-361 & 3 ¢ก & . 75 & & & \\
    \hline VCM-35-B-391 &  & . 80 & & & \\
    \hline VCM-35-B-431 & 430 & . 80 & \$0.65 & & \\
    \hline VCM-35-B-471 & 471 & . 80 & . 75 & & \\
    \hline VCM-35-B-501 & 500 & . 85 & .75 & & \\
    \hline VСм-35-B-511 & 510 & . 85 & . 75 & & \\
    \hline VCM-35-B-561 & Sifil & . 90 & . 75 & & \\
    \hline VCM-35-B-621 & シ20 & . 95 & . 80 & & \\
    \hline VCM-35-B-681 & 嫁! & 1.05 & . 80 & \$0.75 & \\
    \hline VCM-35-8-821 & 820 & 1.15 & . 90 & . 85 & \\
    \hline VCM-35-B-911 & 910 & 1.35 & . 95 & . 90 & \\
    \hline VCM-35-8-102 & 1000 & 1.40 & 1.10 & . 90 & \\
    \hline VCM-35-B-112 & 1101 & 1.40 & 1.15 & . 95 & \$0.60 \\
    \hline VCM-35-B-122 & 12011 & 1.50 & 1.20 & 1.10 & . 65 \\
    \hline VCM-35-B-132 & 13 n & 1.65 & 1.30 & 1.15 & . 65 \\
    \hline VCM-35-B-152 & 1500 & 1.85 & 1.45 & 1.30 & . 75 \\
    \hline VCM.35-B-162 & 16100 & 2.00 & 1.50 & 1.30 & . 80 \\
    \hline VCM-35-B-182 & 1~101 & & 1.70 & 1.45 & . 80 \\
    \hline VCM-35-B-202 & - 100 & & 1.80 & 1.60 & . 85 \\
    \hline VCM-35-B-222 & 2900 & & & 1.70 & . 95 \\
    \hline VCM-35-B-242 & \(210 n\) & & & 1.80 & 1.05 \\
    \hline VCM-35-B-272 & \(\xrightarrow{\text { a }}\) & & & & 1.05 \\
    \hline VCM-35-B-302 & 3ftro & & & & 1.15 \\
    \hline VCM-35-B-332 & 3300 & & & & 1.20 \\
    \hline VCM-35-8-362 & 3660 & & & & 1.35 \\
    \hline VCM-35-B-392 & 3!900 & & & & 1.40 \\
    \hline VCM-35-B-432 & 43 nm & & & & 1.50 \\
    \hline VCM-35-B-472 & 4;111 & & & & 1.65 \\
    \hline VCM-35-B-502 & 511010 & & & & 1.70 \\
    \hline VCM-35-B-512 & 5100 & & & & 1.70 \\
    \hline \multicolumn{6}{|l|}{\multirow[t]{3}{*}{\begin{tabular}{l}
    All units supplied in " A " or " B " Characteristic at list price. Case Size Dimensions (See preceeding papes for illustrations): \\
     \\
    Standard Tolerance: \(\pm 20 \%\). \\
    Prices will he ghoted for closer polerances in "silsered" mica "fon roquist. TURN TO P-75 FOR INFORMATION ON OUR SPEGIAL HI.VOLTAGE KIT. \\
    
    \end{tabular}}} \\
    \hline & & & & & \\
    \hline & & & & & \\
    \hline
    \end{tabular}

    PLEASE SPECIFY VOLTAGE RATING WHEN ORDERING

    \title{
    ARCO ELECTRONIGS, ING. EL - M E N CO C A P A C I T O R S
    }

    \title{
    PAPER DIELECTRIC \\ CAPACITORS
    }
    

    El-Menco CP type paper tubular capacitors are sealed into Steatite Tubes which serve to insulate the canacitor elertrically as well as against moisture and heat. The rabacitor insert is impregnated with Mineral Oil. therehy assmoing long life at \(85^{\circ} \mathrm{C}\) operating conditions. This feature insures successful operation at the high ambient lemperatures existing in small. compact enclosmes.

    The Non-lnductively wound paper and foil units are sealed in the Ceramic Tubes by means of baked Synthetic Resin lind Fills which commot melt at any conceivable operating temperature. The end fills will not dissolve in wax. permitting the capacitors to be potted without damage to the insert. Leads are of timned copper 21/4" long.

    \section*{MINERAL OIL IMPREGNATION NON INDUCTIVE WINDING SYNTHETIC RESIN END SEALS - STEATITE CASE}

    The Steatite tube and baked synthetic resin end-fill provide a seal which rivals that of hermetically sealed constioction, resulting in a dependability and longevity previously unpqualled. Whether in operation or on the shelf, this paper tubular capacitor will maintain its excelhent chararteristice for years,

    DIMENSIONS FOR CP TYPE CAPACITORS
    \begin{tabular}{ccc} 
    & \begin{tabular}{c} 
    Max. \\
    Diamefer
    \end{tabular} & Max. \\
    Lenğ'n
    \end{tabular},

    Part numbers listed below indicate case size and rapacity. First three characteristics show size. remaining three sperify capacity. the first two being significant digures and the last the decimal muliplier
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    CAP. \\
    MFD.
    \end{tabular} & 1600 V
    PART
    No. & DCW LIST PRICE & \[
    \begin{aligned}
    & 1000 \mathrm{VI} \\
    & \text { PART } \\
    & \text { No. }
    \end{aligned}
    \] & \begin{tabular}{l}
    DCW \\
    LIST PRICE
    \end{tabular} & \[
    \begin{aligned}
    & 600 \mathrm{VC} \\
    & \text { PART } \\
    & \text { No. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { CW } \\
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 400 \text { VD } \\
    & \text { PART } \\
    & \text { No. }
    \end{aligned}
    \] & CW LIST PRICE & \[
    \begin{aligned}
    & 200 \mathrm{VD} \\
    & \text { PART } \\
    & \text { No. }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { CW } \\
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline .(1)1 & CP-2-102 & \$0.50 & CP-1-102 & \$0.30 & CP-1-102 & \$0.25 & & & & \\
    \hline .1015 & CP-2-152 & . 50 & CP-1-152 & . 30 & CP-1-152 & . 25 & & & & \\
    \hline . 0102 & CP-2-202 & . 50 & CP-1-202 & . 30 & CP-1-202 & . 25 & & & & \\
    \hline . 10.28 & CP-2-222 & . 50 & CP-1-222 & . 30 & CP-1-222 & . 25 & & & & \\
    \hline .10085 & & & CP-2-252 & . 30 & CP-1-252 & . 25 & & & & \\
    \hline .1003 & CP-3-302 & . 50 & CP-2-302 & . 30 & CP-1-302 & . 25 & & & & \\
    \hline . 110138 & CP-3-332 & . 50 & CP-2-332 & . 30 & CP-1-332 & . 25 & & & & \\
    \hline 101 & CP-3-402 & . 50 & CD-2-402 & . 30 & CP-1-402 & . 25 & & & & \\
    \hline (10) 7 & CP-3-472 & . 50 & CP-2-472 & .35 & CP-1-472 & . 25 & & & & \\
    \hline .1095 & CP-3-502 & . 50 & CP-2-502 & .35 & CP-1-502 & . 25 & & & PLEASE SPECIFY & \\
    \hline .000 & CP-4-602 & . 55 & CP-2-602 & . 35 & CP-2-602 & . 25 & & & VOLTAGE WHEN & \\
    \hline . 01018 & CP-4-682 & . 55 & CP-2-682 & . 35 & CP-2-682 & . 25 & & & ORDERING & \\
    \hline .007 & CP-4-702 & . 55 & & & & & & & ORDRRN & \\
    \hline .007\% & CP-4-752 & . 55 & CP-2-752 & .35 & CP-2-752 & . 30 & & & & \\
    \hline .008 & CP-4-802 & . 55 & & & & & & & & \\
    \hline -01 & CP-4-103 & . 55 & CP-2-103 & . 40 & CP-2-103 & . 30 & CP-2-103 & \$0.25 & & \\
    \hline . 015 & CP-4-153 & . 60 & CP-3.153 & . 40 & CP-2-153 & . 30 & CP-2-153 & . 25 & & \\
    \hline . 02 & CP-5-203 & . 65 & CP-4-203 & . 40 & CP-3-203 & . 30 & CP-2-203 & . 25 & & \\
    \hline . 022 & CP-5-223 & . 65 & CP-4-223 & . 40 & CP-3-223 & . 30 & CP-2-223 & .30
    .30 & & \\
    \hline . 025 & & & CP-4-253 & . 40 & CP-4-253 & . 35 & CP-3-253 & . 30 & & \\
    \hline . 03 & CP-5-303 & . 65 & CP-4-303 & . 40 & CP-4-303
    CP-4-33 & .35
    .35 & \[
    \begin{aligned}
    & \text { CP-3-303 } \\
    & \text { CP- } 3-333
    \end{aligned}
    \] & . 30 & & \\
    \hline . 1133 & & & CP-4-333 & .50
    .50 & CP-4-333
    CP-4-403 & . 35 & CP-3-333
    CP-4-403 & .30
    .30 & & \\
    \hline .04 & CP-6-403 & .70 & CP-4-403 & . 50 & CP-4-403 & . 35 & \[
    \begin{aligned}
    & \text { CP- } 4-403 \\
    & \text { CP- } 4-473
    \end{aligned}
    \] & . 30 & & \\
    \hline . 1147 & & & CP-4-473 & .50
    .50 & CP-4-473
    CP-4-503 & . 35 & CP-4-473 & . 30 & & \\
    \hline .10) & & & CP-4-503 & . 50 & CP-4-503 & ,40 & CP-4-503 & . & & \\
    \hline . 0.60 & & & CP-4-563 & . 55 & CP-4-563 & . 40 & CP-4-563 & .30 & & \\
    \hline 1168 & & & & & CP-5-683 & . 40 & CP-4-683 & . 35 & & \\
    \hline 1175 & & & & & CP-5-753 & . 45 & CP-4-753 & . 35 & & \\
    \hline . 1 & & & & & CP-5-104 & . 45 & CP-4-104 & . 35 & CP-4-104 & \$0.35 \\
    \hline . 15 & & & & & CP-5-154 & . 55 & CP-5-154 & .45 & CP-4-154 & . 40 \\
    \hline . 2 & & & & & CP-6-204 & .65 & & . 55 & & \\
    \hline -29 & & & & & CP-6-224 & .70 & CP-6-224 & . 55 & CP-5-224 & . 45 \\
    \hline -5\% & & & & & CP-6-254 & .70 & CP-6-254 & . 55 & CP-5-254 & .45 \\
    \hline .33 & & & & & & & & & CP-6-474 & .70 \\
    \hline . \({ }^{4}\) & & & & & & & & & CP-6-504 & .70 \\
    \hline
    \end{tabular}

    \title{
    ARCO ELECTRONICS，INC． EL－MENCO CAPACITORS
    }

    \section*{Single and Dual PADDERS}

    El－Menco Pabiding Condensers have been acclaimed by engineers as the finest development in adjustable mica condensers．
    The construction is such as to completely enclose and protect the delicate enges of the mica films，made of the finest quality clear India ruby mica．

    The phosphor bronze adjusting plates assure permanent resilience and freedom from mechanical fatigue．All parts are heavily plated to resist corrosion．

    TYPE 30
    500 Volts DC Flash－Test－ 250 WVDC
    \begin{tabular}{|c|c|c|c|c|}
    \hline & \multicolumn{4}{|c|}{GUARANTEED RANGE} \\
    \hline \begin{tabular}{l}
    PART \\
    NUMBER
    \end{tabular} & NUMBER OF PLATES & At \(11 / 2\) Inch Pounds Cap． Will Be More Than MMF． & At \(21 / 2\) Turns Open Cap．Will Be Less Than MMF． & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline 302 & \(\because\) Fl． & 1311 & 15 & \＄0．60 \\
    \hline 303 & 3 1＇． & 3411 & 65 & ． 65 \\
    \hline 304 & 411. & 5511 & 104 & ． 75 \\
    \hline 305 & 51 l & －10 & \(1!91\) & ． 85 \\
    \hline 306 & （ I＇l． & 9711 & －5\％ & ． 90 \\
    \hline 307 & \％I＇l． & 11 － 1 & 3.511 & 1.00 \\
    \hline 308 & \＆ Fl ． & 13 ！ & 4.51 & 1.05 \\
    \hline 309 & 9 I I． & 1100 & 5 Sin & 1.15 \\
    \hline 310 & \(10 \mathrm{~F} \mathrm{I}^{1}\) ． & 1－！ 11 & セ．．） & 1.25 \\
    \hline 311 & 11 F \％ & 21111 & －ハリ & 1.35 \\
    \hline 312 & \(1: \mathrm{I}^{2} 1\). & 2\％：，1 & S．1 & 1.40 \\
    \hline 313 & \(1: 1{ }^{\text {s }}\) ． & \(\xrightarrow{310 \% \%}\) & 1150 & 1.50 \\
    \hline 314 & 14 P ． & －－3 1 & 13001 & 1.60 \\
    \hline 315 & 15 I ］． & ： 305.5 & 1400 & 1.65 \\
    \hline
    \end{tabular}

    Serew is insulated from top wate my mica washer．Ahove maximum cafacity values are hased on using \(11 / 2\) to \(13 / 4\) Mi）Mica films．
    

    TYPE 58 PADDER \(1^{\prime \prime} \times 15 / 32^{\circ}\)
    

    TYPE 50 DUAL PADDER
    （will fit any size shield having dimensions exceeding
    

    TYPE 60 DUAL PADDER
    （will fit any size shield having dimensions exceeding \(3 / 4{ }^{\prime \prime} \times 3 / 4 \cdot{ }^{\prime \prime}\) ）
    

    TYPE 30 AND TYPE 30－M PADDER 7／8＇\(\times 15 / 16^{\prime \prime}\)
    TYPE 30－M
    1000 Volts DC Flash－Test－ 500 Working Volts DC
    \begin{tabular}{|c|c|c|c|c|}
    \hline & \multicolumn{4}{|c|}{GUARANTEED RANGE} \\
    \hline \begin{tabular}{l}
    PART \\
    NUMBER
    \end{tabular} & NUMBER OF PLATES & At \(11 / 2\) Inch Pounds Cap． Will Be More Than MMF． & At 21／2 Turns Open Cap．Will Be Less Than MMF． & \[
    \begin{gathered}
    \text { LIST } \\
    \text { PRICE }
    \end{gathered}
    \] \\
    \hline 302－M & 2 I＇J． & 120 & 15 & \＄0．60 \\
    \hline 303－M & \(3 \mathrm{~J}^{\text {＇1 }}\) 。 & 320 & 65 & ． 65 \\
    \hline 304－M & 4 rl & 500 & 1011 & ． 80 \\
    \hline 305－M & 511. & dian & 180 & ． 85 \\
    \hline 306－M & （5）1． & \(8 \times 0\) & 265 & ． 90 \\
    \hline 307－M & \(7 \mathrm{~F}^{\prime} \mathrm{l}\) ． & \(10 \% 0\) & 340 & 1.05 \\
    \hline 308－M & \＆I＇l． & 1260 & 425 & 1.10 \\
    \hline 309－M & 9 I 1. & 1415 & 595 & 1.15 \\
    \hline \(310-\mathrm{M}\) & 10 I ＇1． & 1690 & 615 & 1.25 \\
    \hline \(311-\mathrm{M}\) & 11 ［＇． & 1785 & 730 & 1.35 \\
    \hline 312 －M & 12 Il ． & 1050 & \(80 n\) & 1.45 \\
    \hline 313－M & 13 pl ． & 2155 & 1000 & 1.50 \\
    \hline 314 －M & 14 It ． & \(23+0\) & 1100 & 1.60 \\
    \hline \(315-\mathrm{M}\) & 15 ll & 25.5 & 1200 & 1.70 \\
    \hline
    \end{tabular}
    cerew is insulatul from top plate by mica washer．Ahove maximum capacity whes are based on using 2 to \(21 / 4\) Mil Mica．
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { PART } \\
    & \text { NUMBER }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{NUMBER OF PLATES} & \multicolumn{2}{|l|}{GUARANTEED RANGE} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & At Tight Cap． Will Be More Than MMF． & At 2 Turns
    unpen Cap．Will Be Less Than MMF． & \\
    \hline 582 & \(\because 1\). & 80 & 7． 5 & \＄0．40 \\
    \hline 583 & 3 Pl ． & 1 fin & 19 & ． 45 \\
    \hline 584 & 4 Pl ． & 240 & 50 & ． 50 \\
    \hline
    \end{tabular}
    ＊TYPE 58 Padder is a sinsle variable trimmer section provided with a onproured staple numuting for attachment to bracket or chassis Base is male of lowest loss steatite and the mica is India Ruby．
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { PART } \\
    & \text { NUMBER }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{\(\underset{\text { PLATES }}{\text { NUMBER }} \mathbf{~ O F}\)} & \multicolumn{2}{|l|}{GUARANTEED RANGE} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & At Tight Cap． Will Be More Than MMF． & \[
    \begin{gathered}
    \text { At } 2 \text { Turns } \\
    \text { Open Cap. Will Be }
    \end{gathered}
    \] Less Than MMF． & \\
    \hline 502 & 2 P1． & 二10 & 7.5 & \＄0．60 \\
    \hline 503 & \(3 \mathrm{I}^{1} 1\). & 160 & 19 & ． 70 \\
    \hline 504 & 4 Pl ． & 240 & 50 & ． 80 \\
    \hline
    \end{tabular}
     single hasi．This unit is destencil as a lunine component for I．F transfurmers：and as sush．may lin shap－in moneted alone with the trans－
    
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { PART } \\
    & \text { NUMBER }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{\(\underset{\text { NLAMSER }}{\text { NLATE }}\)} & \multicolumn{2}{|l|}{GUARANTEED RANGE} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \]} \\
    \hline & & At Tight Cap． Will Be More Than MMF． & \[
    \begin{aligned}
    & \text { at } 2 \text { Turns } \\
    & \text { Open Cap. Will Be } \\
    & \text { Less Than MMF. }
    \end{aligned}
    \] & \\
    \hline 602 & \(\because \mathrm{rl}\) ． & \(\therefore\). & － & \＄0．50 \\
    \hline 603 & 3 Pr & 100 & 15 & ． 60 \\
    \hline 604 & 4 M & 1813 & 35 & ． 70 \\
    \hline
    \end{tabular}
    \＆TYPE 60 Dual Padlers provide two variable trimmers mounted on a single hase．This unit is designed as a tuning component for I．F． trangformers：and as such．may he snap－in mounted along with the trans－ former coil in any size shield having dimensions exceeding \(3 / 4^{\prime \prime} \times 3 / 4\)＂．

    See Page P－73 for Mica Trimmer Capacitors

    \title{
    ARCO ELECTRONICS，ING．
    
    }

    \section*{TRIMMERS}

    The base is made of the lowest dielectric loss ceramic material available and the mica is clear India Ruby．
    The soldering lugs may be bent in any position without affecting capacity setting due to the rigid construction of adjusting plates．
    

    TYPE 46 STANDARD TRIMMER \({ }^{3} 4{ }^{\circ \prime \prime} \times 5 / \mathbf{B}^{\circ \prime}\)
    TYPE 46 －STANDARD TRIMMER
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{TYPE 46W} & \multicolumn{3}{|l|}{GUARANTEED RANGE} \\
    \hline \[
    \begin{aligned}
    & \text { NUMBER } \\
    & -\quad \text { PART }
    \end{aligned}
    \] & PLATES NUMBER OF & At Tight Cap． Will Be More Than MMF． & At 3 Turns Open Can．Will Be Less Than MMF． & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline 460 & \(1{ }^{1} 1 \%\) 。 & 1．： & 1.5 & \＄0．35 \\
    \hline 461 & 1： H & ：＂4 & 2.7 & ． 35 \\
    \hline 462 & \(\because\) ロ゙\％ & －11 & ； & ． 40 \\
    \hline 463 & \(: 11\). & 1 －11 & 9 & ． 45 \\
    \hline 464 & 11. & \(\cdots{ }^{\prime \prime}\) & \(\cdots\) & ． 50 \\
    \hline 465 & \(\therefore 19\) & ：-11 & So & ． 55 \\
    \hline 466 & 1 1 li． & いい & －1） & ． 60 \\
    \hline 467 & \(\bigcirc 1 \%\) & \(\therefore \cdots\) & 110 & ． 70 \\
    \hline 468 & － Pl & 心11 & 1.10 & ． 75 \\
    \hline 469 & ！Pl． & こい & 170 & ． 80 \\
    \hline
    \end{tabular}

    Fi－Menco Trimming；Condensers are treated for resistance to humidity and for permanence of capacity setting．
    Trimmers shown here are standard sizes and capacities．

    TYPE 40 MINIATURE TRIMMER \(3 / 6^{\prime \prime} \times 9 / 16^{\prime \prime}\)
    

    TYPE 42 MIDGET TRIMMER \(3 / \mathrm{e}^{\prime \prime} \times 3 / 4{ }^{* \prime}\)

    \section*{TYPE 42 －ANNOUNCING NEW MIDGET TRIMMER}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{TYPE 42} & \multicolumn{3}{|l|}{guaranteed range} \\
    \hline NUMBER PART & plates NUMBER OF & At Tight Cap． Will Be More Than MMF． & at 3 Turns Open Cap．Will Be Less Than MMF． & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline 420 & \(1^{1 / 2} 1 \times 1\). & 1 ＇ & 1 & \＄0．40 \\
    \hline 421 & 1：11． & \(\because\) ， & 2 & ． 40 \\
    \hline 422 & \(\cdots\) & 11 & 1 & ． 40 \\
    \hline 423 & \％ 1 י1 & 1／10 & ； & ． 45 \\
    \hline 424 & ＋It． & 1.010 & 14 & ． 50 \\
    \hline 425 & \(\therefore 1 \cdot 1\) & \(\because 19\) & 24 & ． 60 \\
    \hline 426 & C．1•1 & \＃．11 & \(3:\) & ． 65 \\
    \hline 427 & ： 11. & 3011 & \％is & ． 70 \\
    \hline 428 & －Ir． & 3.71 & －1 & ． 80 \\
    \hline 429 & \(\therefore \mathrm{l}\) 1． & 1611） & 90 & ． 85 \\
    \hline
    \end{tabular}

    \section*{TYPE 40 －ANNOUNCING NEW MINIATURE TRIMMER}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{TYPE 40} & \multicolumn{3}{|l|}{guaranteed range} \\
    \hline NUMBER PART & plates NUMBER OF & At Tight Cap． will be More Thall MMF． & At 3 Turns Open Cap．Will Be Less Than MMF． & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline 400 & \(11 / 4\). & 〒 & 11.6 & \＄0．40 \\
    \hline 402 & 2 ild & 20 & \(1 . .7\) & ． 45 \\
    \hline 403 & 2 Pl & 8. & ， & ． 50 \\
    \hline 404 & 4 Pl. & 60 & s & ． 55 \\
    \hline
    \end{tabular}

    GUARANTEED RANGE Il Be More Open Cap．Will Thall MMF Less Than MMF RICE .45 .50

    \title{
    Metal Mounting Brackets \\ For These Trimmers Can Be Supplied From Stock
    }
    

    \title{
    ARCO ELECTRONICS, INC. EL - M E N CO CAPA C I T O R S
    }

    \section*{SILVER HIGH "K" DISC}

    Reduced self-inductance due to flat design makes these units particularly adaptable to V.H.F. applications.
    \begin{tabular}{|c|c|c|c|}
    \hline \[
    \begin{aligned}
    & \text { TYPE } \\
    & \text { DESIGNATION }
    \end{aligned}
    \] & CAP. & \[
    \begin{gathered}
    \text { LIST } \\
    \text { PRICE } \\
    \text { (MN. } \\
    \text { GUR. CAP.) }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRTICE } \\
    & ( \pm 2000 \\
    & \hline T O L .)
    \end{aligned}
    \] \\
    \hline CCD-102 & 1 '.'." & \$0.25 & \$0.30 \\
    \hline CCD. 152 & 1:3"1 & . 25 & . 30 \\
    \hline CCD-202 & -am, & . 25 & . 30 \\
    \hline CCD. 272 & 2-1.. & . 25 & . 35 \\
    \hline cCD-332 & 3:30. & . 25 & . 35 \\
    \hline CCD-392 & 3:914 & . 25 & . 35 \\
    \hline CCD-472 & 4-6. & . 25 & . 35 \\
    \hline CCD-502 & 5, & . 25 & . 40 \\
    \hline
    \end{tabular}

    \section*{N-750 DISC}

    Negative temperature coefficient ceramics for compensation and reduction of temperature drif.
    \begin{tabular}{cccc} 
    & & LIST & LIST \\
    TYPE & PRICE & \begin{tabular}{c} 
    PRICE \\
    DESIGNATION
    \end{tabular} & MMF.
    \end{tabular}

    Capacity and tolepaluce stamped on rapaciaor Maximum bimensions: .595" diam. - . 15 " thickness

    \section*{CERAMIC CAPACITORS}
    l'se primarily for coupling and by-pass in hf and higher fremency circuits. ELMENCO ceramic capacitors are wax impegnated with lowloss phenolic coating. Insulation resistance far exceeds the 10.060 megohm minimmo require
     \(\mathbf{9 0 \%}\) relative humidity test for 100 hours. Radial leads are \(11 / 4\) " minimum No. 22 timmed copper wire.
    

    Adjntalale mramic uimmer capactor bur liwi trmurncy applivations. silvern stern-
     vide caparil! rangex listed
    

    \section*{VARIABLE CERAMIC TRIMMER}
    \begin{tabular}{ccc} 
    & CAP. RANGE & \\
    PART No. & MMF. & LIST PRICE \\
    CV-1 & \(0.5-j\) & \$0.35 \\
    CV-2 & \(1-3\) & .35 \\
    CV-3 & 2.0 & .35
    \end{tabular}

    Compact ruszori ceramic
     desismed for hish fremunney roupline with at minimum -.. inthetiver reartane" thoneh "limitation of wiru laは. These unite arn thene dhe
     \(\therefore\) "ms'r 10 .
    

    \section*{FEED THRU CAPACITORS}
    \begin{tabular}{|c|c|c|}
    \hline PART No. & \begin{tabular}{l}
    CAP. (MMF.) \\
    (Guar. Min. Val.)
    \end{tabular} & LIST PRICE \\
    \hline CCF-501 & :9, \({ }^{\text {and }}\) & \$0.40 \\
    \hline CCF-102 & 111010 & . 40 \\
    \hline CCF-152 & 1.510 & . 40 \\
    \hline CCF-202 & \(\underline{2} 111\) & 40 \\
    \hline
    \end{tabular}

    Announcing the NEW ARCO BY-PASS CAPACITOR KIT \#9

    \section*{el-menco steatite PAPER TUBULAR CAPACITORS}

    CONTENTS
    3 ea. \(-.02-600 \mathrm{~V}\)
    3 ea. -.03 ea. -600 V
    3 ea. \(-.001-6\) ea. \(-.002-600 \mathrm{~V}\)
    6 ea. \(-.05-600 \mathrm{~V}\)
    4 ea. -.1
    4

    At low cost. a practical assortment of fast moving sizes for service replacement

    \title{
    ARCO ELECTRONICS，INC． E L－M E N C O C A P A C I T O R S
    }

    \section*{ARCO CAPACITOR KITS}
    1000 VOLT
    PAPER TUBULAR
    CAPACITOR KIT
    \begin{tabular}{ll}
    \(\substack{\text { SPECIAL } \\
    \text { KIT } \\
    \text { LIST }}\) & \(\$ 27.50\)
    \end{tabular}

    PRICE
    This Kit contains 5 EACH of the following PAPER TUBULAR CAPACITOR SIZES
    \begin{tabular}{|c|c|c|}
    \hline \begin{tabular}{l}
    PART \\
    NUMBER
    \end{tabular} & CAPACITY MFD． & WORKING VOLTAGE \\
    \hline CP－1－102 & 0191 & \(111 \ldots\) \\
    \hline CP－1－152 & 1111． & 11.111 \\
    \hline CP－1－202 & 1103 & 118101 \\
    \hline CP－1－252 & 114－5 & 11900 \\
    \hline CP－2－302 & （1）：3 & 11760 \\
    \hline CP－2－332 & ． 111183 & 111101 \\
    \hline CP－2－402 & ．1111 & 11 HOR \\
    \hline CP－2－472 & 11117 & 118001 \\
    \hline CP－2－502 & 1115 & 11801 \\
    \hline CP－2－602 & 1110， & 111611 \\
    \hline CP－2－752 & 1115－5 & 11010 \\
    \hline CP－3－103 & \(11]\) & 111201 \\
    \hline CP－3－153 & （1］． & 111011 \\
    \hline CP－4－203 & 113 & 1 1ran \\
    \hline CP－4－253 & 110\％ & 1181011 \\
    \hline CP－5－353 & 01： & 111011 \\
    \hline CP－5－503 & ．11．7 & 10010 \\
    \hline
    \end{tabular}
    
     molt at alls inductis．ly wombl papror and boil imarts are mimoral oil
    
    
    
    

    This Kit contains 5 EACH of the following PAPER TUBULAR CAPACITOR SIZES
    \begin{tabular}{|c|c|c|}
    \hline \begin{tabular}{l}
    PART \\
    NUMBER
    \end{tabular} & \[
    \begin{gathered}
    \text { CAPACITY } \\
    \text { MFD. }
    \end{gathered}
    \] & \begin{tabular}{l}
    WORKING \\
    VOLTAGE
    \end{tabular} \\
    \hline CP－1－102 & （11）I & till \\
    \hline CP－1－152 & ． 11011 & 1．011 \\
    \hline CP－1－202 & ． 110.9 & （i）い \\
    \hline CP－1－2＜2 & －10－ゴ & 1：04 \\
    \hline CP－1－252 & －1008 & 1，161 \\
    \hline CP－1－302 & ．1112： & ［．11］ \\
    \hline CP－1－332 & ． \(1111: 3\) & （1）11 \\
    \hline CP－1－402 & ． 1 ！ 1 & 1：100 \\
    \hline CP－1－472 & ．1117 & 1；1011 \\
    \hline CP－1－502 & ． 116.1 & \(1 ; 161\) \\
    \hline CP－2－602 & ．1141i & 1：100 \\
    \hline CP－2－682 & ． 116 l & （100 \\
    \hline CP－2－752 & ．1117\％ & 1：101 \\
    \hline CP－2－103 & ．11 & 1：114 \\
    \hline CP－2－153 & ．11． & 4，164 \\
    \hline CP－3－203 & 103 & （；0）1 \\
    \hline CP－3－223 & ．130 & （id） \\
    \hline CP－4－303 & ．118 & （i）11 \\
    \hline CP－4－333 & ．11：33 & 1in！ \\
    \hline CP－4－403 & ． 114 & 1：111 \\
    \hline CP－4－473 & ．1147 & dill \\
    \hline CP．4－503 & ．195 & （i111） \\
    \hline CP－5－104 & ． 1 & 1．110） \\
    \hline CP－6－254 & －\％ & ＋111） \\
    \hline CP－6－504 & ． 5 & \(\because 110\) \\
    \hline
    \end{tabular}

    \section*{CM2OHIVOLTAGE CAPACITORKIT}

    This Kit contains 10 EACH of the following HIGH VOLTAGE CAPACITORS，Tolerance \(\pm 20 \%\)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline CAP． MMF． & \begin{tabular}{l}
    WKG． \\
    VOLT．
    \end{tabular} & CAP． MMF & \[
    \begin{aligned}
    & \text { WKG. } \\
    & \text { VOLT. }
    \end{aligned}
    \] & CAP． MMF， & \[
    \begin{aligned}
    & \text { WKG. } \\
    & \text { VOLT. }
    \end{aligned}
    \] \\
    \hline 5 & －\％on & St； & \(\because \mathrm{BOH}\) & \(\because\) ごい & 1 （1）！ \\
    \hline 11 & ＂SH0 & 1ie & \(\because\)－ & ：140 &  \\
    \hline 1： & ＇-1110 & fir & \(\because \square 1101\) & \(\because 311\) &  \\
    \hline 1. & \(\because 510\) & －－ & 1.701 & ：＇；\({ }^{\text {a }}\) & 11161 \\
    \hline 1 － & \(\because \mathrm{Bl}\) & \(\cdots\) & 1．1\％＂ &  & 1.1116 \\
    \hline \(\because 11\) & －8ハハ！ & ！ 1 & 1 ： 100 & 1：3\％ & 11010 \\
    \hline \(\because\) & \(\because\)－inn & 1 fr & 1 \％001 & 1：11 & 111011 \\
    \hline \(\because 1\) & \(\because\)－iいい & 111 & 1.510 & －110） & 11000 \\
    \hline \(\because\) & －．514 & 1．21 & 3.8101 & \(\therefore 10\) & 10100 \\
    \hline ： 3 &  & 130 & 1.8110 & ごい & 1 110\％ \\
    \hline ：3\％ & －5110 & 1.81 & 1 İ100 & 『ッい & 101010 \\
    \hline ：31； & －．f101 & 1 1：01 & 1.7101 & 1－11 & 111110 \\
    \hline 3： & －．\({ }^{\text {and }}\) & 1 －11 & 1.501 & －：10 & 1 1100 \\
    \hline 4.3 & －－¢0， & \(\because 010\) & 1 Fon & －ロ！ & 10100 \\
    \hline \(\ddagger\) & －3101 & －204 & 1.801 & ［1］ & 1 16）！ \\
    \hline 511 & ＂．110 & \(\because 110\) & 1.101 & 1 llos & 11411 \\
    \hline 51 & 号い（1） & \(\because 810\) & 1.1611 & & \\
    \hline
    \end{tabular}

    \section*{STANDARD PAPER TUBULAR CAPACITOR KIT}

    SPECIAL KIT LIST PRICE
    
    
    
    
    
    
    
     amblal in luw－loss phanulic cases and are wasalimed for when ion atalinst salt－wallur immursinn．

    \title{
    Arco electronics, inc. EL-MENCO CAPA CI TOAR S
    }
    

    PURCHASEI) INIDIVIDUALLY TIIF: TOTAL LIST PRICE VALUE OF THF CAPACITORS CONTAINEI IN THIS KIT WOULI) BE

    \section*{JAN-C-5 ELMENCO CAPACITOR KITS}

    All capacitors contained in these handy ARCO kits are ELMENCO, a name known world-wide for quality and dependability of performance, the finest products in their field.

    \section*{SILVERED MICA KIT}

    This kit contains the complete range of ELMENCO silvered molded mica capacitors from 5 mmf . to \(10,000 \mathrm{mmf}\). manufactured in accordance with JAN-C-5 specifications. All units are of letters "C", "D" or "E" characteristics as specified and letter "J" ( \(5 \%\) ) tolerance and are JAN color coded.

    \section*{THESE KITS CONTAIN FIVE EACH OF THE FOLLOWING ELMENCO MOLDED MICA CAPACITORS:}

    47 JAN capacity values CM20 case size, max. dim. \(25 / 32 \times 7 / 16 \times 7 / 32^{\prime \prime}\), from 5 to 1000 mmf . 500 VDCW .
    12 JAN capacity values CM30 case size. max. dim. \(13 / 16 \times 13 / 16 \times 9 / 32^{\prime \prime}\). from 1100 to 3300 mmf . 500 VDCW .
    7 JAN capacity values CM35 case size max. dim. \(13 / 16 \times 13 / 16 \times 11 / 32^{\prime \prime}\), from 3600 to 6200 mmf . 500 VDCW .
    5 JAN capacity values CM35 case size, max. dim. \(13 / 16 \times 13 / 16 \times 11 / 32^{\prime}\), from 6800 to \(10,000 \mathrm{mmf}\). 300VDCW.

    PER JAN-C-5 SPECIFICATIONS

    \section*{REG. FOIL MICA
    SPECIALKIT
    LISTPRICE
    IU0}

    PURCHASEI) INDIVIDUALLY THE TOTAL LIST PRICE VALUE OF THE CAPACITORS CONTAINEI IN THIS CAPACITORS CONTAINED IN THIS
    KIT BE
    \(\$ 15: 40\) BE
    

    This kit contains the complete range of ELMENCO regular foil molded mica capacitors from 5 mmf . to \(10,000 \mathrm{mmf}\). manufactured in accordance with JAN-C-5 specifications. All units are of the letter " \(B\) " characteristic and letter " K " ( \(10 \%\) ) tolerance and are JAN color coded.

    \title{
    ARCO ELECTRONICS, ING. EL-M E NCO CAPACI TA R S
    }

    \section*{CM-15 MINIATURE MICA CAPACITOR KIT}

    FOR EXPERIMENTAL WORK Don't Get Caught Short...
    

    \section*{ALWAYS HAVE THE CORRECT}

    CAPACITY ON HAND
    This Handy Kit consists of 46 most commonly used Capacitors.. . five of each capacity as listed on page P. 62 packed in individual tuck boxes, properly identified capacity as listed on
    for permanent use.

    \section*{SPECIAL KIT LIST PRICE ONLY}

    THESE MINIATURES FIT INTO THE SMALLEST AREA CAPACITOR SIZE \(\left(9 / 32^{\prime \prime} \times 1 / 2^{\prime \prime} \times 3 / 16^{\prime \prime}\right)\)

    The complete set of capacitors amounts to \(\$ 113.00\) at list prices. You get the entire set during this introductory offer, for only \(\$ 90.00\).

    COMPARE COST!

    \section*{Type 46 Trimmer and Type 30 Padder Kits}

    A complete stock of trimmers and padders is provided in these compact, easily handled, and readily accessible kits. Alwavs have a full line of El-Menco trimmers and padders available for immediate use.
    

    TYPE 46 TRIMMER KIT
    Provides a capacity range from \(11 / 2\) to 780 mmfd . Twenty-four units of each size available in type 46 trimmers (see P-41).
    The total list price for all units included in the kit is \(\$ 130.80\).
    Yet you may have this complete kit for only
    Special Kit List Price \(\$ 100.00\)
    

    TYPE 30 PADDER KIT
    Provides a capacity range from 15 to 3055 mmfd ( \(30 \mathrm{M}: 15\) to 2525 mmfd .)
    Twelve units of each size available in type 30 or type 30 M (see P-40).
    The total list price for all units included in the kit is \(\$ 191.40\).
    Yet you may have this complete kit for only
    Special Kit List Price \(\mathbf{\$ 1 4 5 . 0 0}\)

    \section*{CERAMIC CAPACITORS}

    \section*{BC HI-KAP: TUBULARS}

    For by-pass, coupling and general use in \(A M\). FM, TV, Audio, or other r.f. circuits. Double coating of Durez phenolic for extra protection. \(85^{\circ} \mathrm{C}\). plus operation. Tropicalized. 1200 volts D.C. test; 600 volts D.C. working. Pockaged 5 per envelope (min.).
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline & & 06 SERIES & \(B \mathrm{H}\) & AP新 & JBULARS & & \\
    \hline Cap. mmf . & \begin{tabular}{l}
    Cat. \\
    No.
    \end{tabular} & Tolerance & Size & Cap. mmf. & Cat. No. & Tolerance & Size \\
    \hline 3 & D6-030 & \(\pm .5 \mathrm{mmf}\). & A & 300 & D6.301 & \(\pm 10 \%\) & A \\
    \hline 5 & D6-050 & \(\pm 10 \%\) & A & 330 & D6-331 & \(\pm 10 \%\) & A \\
    \hline 10 & D6-100 & \(\pm 10 \%\) & A & 390 & D6-391 & \(\pm 10 \%\) & 8 \\
    \hline 12 & D6-120 & \(\pm 10 \%\) & A & 400 & D6-401 & \(\pm 10 \%\) & 8 \\
    \hline 15 & D6-150 & \(\pm 10 \%\) & A & 470 & D6-471 & \(\pm 10 \%\) & 8 \\
    \hline 18 & D6-180 & \(\pm 10 \%\) & A & 500 & D6-501 & \(\pm 10 \%\) & 8 \\
    \hline 20 & D6-200 & \(\pm 10 \%\) & A & 560 & D6-561 & \(\pm 10 \%\) & B \\
    \hline 22 & D6-220 & \(\pm 10 \%\) & A & 600 & D6-601 & \(\pm 10 \%\) & 8 \\
    \hline 25 & D6-250 & \(\pm 10 \%\) & A & 680 & D6-681 & \(\pm 10 \%\) & 8 \\
    \hline 27 & D6-270 & \(\pm 10 \%\) & A & 750 & D6-751 & \(\pm 20 \%\) & A \\
    \hline 33 & D6-330 & \(\pm 10 \%\) & A & 820 & D6-821 & \(\pm 20 \%\) & A \\
    \hline 39 & D6-390 & \(\pm 10 \%\) & A & 1,000 & D6-102 & \(\pm 20 \%\) & A \\
    \hline 40 & D6-400 & \(\pm 10 \%\) & A & 1,200 & D6-122 & \(\pm 20 \%\) & 8 \\
    \hline 47 & D6-470 & \(\pm 10 \%\) & A & 1,500 & D6-152 & \(\pm 20 \%\) & 8 \\
    \hline 50 & D6-500 & \(\pm 10 \%\) & A & 1,800 & D6-182 & \(\pm 20 \%\) & 8 \\
    \hline 56 & D6-560 & \(\pm 10 \%\) & A & 2,000 & D6-202 & \(\pm 20 \%\) & 8 \\
    \hline 68 & D6-680 & \(\pm 10 \%\) & A & 2,200 & D6-222 & \(\pm 20 \%\) & 8 \\
    \hline 75 & D6-750 & \(\pm 10 \%\) & A & 2,500 & D6-252 & GMV & 8 \\
    \hline 82 & D6.820 & \(\pm 10 \%\) & A & 2,700 & D6. 272 & GMV & 8 \\
    \hline 91 & D6-910 & \(\pm 10 \%\) & A & 3,000 & D6-302 & GMV & 8 \\
    \hline 100 & D6. 101 & \(\pm 10 \%\) & A & 3,300 & D6-332 & GMV & C \\
    \hline 120 & D6-121 & \(\pm 10 \%\) & A & 4,000 & D6-402 & GMV & C \\
    \hline 150 & D6-151 & \(\pm 10 \%\) & A & 4,700 & D6-472 & GMV & C \\
    \hline 180 & D6.181 & \(\pm 10 \%\) & A & 5,000 & D6-502 & GMV & D \\
    \hline 200 & D6-201 & \(\pm 10 \%\) & A & 6,800 & D6.682 & GMV & \\
    \hline 220 & D6-221 & \(\pm 10 \%\) & A & 7,500 & D6-752 & GMV & \\
    \hline 250 & D6-251 & \(\pm 10 \%\) & A & 10,000 & D6-103 & GMV & D \\
    \hline 270 & D6-271 & \(\pm 10 \%\) & A & & & & \\
    \hline List & Price &  & & \$1. & per en & lope of 5 & \\
    \hline \multicolumn{8}{|c|}{80DY DIMENSIONS} \\
    \hline \[
    \begin{aligned}
    & A=.250^{\prime \prime} \\
    & 8=.250^{\prime \prime}
    \end{aligned}
    \] & diam. diam. & \(.500^{\prime \prime}\) length .790' length & & \[
    \begin{aligned}
    & C= \\
    & D=
    \end{aligned}
    \] & \begin{tabular}{l}
    3" diam \\
    \(0^{\prime \prime}\) diam
    \end{tabular} & \[
    \begin{aligned}
    & .900^{\prime \prime} \\
    & 1.210^{\prime \prime}
    \end{aligned}
    \] & gth ngth \\
    \hline
    \end{tabular}

    \section*{CERAMIC CAPACITOR KITS}

    Save Time-Have Capacitors on Hand When You Need Them
    MEIAL KIT No. DK-200-Comprehensive assortment of 200 Type D6 Tubular Hi-Kaps ( 600 v.d.c.w.) of most generally used values. Packed in 4-drawer metal cabinet. List Price \(\$ 40.00\) PLASTI.PAK No. DK-100-100 Type D6 Tubular Hi-Kaps, 20 each of the five most popular values. Packed in handy plastic box List Price \(\$ 20.00\) PLASTI-PAK No. DK-25-25 Type D6 Tubular Hi-Kaps, 5 each of the five most popular values. Packed in handy plastic box List Price \(\$ 5.00\) METAL KIT No. DDK-200-Comprehensive assortment of 200 słandard, Type DD Disc Hi-Kaps of most generally used values rated 1000 v.d.c.w. Packed in 4 -drawer metal cabinet
    PLASTI-PAK No. DDK-100-100 standard, Type DD Disc Hi-Kaps in an assortment of eight most popular values. Packed in handy plastic box List Price \(\$ 20.00\)
    PLASTI-PAK No. DDK-40-40 Type DD Disc Hi-Kaps, five each of eight most popular values. Packed in handy plastic box List Price \(\$ 8.00\) PLASTI-PAK No. DDK-25-25 Type DD Disc Hi-Kaps, five each of five most popular values. Packed in handy plastic box ... List Price \(\$ 5.00\) METAL KIT No. MDK-200-Comprehensive assortment of 200 Type MD, Molded, Ceramic Disc. Hi-Kaps of most generally used values. Packed in 4-drawer metal cabinet.... ........................... PLASTI-PAK No. MDK-100-100 Type MD, Molded. Ceramic Disc Hi-Kaps in an assortment of eight most popular values. Packed in handy plastic box

    List Price \(\$ 30.00\)
    PLASTI-PAK No. MDK-40-40 Type MD, Molded, Ceramic Disc Hi-Kaps, five each of eight most popular values. Packed in handy plastic box List Price \(\$ 12.00\)

    \section*{HANDY PLASTI-PAK \(\dagger\) No. DDK-16 of 161600 V.D.C.W. Disc Hi-Kaps}

    Sixteen 1600 V.D.C.W. Disc HI-KAPS, two each of the eight most popular volues used as buffers in auto radio sets.
    
    

    \section*{TC TEMPERATURE COMPENSATING TUBULARS}
    

    Designed especially to limit frequency drift in r.f. circuits where temperature variations are prevalent. These capacitors ore constructed with a ceramic body which chonges capacities as the temperature varies. Use Centralab TC Hi-Kaps when servicing superhet receivers-replace older types in oscillator and detector circuits in TV, AM and FM receivers. 1,200 volts D.C. test; 600 volts D.C. working. Comply to JAN-20-A specifications.

    \section*{TCZ TUBULAR HI-KAP \({ }^{\text {B }}\)}

    All TC Hi-Kaps conform to JAN-C-20A specifications. NPO Units (JAN-CH-CJ-CK) which show zero copocitance chonge over temperature range - \(20^{\circ}\) C. to \(+85^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|}
    \hline Cap. nam. & Tolerance & \[
    \begin{gathered}
    \text { CRL } \\
    \text { Cat. No. }
    \end{gathered}
    \] & \begin{tabular}{l}
    Size \\
    Type
    \end{tabular} \\
    \hline . 5 & \(\pm .25 \mathrm{mmf}\). & TCZ-. 5 & CC20 \\
    \hline . 68 & \(\pm .25 \mathrm{mmf}\). & TCZ-. 68 & CC20 \\
    \hline 1.0 & \(\pm .25 \mathrm{mmf}\). & TCZ-1 & CC20 \\
    \hline 1.5 & \(\pm .25 \mathrm{mmf}\), & TCZ-1.5 & CC20 \\
    \hline 2.2 & \(\pm .25 \mathrm{mmf}\). & TCZ-2.2 & CC20 \\
    \hline 3.3 & \(\pm .25 \mathrm{mmf}\). & TCZ-3.3 & CC20 \\
    \hline \multicolumn{4}{|c|}{List Price \$0.50 each} \\
    \hline 4.7 & \(\pm .5 \mathrm{mmf}\). & TC2-4.7 & CC20 \\
    \hline 6.8 & \(\pm .5 \mathrm{mmf}\). & ICZ-6.8 & CC20 \\
    \hline 10 & \(\pm .5 \mathrm{mmif}\). & TCZ.10 & CC20 \\
    \hline 12 & \(\pm 2 \%\) & TCZ.12 & CC20 \\
    \hline 15 & \(\pm 2 \%\) & TCZ-15 & CC20 \\
    \hline 18 & \(\pm 2 \%\) & TCZ-18 & CC20 \\
    \hline 20 & \(\pm 2 \%\) & TCZ-20 & CC20 \\
    \hline \multicolumn{4}{|c|}{List Price \$0.50 each} \\
    \hline 22 & \(\pm 2 \%\) & TCZ. 22 & CC20 \\
    \hline 24 & \(\pm 2 \%\) & TCZ-24 & CC20 \\
    \hline 25 & \(\pm 2 \%\) & TCZ-25 & CC25 \\
    \hline 27 & \(\pm 2 \%\) & TCZ-27 & CC25 \\
    \hline 30 & \(\pm 2 \%\) & TCZ-30 & CC25 \\
    \hline 33 & \(\pm 2 \%\) & TCZ-33 & CC25 \\
    \hline 36 & \(\pm 2 \%\) & TCZ-36 & CC25 \\
    \hline 39 & \(\pm 2 \%\) & TCZ-39 & CC25 \\
    \hline 43 & \(\pm 2 \%\) & TCZ-43 & CC25 \\
    \hline 47 & \(\pm 2 \%\) & TCZ-47 & CC25 \\
    \hline 50 & \(\pm 2 \%\) & TCZ-50 & CC25 \\
    \hline 51 & \(\pm 2 \%\) & TCZ-51 & CC25 \\
    \hline 56 & \(\pm 2 \%\) & TCZ. 56 & CC25 \\
    \hline 62 & \(\pm 2 \%\) & TCZ-62 & CC32 \\
    \hline 68 & \(\pm 2 \%\) & TCZ.68 & CC32 \\
    \hline 75 & \(\pm 2 \%\) & TCZ-75 & CC32 \\
    \hline 82 & \(\pm 2 \%\) & TCZ-82 & CC32 \\
    \hline 91 & \(\pm 2 \%\) & TC2-91 & CC32 \\
    \hline 100 & \(\pm 2 \%\) & TCZ-100 & CC32 \\
    \hline 110 & \(\pm 5 \%\) & TCZ-110 & CC35 \\
    \hline 120 & \(\pm 5 \%\) & TCZ. 120 & CC35 \\
    \hline 130 & \(\pm 5 \%\) & TCZ-130 & CC35 \\
    \hline 150 & \(\pm 5 \%\) & TCZ-150 & CC35 \\
    \hline 160 & \(\pm 5 \%\) & TCZ-160 & CC35 \\
    \hline 180 & \(\pm 5 \%\) & TCZ-180 & CC35 \\
    \hline 200 & \(\pm 5 \%\) & TCZ-200 & CC45 \\
    \hline 220 & \(\pm 5 \%\) & TCZ-220 & CC45 \\
    \hline 240 & \(\pm 5 \%\) & TCZ-240 & CC45 \\
    \hline 270 & \(\pm 5 \%\) & TCZ-270 & CC45 \\
    \hline 300 & \(\pm 5 \%\) & TCZ.300 & CC45 \\
    \hline
    \end{tabular}

    List Price \(\$ 0.50\) each
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multicolumn{4}{|r|}{TCA - N330 TC UNITS} & \multicolumn{4}{|r|}{TCL - Ni500 TC UNITS} \\
    \hline Cap. mmi. & Tolerance & \[
    \begin{gathered}
    \text { CRL } \\
    \text { Cat. No. }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Size } \\
    & \text { Type }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { Cap. } \\
    & \text { nimi. }
    \end{aligned}
    \] & Tolerance & \[
    \begin{gathered}
    \text { CRL } \\
    \text { Cat. No. }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { Size } \\
    & \text { Type }
    \end{aligned}
    \] \\
    \hline 10 & \(\pm .5 \mathrm{mmf}\). & TCA. 10 & CC20 & 10 & \(\pm .5 \mathrm{mmf}\). & TCL. 10 & CC20 \\
    \hline 15 & \(\pm 2 \%\) & TCA-15 & CC20 & 15 & \(\pm 2 \%\) & TCL-15 & CC20 \\
    \hline 22 & \(\pm 2 \%\) & TCA- 22 & CC20 & 22 & \(\pm 2 \%\) & TCL-22 & CC20 \\
    \hline 33 & \(\pm 2 \%\) & TCA. 33 & CC20 & 33 & \(\pm 2 \%\) & TCL-33 & CC20 \\
    \hline 47 & \(\pm 2 \%\) & TCA. 47 & CC25 & 47 & \(\pm 2 \%\) & TCL-47 & CC20 \\
    \hline 68 & \(\pm 2 \%\) & TCA-68 & CC25 & 68 & \(\pm 2 \%\) & TCL-68 & CC20 \\
    \hline 100 & \(\pm 2 \%\) & TCA-100 & CC32 & 100 & \(\pm 2 \%\) & TCL-100 & CC25 \\
    \hline \multicolumn{8}{|l|}{ist Price Type TCA \(\mathbf{\$ 0 . 5 0}\) ea. List Price Type TCL \(\$ 0.50\) ea.} \\
    \hline \multicolumn{8}{|c|}{MAXIMUM BODY DIMENSIONS} \\
    \hline Size & Diam & & Length & Size & Diame & & Length \\
    \hline CC20 & . 20 & & .400'". & & . 285 & & \(1.165^{\prime \prime}\) \\
    \hline CC25
    CC 32 & . 220 & & \(.690^{\prime \prime}\)
    \(.860^{\prime \prime}\) & CC35 & . 285 & & \(1.625^{\prime \prime}\) \\
    \hline
    \end{tabular}

    N750 Units (JAN-UJ, UK) which show capacity change of minus 750 parts per million \({ }^{2 a}\) per each degree \(C\) rise in temperature.
    \(\left.\begin{array}{cccc}\text { Cap. } & & \text { CRL } & \text { Size } \\ \text { mmf. } & \text { Tolerance } & \text { Cat. } & \text { Co. } \\ \text { Type }\end{array}\right)\)
    \begin{tabular}{llll}
    \hline 22 & \(\pm 2 \%\) & TCN-22 & CC20 \\
    24 & \(\pm 2 \%\) & TCN-24 & CC20 \\
    25 & \(\pm 2 \%\) & TCN-25 & CC20 \\
    27 & \(\pm 2 \%\) & TC. 27 & CC20 \\
    30 & \(\pm 2 \%\) & TCN-30 & CC20
    \end{tabular}

    \section*{CC20}
    \(\begin{array}{ll}\text { TCN-27 } & \text { CC2O } \\ \text { TCN-30 } & \text { CC20 }\end{array}\)
    \(\begin{array}{ll}\text { ICN } 30 & \text { CC } \\ \text { TCN } 33 & \text { CC }\end{array}\)

    \section*{C20
    C 20
    CC 20 \\ \begin{tabular}{l} 
    CC20 \\
    CC 20 \\
    \hline
    \end{tabular} \\ \section*{CC20}}
    \(\begin{array}{ll}\text { CN-47 } & \text { CC22 } \\ \text { CC2 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-50 } & \text { CC20 } \\ \text { TCN. } 51 & \text { CC20 }\end{array}\)
    ICN-56 \(\quad\) CC20
    \(\begin{array}{ll}\text { TCN. } 62 & \text { CC20 } \\ \text { TCN } 68 & \text { CC25 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-75 } & \text { CC25 } \\ \text { TCN-82 } & \text { CC25 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-82 } & \text { CC25 } \\ \text { CC25 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-100 } & \text { CC25 } \\ \text { TCN-110 } & \text { CC25 }\end{array}\)
    TCN-120 CC25
    \(\begin{array}{ll}\text { TCN-130 } & \text { CC25 } \\ \text { TCN-150 } & \text { CC25 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-150 } & \text { CC25 } \\ \text { TCN } & \\ \text { CC3 }\end{array}\)
    \(\begin{array}{ll}\text { ICN. } 180 & \text { CC32 } \\ \text { ICN. } 200 & \text { CC32 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-200 } & \text { CC3 } \\ \text { TCN } 220 & \text { CC3 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-220 } & \text { CC32 } \\ \text { TCN } 240 \\ \text { CC32 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-2 } & \text { CC32 } \\ \text { TCN } 270 & \text { CC32 }\end{array}\)
    TCN-300 CC35
    \(\begin{array}{ll}\text { TCN-330 } & \text { CC35 } \\ \text { TCN } 360 & \text { CC35 }\end{array}\)
    \(\begin{array}{ll}\text { TCN } 360 & \text { CC35 } \\ \text { TCN } & 390 \\ \text { CC35 }\end{array}\)
    \(\begin{array}{ll}\text { TCN- } 390 & \text { CC35 } \\ \text { TCN } 430 & \text { CC35 }\end{array}\)
    \(\begin{array}{ll}\text { TCN } \\ \text { TCN-430 } & \text { CC35 } \\ \text { CC35 }\end{array}\)
    \(\begin{array}{ll}\text { ICN-470 } & \text { CC35 } \\ \text { TCN-510 } & \text { CC35 }\end{array}\)
    TCN-510 CC35
    \(\begin{array}{lll}\text { TCN-560 } & \text { CCA5 } \\ \text { TCN-620 } & \text { CC45 }\end{array}\)
    \(\begin{array}{ll}\text { TCN-620 } & \text { CC45 } \\ \text { ICN-680 } & \text { CC45 }\end{array}\)
    TCN. 750 CC45
    \(\frac{\text { List Price } \$ 0.50 \text { each }}{\text { CL — NI500 TC UNITS }}\)

    \footnotetext{
    
    }

    \title{
    CERAMIC CAPACITORS (Cont.)
    }

    \section*{1000 V.D.C.W. STANDARD DISC HI-KAPS}
    - The most complete line of standard disc capacitors available.
    
    - All units 1000 VDCW \(-100 \%\) tested at 2000 V.D.C.
    - All units thru .005 mmf . built to Underwriters' Labs test specifications for use in A.C. lines.
    - Close tolepances-smallest available sizes.
    - Double coating of Durez phenolic insulation to give maximum breakdown strength.
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline CAP. mmf. & TOL. & DIAM. & CAT. No. & CAP mmf & TOL. & DIAM. & CAT. No. \\
    \hline 3.3 & \(\pm .5 \mathrm{mmf}\) & 1/4" & DD.3R3 & 330 & 20\% & \(1 / 4^{\prime \prime}\) & DD-33: \\
    \hline 5 & . 5 mmf . & . \(1 / 4{ }^{\prime \prime}\) & DD-050 & 390 & 20\% & \(1 / 4^{\prime \prime}\) & DD-391 \\
    \hline 6.8 & .5 mmf . & . \(1 / 4^{\prime \prime}\) & DD.6R8 & 470 & 20\% & \(1 / 4^{\prime \prime}\) & DD-471 \\
    \hline 10 & =10\% & \(1 / 4^{\prime \prime}\) & DD. 100 & 509 & 20\% & \(1 / 4^{\prime \prime}\) & DD. 501 \\
    \hline 15 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 150 & 560 & 20\% & \(1 / 4^{\prime \prime}\) & DD.561 \\
    \hline 20 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 200 & 680 & 20\% & \(1 / 4^{\prime \prime}\) & DD.681 \\
    \hline 25 & 10\% & \(1 / 4^{\prime \prime}\) & D. 250 & 750 & 20\% & \(1 / 4^{\prime \prime}\) & DD.751 \\
    \hline 33 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 330 & 800 & 20\% & \(1 / 4^{\prime \prime}\) & D0.801 \\
    \hline 39 & 10\% & \(1 / 4{ }^{\prime \prime}\) & DD-390 & & & & \\
    \hline 47 & 10\% & \(1 / 4^{\prime \prime}\) & DD-470 & Mid. & & & \\
    \hline 50 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 500 & . 001 & 20\% & 1/8' & DD. 102 \\
    \hline 56 & 10\% & \(1 / 4^{\prime \prime}\) & DD-560 & . 0015 & 20\% & 1/8" & DD. 152 \\
    \hline 68 & 10\% & \(1 / 4^{\prime \prime}\) & DD.680 & . 002 & 20\% & 1/8" & D- 202 \\
    \hline 75 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 750 & . 003 & 20\% & & DD-302 \\
    \hline 100 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 101 & . 0047 & 20\% & -" & DD-472 \\
    \hline 120 & 10\% & \(1 / 4^{\circ}{ }^{\circ}\) & DD. 121 & . 005 & 20\% & & DD-5022 \(\dagger\) \\
    \hline 150 & 10\% & \(1 / 4^{\prime \prime}\) & DD-151 & . 005 & GMV & 5/8/' & DD. 502 \\
    \hline 180 & 10\% & \(1 / 4^{\prime \prime}\) & DD-181 & . 01 & 20\% & 3/4 \({ }^{\prime \prime}\) & DD-1032 \(\dagger\) \\
    \hline 200 & 10\% & \(1 / 4{ }^{\circ}\) & DD-201 & . 01 & GMV & 3/4' \({ }^{\prime \prime}\) & DD-103 \\
    \hline 220 & \(=20 \%\) & \(1 / 4^{\prime \prime}\) & DD-221 & . 01145 & DCW) & & \\
    \hline 250 & 20\% & \(1 / 4^{\prime \prime}\) & D0.251 & & \%-20\% & :" & DD6. 103 \\
    \hline 270 & 20\% & \(1 / 4^{\prime \prime}\) & DD-271 & . 02160 & DCW) & & \\
    \hline 300 & 20\% & \(1 / 4^{\circ}\) & DD.301 & & GMV & ?" & DD-203† \\
    \hline
    \end{tabular}

    LIST PRICE ALL ABOVE - \(\$ 1.00\) package of 5 (min.)
    TYPE DD2 - DUAL DISCS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline CAP. MFD. & TOL. & DIAM. & vDCW & CAT.NO. & \begin{tabular}{l}
    LIST \\
    Pigg. of 5
    \end{tabular} \\
    \hline \(2 \times .001\) & GMV & \(3 / 8{ }^{\prime \prime}\) & 600 & DD2. 102 & \$2.00 \\
    \hline \(2 \times .0015\) & GMV & "' & 600 & DD2-152 & 2.00 \\
    \hline \(2 \times .005\) & \(-20 \%+80 \%\) & 5/8" & 600 & D02-502 & 2.50 \\
    \hline \multicolumn{6}{|c|}{TYPE DD3 - PATENTED SHIELDED} \\
    \hline CAP. MFD. & TOL. & DIAM. & VDCW & CAT.NO. & \[
    \begin{aligned}
    & \text { PRICE } \\
    & \text { EACH }
    \end{aligned}
    \] \\
    \hline \(2 \times .001\) & GMV & 1/8' \({ }^{\text {" }}\) & 600 & D03-102 & S0.45 \\
    \hline \(2 \times .0015\) & GMV & \%/9' & 600 & DD3-152 & . 45 \\
    \hline \(2 \times .002\) & GMV & " & 600 & DD3-202 & . 45 \\
    \hline \(2 \times .005\) & GMV & 으' & 600 & DD3-502 & 50 \\
    \hline \(2 \times .01\) & GMV & \(5 / 80\) & 600 & DD3-103 & . 50 \\
    \hline
    \end{tabular}

    \section*{MIN-KAP \({ }^{6}\) MINIATURE DISCS}

    250 VDCW units for smaller voltage requirement applications ( 500 VDC test)-extremely small in size- \(3 / 8^{\prime \prime}\) diam. in high capacity values. Packaged five per envelope (MIN.). Ideal for hearing aid, miniature radio, intercom, and experimental rigs.
    \begin{tabular}{ccccc} 
    CAP. & VDCW & CAT. No. & THICKNESS & \begin{tabular}{c} 
    LIST \\
    Pkg. of 5
    \end{tabular} \\
    .005 mf. & 250 & DDM 502 & \(.146^{\circ}\) & \(\$ 2.50\) \\
    .01 mf. & 250 & DDM 103 & \(.146^{\prime \prime}\) & 2.50 \\
    .02 mf. & 250 & DDM-203 & \(.166^{\prime \prime}\) & 4.50 \\
    & & DUAL UNIT & & \\
    \(2 \times .01 \mathrm{mf}\). & 250 & DDM2.103 & \(.166^{\circ}\) & 4.50
    \end{tabular}

    \section*{RESISTOR-CAPACITOR} COLOR CODE CALCULATOR

    Makes it easy to read the coding on tubular or dise ceramic capacitors and radial- or axial-lead re sistors. Printed in 11 colors for quick identification. Available only from Centralab distributors.

    Sugg'd. Dealer Net \(\$ 0.25\)

    \section*{MOLDED DISC CERAMIC HI-KAPS \({ }^{1}\) For Byposs, Coupling and General Applications}
    

    Molded disc ceramics feature highest available breakdown to ground, highest lead strength, and resistance to mechanical damage, closest tolerance 'MD's" can be placed directly against a chassis, or adjacent to high voltage leads without danger of flashover or breakdown. Low inductance makes these units highly efficient in high frequency circuits. They are not recommended for use in resonant or tuning applications. Voltage Rating: 1,000 V.D.C.W. to 5,000 \(\mathrm{mmf}, 600\) V.D.C.W. over \(5,000 \mathrm{mmf}\). Maintain high capocity and stand up under \(+85^{\circ}\) C. operation. Insulation - Molded Centrathene†. 2,500 V.D.C. breakdown to ground. Electrical properties constant to 3,000 megacycles. Insulation resistance of molding 300,000 megohms. Moisture absorption \(.005 \%\). Power factor of molding \(.02 \%\). Fungus resistant. Unaffected by ozone, salt water, any known acid, or solvent at room temperature. Will not become brittle at \(-55^{\circ}\) C. Leads - No. 22 tinned copper \(11 / 2^{\prime \prime}\) lang. All units one size - \(11 / 16^{\prime \prime}\) diameter, \(3 / 16^{\prime \prime}\) thick, maximum. Packaged - 5 units per polyethelene bag. 5 bags (25 units) per carton.

    \section*{TYPE MD MOLDED DISC CERAMIC HI-KAPS IT}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cap. mmf . & Per Cent Tolerance & \[
    \begin{gathered}
    \text { CRL } \\
    \text { Cat. } \\
    \text { No. }
    \end{gathered}
    \] & Cap. mmf . & Per Cent Tolerance & \[
    \begin{gathered}
    \text { CRL } \\
    \text { Cat. No. }
    \end{gathered}
    \] \\
    \hline 5 & 二 \(10 \%\) & -MD.050 & 390 & \(\pm 10 \%\) & -MD-391 \\
    \hline 10 & + \(10 \%\) & -MD. 100 & 400 & - \(10 \%\) & -MD.401 \\
    \hline 12 & \(\therefore 10 \%\) & -MD-120 & 470 & \(\pm 10 \%\) & -MD.471 \\
    \hline 15 & - \(10 \%\) & -MD-150 & 500 & = \(10 \%\) & -MD. 501 \\
    \hline 18 & = \(10 \%\) & -MD.180 & 569 & \(\pm 10 \%\) & -MD.561 \\
    \hline 20 & \(\pm 10 \%\) & -MD.200 & 600 & \(=10 \%\) & -MD.601 \\
    \hline 22 & \(\pm 10 \%\) & -MD-220 & 680 & \(\pm 10 \%\) & -MD.681 \\
    \hline 25 & -20\% & -MD-250 & 750 & \(=20 \%\) & -MD.751 \\
    \hline 27 & \(\pm 10 \%\) & -MD-270 & 820 & = \(20 \%\) & -MD-821 \\
    \hline 33 & \(\pm 10 \%\) & -MD-330 & 1,000 & \(\pm 20 \%\) & -MD-102 \\
    \hline 39 & - \(10 \%\) & -MD-390 & 1,200 & \(=20 \%\) & -MD-122 \\
    \hline 47 & \(\pm 10 \%\) & -MD-470 & 1,500 & \(\pm 20 \%\) & -MD-152 \\
    \hline 50 & - \(10 \%\) & -MD-500 & 1,800 & - \(20 \%\) & -MD.182 \\
    \hline 56 & \(\pm 10 \%\) & -MD.560 & 2,000 & - \(20 \%\) & -MD-202 \\
    \hline 68 & \(\pm 10 \%\) & -MD.680 & 2,200 & =20\% & -MD. 222 \\
    \hline 75 & ב:10\% & -MD. 750 & 2,500 & \(\pm 20 \%\) & -MD.252 \\
    \hline 82 & \(=10 \%\) & -MD.820 & 2,700 & \(\pm 20 \%\) & -MD-272 \\
    \hline 100 & - \(10 \%\) & -MD. 101 & 3,000 & \(\pm 20 \%\) & -MD. 302 \\
    \hline 120 & - \(10 \%\) & -MD.121 & 3,300 & \(\pm 20 \%\) & -MD-332 \\
    \hline 150 & \(\pm 10 \%\) & -MD-151 & 4,000 & \(\pm 20 \%\) & -MD-402 \\
    \hline 180 & \(\pm 10 \%\) & -MD.181 & 4,700 & \(\pm 20 \%\) & -MD-472 \\
    \hline 200 & \(\pm 10 \%\) & -MD-201 & 5,000 & \(\pm 20 \%\) & -MD. 502 \\
    \hline 220 & \(\pm 10 \%\) & -MD-221 & 5,600 & GMV & -MD-562 \\
    \hline 250 & 二 \(10 \%\) & -MD-251 & 6,800 & GMV & -MD.682 \\
    \hline 270 & \(\pm 10 \%\) & -MD-271 & 7,500 & GMV & -MD. 752 \\
    \hline 300 & \(\pm 10 \%\) & -MD. 301 & 10,000 & +80-20\% & -MD. 103 \\
    \hline 330 & \(\pm 10 \%\) & -MD.331 & & & \\
    \hline & List Price & \$0. & \$1.50 & velope & \\
    \hline
    \end{tabular}

    \section*{TYPE DF FLAT PLATE HI-KAPS E 600 V.D.C.W. - 1200 V.D.C. TEST}
    

    High capacity, low mass weight, unusual thinness, plus inherent Centralab ceramic capacitor stability make these units extremely popular both as bypass and filter capacitors. Compare the size - compare the guarantee of performance. Nc. 20 finned wire leads.
    Packed I per envelope, 5 units per carton.
    \begin{tabular}{lcccc} 
    CAP. & & MAXIMUM & LIST \\
    MFD. & CAT. NO. & TOLERANCE & DIMENSIONS & PRICE \\
    .1 & DF. 104 & \(+80-20 \%\) & \(1-7 / 16^{\prime \prime} \times 15 / 16^{\prime \prime} \times 19 / 64^{\prime \prime}\) & 50.80 \\
    .075 & DF-753 & GMV & \(1.7 / 16^{\prime \prime} \times 15 / 16^{\prime \prime} \times 19 / 64^{\prime \prime}\) & .80 \\
    .05 & DF.503 & GMV & \(1.7 / 16^{\prime \prime} \times 15 / 16^{\prime \prime} \times 7 / 32^{\prime \prime}\) & .70 \\
    .04 & DF-403 & GMV & \(1.7 / 16^{\prime \prime} \times 15 / 16^{\prime \prime} \times 7 / 32^{\prime \prime}\) & .70 \\
    .03 & DF. 303 & GMV & \(1.7 / 16^{\prime \prime} \times 15 / 16^{\prime \prime} \times 7 / 32^{\prime \prime}\) & .70
    \end{tabular}

    \section*{Centralab.}

    \section*{CERAMIC CAPACITORS (Cont'd)}

    3000-6000 V. HI-VO-DISC \(\dagger\) CAPACITORS
    These new units are highly efficient for bypass-coupling in high frequency circuits under conditions of extreme humidity or temperature.
    - TEMPERATURE-Maintain high capacity and performance at \(85^{\circ} \mathrm{C}\).
    - TOLERANCES-All units, \(\pm 20 \%\).
    - VOLTAGES-DD30 Series, 3000 VDCW, 6000 VDC Test.
    DD60 Series, 6000 VDCW, 12,000 VDC Test.
    
    \begin{tabular}{lllll} 
    CAPACITY & CAT. NO. & CAT. NO. \\
    MMF. & 3000 VDCW & SIZE & CO00 VDCW & SIZE \\
    4.7 & DD30-4R7 & (A) & DD60-4R7 & (A) \\
    6.B & DD30-6RB & (A) & DD60-6RB & (A) \\
    8.2 & DD30-8R2 & (A) & DD60-8R2 & (A) \\
    10 & DD30-100 & (A) & DD60-100 & (B) \\
    12 & DD30-120 & (A) & DD60-120 & (B)
    \end{tabular}
    
    binations shown below. Capacity tolerance - \(20 \%+50 \%\).
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Voltage & Cap & CRL & Voltage & & Lis \\
    \hline D.C.W. & & Cat. No. & D.C. Test & Terminals & Price \\
    \hline 12.500 & 500 & TVI-501 & 22,500 & 2 Rods & \$1.50 \\
    \hline 12,500 & 500 & TV2-501 & 22,500 & 1 Slot, I Tap & 1.50 \\
    \hline 12,500 & 500 & TV3-501 & 22.500 & 1 Tap, I Thread & 1.50 \\
    \hline 20,000 & 500 & TV1-502 & 40,000 & 2 Rod & 1.50 \\
    \hline 20,000 & 500 & TV2-502 & 40,000 & 1 Slot. 1 Tap & 1.5 \\
    \hline 20,000 & 500 & TV3-502 & 40,000 & 1 Tap, IThread & 1.50 \\
    \hline 20,000 & 500 & TV4-502 & 40,000 & 2 Male Thread & 1.50 \\
    \hline 20,000 & 500 & TV5-502 & 40,000 & 2 Female Tap & 1.5 \\
    \hline 20,000 & 500 & TV7-502 & 40,000 & \(18-32\) thd., 1, 6-32 thd. & 1.5 \\
    \hline 30,000 & 500 & TVI-503 & 48,000 & 2 Rod & 3.0 \\
    \hline 30,000 & 500 & TV8-503 & 48,000 & 2 Spec. 8-32 thd. & 3.0 \\
    \hline
    \end{tabular}

    \section*{ATTACHABLE TERMINAL HI-VO-KAP}

    Heavy threads prevent terminal breakage - \(100 \%\) tested at twice rafed voltage.
    TV-20
    500 mmf .
    20KVDC
    \(\$ 1.50\) List
    Package of TERMINALS
    IX-I-Plain Slotted Rod
    TX-2-6-32 Female Tap
    5 (Min.)
    \(\$ 0.50\)
    TV-207-TV-20,TX-5-Long 8 - 32 Male
    KIT TV-207-I TV-20, 7 asst. terminals
    - \(60-32\) Male Thread KIT TXK-25-5 each of the 5 terminals
    KIT TXK-125-25 each of the 5 terminals
    KIT TVK-5-50-5 TV-20's, 10 each terminal

    \section*{CERAMIC FEED-THRU HI-KAPS}

    \section*{\(\rightarrow 00\)}

    \section*{TYPES FT AND MFT}
    

    Type FT bushing-mounted capacitors for high-frequency circuits needing both feed-thru and ground to either chassis or shield. Lead inductance virtually eliminated. Type MFT Miniature Eyelet Feed-Thru is condensed for ultra-high-frequency applications where space is at a premium. Both styles, 500 V.D.C.W. 1,000 V.D.C. test.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cap. mmf . & \[
    \begin{gathered}
    \text { CRL } \\
    \text { Cał. }
    \end{gathered}
    \] & Tolerance & Cap. mmf. & \begin{tabular}{l}
    CRL \\
    Cat, No.
    \end{tabular} & Tolerance \\
    \hline 500 & FT-500 & \(\pm 20 \%\) & 50 & MFT-50 & \(\pm 10 \%\) \\
    \hline 000 & FT-1,000 & \(\bigcirc 20 \%\) & 00 & MFT-100 & \(\pm 10 \%\) \\
    \hline 1,500 & FT-I, 500 & -20\% + \(50 \%\) & 500 & MFT-500 & \(\pm 20 \%\) \\
    \hline 1,800 & FT-1,800 & -20\% +50\% & 1,000 & MFT-I,000 & GMV \\
    \hline 2,300 & FT-2,300 & \(-20 \%+50 \%\) & \multicolumn{3}{|c|}{\multirow[b]{2}{*}{List Price \$0.50 each}} \\
    \hline \multicolumn{3}{|r|}{List Price \$1.00 each} & & & \\
    \hline
    \end{tabular}

    List Price \(\$ 1.00\) each
    List Price \(\$ 0.50\) each
    \(\begin{array}{lr}\text { LIST } & \$ 1.85 \\ \text { LIST } & 2.50\end{array}\)
    \(\begin{array}{ll}\text { LIST } & 2.50 \\ \text { LIST } \\ 11.50\end{array}\)
    NET 5.50
    Cap. CRL

    TYPE S1 \& 52 TUBULAR STANDOFF CAPACITORS
    Designed for bypassing RF to ground in low power
    transmitter-exciter units, receivers and similar HF
    UHF, and VHF circuits, Size-Type \(S 1-5 / 8^{\prime \prime}\) maxi-
    mum length. \(52-1 / \mathrm{g}^{\prime \prime}\) maximum length. 500 mum length. S2-\% maximum
    

    TYPE S1
    

    TYPE 52
    

    \section*{CERAMIC CAPACITORS（Cont＇d）}

    \section*{TRANSMITTING CAPACITORS}
    

    Cap．mmf．
    50
    100
    250
    250
    500
    VOLTAGE－20，000 V．D．C．W．． 30,000 V．D．C．T．R．F． LOAD－－30 amps or greater for \(30^{\circ} \mathrm{C}\) ．rise at 30 mc ． MOUNTING－Terminal ends tapped \(10-32\) ．DIMEN SIONS－Overall length \(27 / \mathrm{s}^{\prime \prime}\) ，diam． \(2^{\prime \prime}\) ．Tolerance \(=: 10 \%\)
    \begin{tabular}{|c|c|}
    \hline & CrL Cat．No． \\
    \hline & \[
    \begin{aligned}
    & 8595.50 \mathrm{Z} \\
    & 859.100 \mathrm{Z} \\
    & 859 \mathrm{~S}-250 \mathrm{~N} \\
    & 8595-500 \mathrm{~N}
    \end{aligned}
    \] \\
    \hline List Price & e \(\$ 75.00\) each \\
    \hline
    \end{tabular}

    Temp．Coef．
    NPO
    NPO
    N750
    N2200

    Type 851 ceramic capacitors are high voltage units， held to \(\pm 10 \%\) tolerance．Size \(1-9 / 32^{\prime \prime}\) diam．\(x\) 1－15／32＇．End terminal plates are center tapped 10－32．85I－200N 7500 V．D．C．W．－All others 15000 v．D．C．W． Cap．mmf．
    

    CRL Cat．No．
    851－25Z
    851－50Z
    \(851-100 \mathrm{~N}\)
    851－200N
    \(\$ 10.00\) each
    

    Temp．Coef．
    NPO NPO N750 N750
    N750

    List Price

    \section*{TYPES 850．858 5KV AND 7．5KV}

    Tolerance，\(\pm 10 \%\) ．Dimensions， \(13 / 16^{\prime \prime}\) diameter， \(5 / 8\) long．Mounting－\({ }^{\circ}\) Series： \(1 / 8^{\prime \prime}\) hex studs tapped \(6-32\) thd．SL Series： \(17 / 32\)＂solder lugs with \(6-32\) tapped hole．
    \begin{tabular}{|c|c|c|c|c|}
    \hline Cap．mmf． & VDCW & Temp． Coef． & Cat．No． Studs & Cat．No Lugs \\
    \hline 25 & 7500 & NPO & 850S－25Z & 850SL－25Z \\
    \hline 50 & 7500 & NPO & 850S－50Z & 850SL－50Z \\
    \hline 50 & 7500 & N750 & 850 S－50N & 850SL－50N \\
    \hline 75 & 7500 & N750 & 850S－75N & 850SL－75N \\
    \hline 100 & 5000 & N750 & \(850 \mathrm{~S}-100 \mathrm{~N}\) & \[
    850 \mathrm{SL}-1 \mathrm{CON}
    \] \\
    \hline 500 & 7500 & Hi－K & B5BS－500 & 8505 L －100N \\
    \hline 1000 & 7500 & Hi－K & 858S－1000 & \\
    \hline
    \end{tabular}

    \section*{SMALL HIGH VOLTAGE UNITS}

    \section*{TYPES 853－853A，854－854A，855－855A}

    The three series which follow are exceedingly compact ceramic capacitors． 5000 V．D．C．W．Mounting is with axial screw type terminals tapped \(2-56\) ．Tolerance \(\pm 10 \%\) ．Sizes： 853 ，\({ }^{2} 1\) diam．\(\times 1 / 2^{1 \prime}\) ． 854 ，
     able with axial leads， \(11 / 2^{i \prime}\) long，in place of screw terminals．For lead types，use same Cat．Nos．，omitting＂\(A\)＂＇Same price． Cap．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \[
    \begin{gathered}
    \text { Cap. } \\
    \text { mmif. } \\
    10 \\
    20 \\
    20 \\
    40
    \end{gathered}
    \] & Cat．No． \(853 A-10 Z\)
    \(853 A-20 Z\) 853A－20N 853A－40N & Temp．Coef．
    NPO
    NPO
    N750
    N750
    List Price & Cap． mmf． 3
    5
    10 & \begin{tabular}{l}
    Cat．No． \\
    855A－3Z \\
    855A－5Z \\
    855A－10N \\
    each
    \end{tabular} & Temp．Coef NPO NPO N750 \\
    \hline
    \end{tabular}
    

    Excellent for use as prime or secondary standards or for holding oscillator frequencies to the close limits formerly obtained only by crystal control．

    TOLERANCE \(- \pm 1 \%\) ．
    TEMPERATURE COEFFICIENT－Zero（NPO）\(\pm 10 \mathrm{ppm}\)
    \[
    -40^{\circ} \text { to }+60^{\circ} \mathrm{C}
    \]

    MOUNTING TERMIN．ALS－Metal case acts as r．f．shield，is grounded， includes \(6-32\) threaded stud \(\frac{1}{2}{ }^{\prime \prime}\) long．Other terminal is plain stud \(1 / 4^{\prime \prime}\) lang from opposite end
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cap．mmf． & Cat．No． & V．D．C．W & V．D．C．T． & Dimensions & List Price \\
    \hline 500 & 950－501 & 500 & 1，000 & \(15^{6} \times\) x \({ }^{\prime \prime}\) & \＄15．00 \\
    \hline 1.000 & 950－102 & 500 & 1，000 &  & 20.00 \\
    \hline 2，000 & 950－202 & 500 & 1，000 &  & 30.00 \\
    \hline
    \end{tabular}

    \section*{CERAMIC TRIMMER CAPACITORS}

    \section*{TYPE 827 MINIATURE MOLDED CERAMIC TRIMMER}
    

    Base，high grade phenolic．Two ． \(120^{\prime \prime}\) diam．mounting holes spaced 5 ．\("\) ．Can be mounted on chassis through＂ib＂diam hole．Initial Insulation Resistance－ 10,000 megohms mini－ mum．Body size： \(17 / 32^{\prime \prime} \times 3 / 4^{\prime \prime}\) ．
    
    CRL
    827A
    827B
    Cap．Range
    mmf．
    6.0 to 30
    7.0 to 35
    \(\$ 1.00\) each

    CRL
    Cat．No
    827C
    List Price
    \(\$ 1.00\) each
    TYPE 822 CERAMIC TRIMMER
    Medium weight Steatite body．Numbers ending in \(Z\) are of zero temperature coefficient（NPO）；those ending in N are negative temperature coefficient． Both rotor and stator plates are of metallic silver fired to ceramic rotor and stator．Mounting holes are clearance for No． 4 machine screws．Body size，approx．27／32＇\(\times 21 / 32^{\prime \prime}\)
    

    \section*{TYPE 823 CERAMIC TRIMMER}
     A trimmer of highest quality．Medium heavy Steatite base．Numbers ending in \(Z\) are of zero temperature coefficient（NPO）：those ending in \(N\) are of negative temperature coekicir．both rotor and stator plat star of metallic silver fired to ceramic rotor and stator Mounting studs are set in the base，tapped \(\frac{3}{2}^{-3}\)＂deep for 4－40 machine screws．Body size，approx． \(11 / 4^{\prime \prime} \times\left.\right|^{\prime \prime}\)
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cap．Range mmf． & \begin{tabular}{l}
    CRL \\
    Cat．No．
    \end{tabular} & JAN No． & Cap．Range mmf． & CRL Cat．No． & JAN No． \\
    \hline 5.0 to 12.0 & 823－EZ & CVI2AI20 & 5.0 to 15.0 & 823－FN & CVI2D150 \\
    \hline 6.0 to 25.0 & 823－DZ & CVI2A250 & 8.0 to 25.0 & 823－EN & － \\
    \hline 10.0 to 50.0 & 823－82 & － & 8.0 to 50.0 & 823－DN & CVI2D500 \\
    \hline 12.0 to 60.0 & 823－AZ & CVI2A620 & 10.0 to 100 & \(823-8 N\)
    \(823-4 N\) & cV12012 \\
    \hline & List Price & & 20.0 to 125 & \(823-\mathrm{AN}\) & CVI2D12 \\
    \hline
    \end{tabular}

    \section*{TYPE 820 TRIMMER}
    \begin{tabular}{|c|c|c|c|}
    \hline \multirow[t]{4}{*}{} & \multicolumn{3}{|c|}{TYPE 820 TRIMMER} \\
    \hline & \multicolumn{3}{|l|}{Lightweight ceramic body．Stator plate} \\
    \hline & fired to ceramic & body．Mounfing brac & with 1／ \\
    \hline & hole and locatin & fin．Body size，approx． 27 & \(32^{\prime \prime} \times\) x \({ }^{\prime \prime}\) \\
    \hline Cap．mmf & Cat．No．List Price & Cap．mmf．Cat．No． & List Price \\
    \hline 1.0 to 3.5 & 820D \(\$ 0.75\) & 35 to 55820 E & \＄0．75 \\
    \hline 2.5 to 6.0 & 820 A ． 75 & 55 to 75 820F＊ & ． 75 \\
    \hline 5.0 to 20.0 & 8208 ． 75 & 70 to 90 820G＊ & ． 75 \\
    \hline 7.0 to 35.0 & 820 C & ＊Less bracket & \\
    \hline
    \end{tabular}

    \section*{TYPE 829 TUBULAR CERAMIC TRIMMER}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline 敛 & & Special tin TV and FM diameter． & tubular trim & Ceramic & dely used & \[
    \begin{array}{r}
    \text { sed in } \\
    .215^{\prime \prime}
    \end{array}
    \] \\
    \hline Capacity & Body & Cat．List & Capacity & Body & Cat． & \\
    \hline Range mif． & Length（8） & No．Price & Range mmf． & Length（ 8 & & \\
    \hline 5 to & & 829－3 \＄0．50 & 1 to 7.5 & 31 & 829.7 & \＄0．60 \\
    \hline to & & 829－4 ． 50 & 1.5 to 10 & \(3 / 4{ }^{\prime \prime}\) & \(829-10\) & \\
    \hline to 6 & 5／8 \({ }^{\circ}\) & 829－6 ． 50 & & & & \\
    \hline
    \end{tabular}

    This solder－sealed button shape ceramic capacitor is
    This solder－seated button shape ceramic capacitor is an accurate，dependable，long－lite replacement for old five envelopes per carton． 500 ．V．D．C．W．I, 000 V．D．C． Flash Test．
    TYPE ZA

    TAPPED GROUND TERMINAL
    TYPE Z8
    

    \section*{PRINTED ELECTRONIC CIRCUITS (P.E.C.) \({ }^{\oplus}\)}
    

    Now, with a single Centralab P.E.C., you can replace an entire section of the circuit quickly and easily. You not only replace the one worn-out component-you automatically replace all components of the same age. That way, you make another set-owner happy in the long run and save yourself a costly call-back.
    

    \title{
    Centralab.
    }

    \section*{CERAMIC CAPACITORS (Cont.)}

    1000 V.D.C.W. STANDARD DISC HI-KAPS
    - The most complete line of standard disc capacitors available.
    
    - All units 1000 VDCW- \(100 \%\) tested at 2000 V.D.C
    - All units thru 005 mmf . built to Underwriters' Labs test specifications for use in A.C. lines.
    - Close folerances-smallest available sizes.
    - Double coating of Durez phenolic insulation to give maximum breakdown strength.
    CAP
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline CAP mmf. & TOL. & DIAM. & CAT. No. & CAP. mmf. & TOL. & DIAM. & CAT. No. \\
    \hline & \(\pm .5 \mathrm{mmF}\). & 1/4" & DD-3R3 & 330 & 20\% & \(1 / 4^{\prime \prime}\) & DD.331 \\
    \hline 5 & . 5 mmF . & \(1 / 4^{\prime \prime}\) & DD-050 & 390 & 20\% & \(1 / 4^{\prime \prime}\) & DD-391 \\
    \hline 6.8 & . 5 mmf . & 1/4 \(4^{\prime \prime}\) & DD-6R8 & 470 & 20\% & \(1 / 4\). & DD-471 \\
    \hline 10 & \(\pm 10 \%\) & \(1 / 4{ }^{\prime \prime}\) & DD-100 & 500 & 20\% & \(1 / 4^{\prime \prime}\) & DD.501 \\
    \hline 15 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 150 & 560 & 20\% & \(1 / 4\). & DD-561 \\
    \hline 20 & 10\% & \(1 / 4{ }^{\prime \prime}\) & DD-200 & 680 & 20\% & \(1 / 4^{\prime \prime}\) & DD-681 \\
    \hline 25 & 10\% & \(1 / 4\). & DD-250 & 750 & 20\% & \(1 / 4.0\) & DD-751 \\
    \hline 33 & 10\% & \(1 / 4^{\prime \prime}\) & DD-330 & 800 & 20\% & \(1 / 4^{\prime \prime}\) & DD-801 \\
    \hline 39 & 10\% & \(1 / 4^{\prime \prime}\) & DD-390 & & & & \\
    \hline 47 & 10\% & \(1 / 4^{\prime \prime}\) & DD-470 & Mfd. & & & \\
    \hline 50 & 10\% & \(1 / 4^{1}\) & DD. 500 & . 001 & 20\% & 3/8. & DD. 102 \\
    \hline 56 & 10\% & \(1 / 4^{\prime \prime}\) & DD. 560 & . 0015 & 20\% & 3/8' \({ }^{\prime \prime}\) & D0.152 \\
    \hline 68 & 10\% & \(1 / 4{ }^{\prime \prime}\) & DD-680 & . 002 & 20\% & 3/8" & DD-202 \\
    \hline 75 & 10\% & \(1 / 4.1\) & DD-750 & . 003 & 20\% & -" & DD-302 \\
    \hline 100 & 10\% & \(1 / 4^{\prime \prime}\) & DD-101 & . 0047 & 20\% & \(\because \cdot\) & DD-472 \\
    \hline 120 & 10\% & \(1 / 4^{\prime \prime}\) & DD-121 & . 005 & 20\% & & DD-5022 \(\dagger\) \\
    \hline 150 & 10\% & \(1 / 4^{\circ}\) & DD. 151 & . 005 & GMV & 5/8" & DD-502 \\
    \hline 180 & 10\% & \(1 / 4^{\prime \prime}\) & DD-181 & . 01 & 20\% & \(3 / 4\) & DD. \(1032 \dagger\) \\
    \hline 200 & 10\% & \(1 / 4^{\prime \prime}\) & DD-201 & . 01 & GMV & 3/4' & DD-103 \\
    \hline 220 & \(\pm 20 \%\) & \(1 / 4^{\prime \prime}\) & DD-221 & . 01 & OVOCW) & & \\
    \hline 250 & 20\% & \(1 / 4^{\prime \prime}\) & DD-251 & & 00\%-20\% & \% & DD6-103 \\
    \hline 270 & 20\% & 1/4" & DD-271 & . 021 & OVDCW) & & \\
    \hline 300 & 20\% & 1/4' & DD-301 & & GMV & \(\therefore\) " & DD-203† \\
    \hline
    \end{tabular}

    LIST PRICE ALL ABOVE - \(\$ 1.00\) package of 5 (min.) Except \(\uparrow \$ 1.50\) per 5

    TYPE DD2 - DUAL DISCS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{TYPE DD2 - DUAL DISCS} \\
    \hline CAP. MFD. & TOL. & DIAM. & VDCW & CAT.NO. & Pkg. of 5 \\
    \hline \(2 \times .001\) & GMV & \(3 / 8{ }^{\prime \prime}\) & 600 & DD2-102 & \$2.00 \\
    \hline \(2 \times .0015\) & GMV & :"' & 600 & DD2-152 & 2.00 \\
    \hline \(2 \times .005\) & \(-20 \%+80 \%\) & 5/8" & 600 & DD2-502 & 2.50 \\
    \hline & \multicolumn{4}{|l|}{TYPE DD3 - PATENTED SHIELDED DUAL DISC HI-KAPS \({ }^{11}\)} & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline CAP. MFD. & TOL. & DIAM. & vocw & CAT.NO. & EACH \\
    \hline \(2 \times .001\) & GMV & \(3 /{ }^{\prime \prime}\) & 600 & DD3-102 & \$0.45 \\
    \hline \(2 \times .0015\) & GMV & \(3 / 8{ }^{\prime \prime}\) & 600 & DD3-152 & . 45 \\
    \hline \(2 \times .002\) & GMV & \(\because\) " & 600 & DD3-202 & . 45 \\
    \hline \(2 \times .005\) & GMV & 90' & 600 & DD3-502 & . 50 \\
    \hline \(2 \times .01\) & GMV & 5/8' & 600 & DD3-103 & . 50 \\
    \hline
    \end{tabular}

    MIN-KAP \({ }^{\circ}\) MINIATURE DISCS
    250 VDCW units for smaller voltage requirement applications ( 500 VDC test)-extremely small in size- \(3 /\) " " \(^{\prime \prime}\) diam. in high capacity values. Packaged five per envelope (MIN.). Ideal for hearing aid, miniature radio, intercom, and
     experimental rigs.
    \begin{tabular}{ccccc} 
    CAP. & VDCW & CAI. No. & THICKNESS & \begin{tabular}{c} 
    LIST \\
    Pkg. of 5
    \end{tabular} \\
    .005 mf. & 250 & DDM -502 & \(.146^{\prime \prime}\) & \(\$ 2.50\) \\
    .01 mm. & 250 & DDM-103 & \(.146^{\circ}\) & 2.50 \\
    .02 mf. & 250 & DDM-203 & \(.166^{\prime \prime}\) & 4.50 \\
    \(2 \times .01 \mathrm{mf}\). & 250 & DUAL UNIT & & \\
    & & DDM2-103 & \(.166^{\prime \prime}\) & 4.50
    \end{tabular}

    RESISTOR-CAPACITOR color code calculator

    Makes it easy to read the coding on tubular or disc ceramic capaci-
     tors and radial or axial-lead resistors. Printed in 11 colors for quick identification. Available only from Centralab distributors.

    Sugg'd. Dealer Net \(\$ 0.25\)
    

    Cap.
    mmi. mm.
    5
    5 5
    10
    12
    15 12
    18
    20

    For Bypass, Coupling and General Applications
    

    Malded disc ceramics feature highest available breakdown to ground, highest lead strength, and resistance ta mechonical damage, closest talerance. "MD's" can be placed directly against a chassis, ar adjacent to high valtage leads withaut danger af flashover or breakdawn. Low inductance makes these units highly efficient in high frequency circuits. They are nat recammended for use in resonant ap tuning applications. Valtage Rating: 1,000 V.D.C.W. to 5,000 \(\mathrm{mmf}, 600\) V.D.C.W. over \(5,000 \mathrm{mmf}\). Maintain high capacity and stand up under \(+85^{\circ}\) C. aperation. Insulation - Malded Centrathene†. 2,500 V.D.C. breakdawn to graund. Electrical properties constant to 3,000 megacycles. Insulation resistance of molding 300,000 megahms. Maisture absorption \(.005 \%\). Pawer factor of molding \(.02 \%\). Fungus resistant. Unaffected by ozone, salt water, any known acid, or solvent at raam temperature. Will not become brittle at \(-55^{\circ}\) C. Leads - No. 22 tinned copper \(11 / 2^{\prime \prime}\) long. All units one size - \(11 / 16^{\prime \prime}\) diameter, \(3 / 16^{\prime \prime}\) thick, maximum. Packaged - 5 units per palyethelene bag. 5 bags (25 units) per carton.

    TYPE MD MOLDED DISC CERAMIC HI-KAPS \({ }^{\text {Bi }}\)
    Per Cent CRL Cap. PerCent CRL \(\begin{array}{cc}\text { Tolerance } & \text { Cat. No. } \\ \pm 10 \% & \text {-MD-050 }\end{array}\)
    \(\pm 10 \%\) —MD-050
    —MD-100
    \begin{tabular}{cc} 
    Cap. & PerCent \\
    mmf. & Tolerance \\
    390 & \(+10 \%\)
    \end{tabular} \(\begin{array}{ll} \pm 10 \% & -M D-120 \\ \pm 10 \% & -M D-150\end{array}\) \(\begin{array}{ll} \pm 10 \% & \text {-MD. } 180 \\ \pm 10 \% & \text {-MD. } 200\end{array}\) \(\pm 10 \% \quad\)-MD-220 \(\begin{array}{ll} \pm 20 \% & -M D-250 \\ \pm 10 \% & -M D-270\end{array}\) \(\begin{array}{ll} \pm 10 \% & -M D-330 \\ \pm 10 \% & \text {-MD. } 390\end{array}\) \(\begin{array}{ll} \pm 10 \% & \text {-MD-470 } \\ \pm 10 \% & \text {-MD-500 }\end{array}\)
    \begin{tabular}{ll}
    390 & \(\pm 10 \%\) \\
    400 & \(\pm 10 \%\) \\
    470 & \(\pm 10 \%\)
    \end{tabular}

    Cat. No —MD. 391 —MD-401
    —MD-471 —MD-471
    —MD-501 —MD-561
    —MD-601 —MD-681 —MD.751
    —MD-821 -MD. 102 —MD. 122 —MD-152 —MD. 182
    —MD. 202
    —MD. 222 —MD-222
    —MD-252 —MD. 272 -MD-302 —MD. 332
    —MD. 402 —MD-472 -MD. 502
    -MD. 562 -MD. 562
    -MD. 682
    -MD. 752 —MD-103
    

    PRINTEDELECTRONIC CIRCUITKITS

    \section*{HANDY}

    PLASTI-PAKS \(\dagger\)
    No. PCK-18
    18 P.E.C.'s in nine most popular types. Equal to stock of 42 oldstyle resistors and 52 old-style capacitors. Packed in hingedlid plastic box with P.E.C. Guide .... List Price \(\$ 15.00\)

    \section*{No. PCK-45} 45 P.E.C.'s in 21 most popular
    types. Equal to stock of 106 types. Equal to siock of 106
    ceramic-based resistors and 133 ceramic capacitors. Packed in hinged-lid plastic box with \(P\).
    E. C. Guide
    ..... List Price \(\$ 40.00\)

    \section*{HANDY}

    SHOP CABINETS

    \section*{No. PCK-110}

    110 P.E.C.'s. five each of 22 widely-used types. Equal to stock of 255 cerdmic-based resistors, 305 ceramic capacitors. Packed in tour isprawer metal
    cabinet.........ist Price \(\$ 93.00\)

    No. PCK-220
    Master assortment of 220 P.E.C.'s in 23 widely-used types. Equal to stock of 525 resistors and 620 eapaciters. Packed in fourdrawer metal cabinet.
    \(\dagger\) Trademark
    

    \section*{PRINTED ELECTRONIC CIRCUITS (P.E.C.) \(\dagger\) (Cont'd)}

    \section*{TV ATTENUATOR SWITCH CAT. No. PCH-4 PRINTED ELECTRONIC CIRCUIT H PADS}

    The Centralab PCH-4 Television Attenuator Switch is designed as a service tool to determine the amount of attenuation required to secure best IV reception. it is also valuable for permanent installation in receivers. The switch incorporates Centralab's exclusive Printed Circuit TV H-Pads.

    \section*{ADVANTAGES OF SWITCH}

    The switching arrangement makes it possible to attenuate each station as much or as little as necessary depending on daily conditions such as weather or existong inferference, and allows for proper attenuation to balance two or more stations. Switching also eliminates the "hit-or-miss" method of installing H-Pads. Switch is installed in series with 300 ohm-twinlead. PCH-4.

    \section*{SEPARATE H-PADS}
    \begin{tabular}{|c|c|c|c|}
    \hline \multicolumn{4}{|c|}{(Listed for Convenience)} \\
    \hline Cat. & Attenuation & Cat. & Attenuation \\
    \hline & Rating & No. & Rating \\
    \hline \({ }^{\mathrm{PCH}} \mathrm{P}\) - 10 & 10 db . & PCH-30 & 30 db . \\
    \hline PCH-20 & \begin{tabular}{l}
    20 db . \\
    List Price
    \end{tabular} & PCH-40 & \\
    \hline One & \[
    \text { PCH } 100
    \] & UR H-PADS & ice \\
    \hline
    \end{tabular}
    

    \section*{ASK YOUR CENTRALAB DISTRIBUTOR FOR PRINTED ELECTRONIC CIRCUIT GUIDE NO. 3}

    A practical working manual that saves you time and money. Shows circuit schematics that quide you in using P.E.C.'s to replace standard components. Gives other useful information

    \section*{AMPEC THREE-STAGE P, E. C. AUDIO AMPLIFIER}
    

    \section*{Model 2 AMPEC}

    The wonder of the electronic age - a P. E. C. exclusive. Complete 3-stage audio amplifier smaller than a book of matches. For hearing aids, miniature radios, model control, etc.

    List Price
    PC-200 less tubes \(\quad \$ 15.00\) PC-201 with 3 subminiature tubes 25.00
    

    \section*{Model 3 AMPEC}

    Even smaller than the original Model 2 -about the size of a postage stamp with added tone circuit.

    List Price
    PC- 202 Zero Bias Output,
    no tubes \(\$ 17.50\)

    PC- 203 Zero Bias Output, with tubes 32.00 PC-204 Grid Bias Output. no tubes 17.50

    PC-205 Grid Bias Output, with tubes
    Write for complete details. Ask for Booklet 42-142.
    \(\dagger\) Trademapik

    \section*{STEATITE}

    Centralab has been producing fine ceramics since 1928 ... primarily for its own use in fixed resistors, ceramic capacitors, switches, and more recently, printed electronic circuits. Often called upon by other manufacturers to produce many "standard" and custom designs, some very intricate. Centralab is some very intricate. Centralab is the only ceramic manufacturer capable of producing many of these in quantity. All items listed are Grade L-s Steatite, approved with-
    out Che. Characteristics: Uniform white appearance, high dielectric use. Characterisics: low loss at high frequencies, and strong mechanstrength, exceedingly ically. impervious to moisture and common acids, will not warp. withstands high temperatures; harder than hardest quartz.

    FISH SPINE BEADS
    See Fig. G. Four Beads will cover I', or package of loo covers 25 of buss wire. \(5 / 16^{\prime \prime}\) O.D., \(1 / 3^{\prime \prime}\) I.D. Packaged 100 per envelope.
    Cat. No. X-40 Carton of ' 100 Beads. Cat. No. X-40G Giant 2 lb. pack (approx. 1200)__......ist Price 10.00

    \section*{SPREADERS-STRAIN INSULATORS}
    
    

    \section*{STANDOFF OR PILLAR INSULATORS}

    See Figure C. Circumference glazed, tapped for screw sizes shown. "X" numbers below are catalog numbers.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{3}{|c|}{1/4" DIAM.*} & Length & \[
    \begin{aligned}
    & 1 / 2^{\prime \prime} \text { DIAM.** } \\
    & \text { \#6-32 Thd. }
    \end{aligned}
    \] & List Price \\
    \hline Length & \#6-32 Thd. & List Price & 1/2." & x-12
    \(\times\) x-13 & \(\$ 0.12\)
    .15 \\
    \hline \(1 / 4^{\prime \prime}\) & X-63 & \$0.50 pkg. & \(1 "\) & X-14 & . 16 \\
    \hline 3/6.' & X-64 & . 50 pkg . & \(11 / 4\). & x-15 & . 17 \\
    \hline \(1 /{ }^{\prime \prime}{ }^{\prime \prime}\) & X-8 & . 55 pkg . & 1/1/2" & X-16 & .17 \\
    \hline 14" & \(x-9\) & . 55 pkg. & 2"'0 & \(x-17\)
    \(x-18\) & . 18 \\
    \hline \({ }_{1 / 4}^{1 / 4}\) & \(x-10\)
    \(\times-11\) & . 70 pkg . & \(31 / 2^{\prime \prime}\) & x-18
    \(\times \mathrm{x}-19\) & . 19 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline & & & & \[
    3 /{ }^{\prime \prime} \text {. DIAM.** }
    \]
    \#10-32 Thd. & \\
    \hline Length & \[
    \begin{aligned}
    & 1 / 4^{\prime \prime}-20 \text { Thd. } x-28
    \end{aligned}
    \] & \[
    \$ 0.18
    \] &  &  & \$0.16 \\
    \hline \(11 / 4\). & x-29 & . 19 & & x-21 & .18 \\
    \hline 11/2" & x-30 & . 20 & 11/4." & \(x-22\)
    \(\times-23\) & . 18 \\
    \hline \(2{ }^{\prime \prime}\) & X-31 & . 21 & \({ }^{11 / 4}\) & X-24 & .19 \\
    \hline & 3/8" D1AM.** & & \(21 /{ }^{1 \prime}\) & X-25 & . 20 \\
    \hline Length &  & \({ }_{\text {Lis }}\) & \(3^{\prime \prime}\) & x-26 & . 22 \\
    \hline \(1 / 3\) & X-48 & . 12 & \(4^{1 /}\) & X-27 & . 25 \\
    \hline \(5 / 8\) & X-50 & . 12 & & & \\
    \hline \(31 / 4\) & \(\times\)-52 & . 12 & & 1/. DIAM.** & \\
    \hline \(1{ }^{1 /}\) & X-54 & . 15 & Lenqth & \(1 / 4 \times 20\) Thd. &  \\
    \hline 11/9", & \(\times\) X.56 & . 16 & \(21 / 2\) & & + \({ }^{\text {. } 28}\) \\
    \hline 11/2" & \(\times-58\)
    \(\times-60\) & .17 & \(4^{\prime \prime}\) & x-33
    \(\times\) - 34 & . 33 \\
    \hline & X-60 & . 18 & \(5^{\prime \prime}\) & X-35 & 37 \\
    \hline *5 pe & on. \({ }^{\text {** }} 1\) & carton & & & \\
    \hline
    \end{tabular}
    \({ }^{*} 5\) per carton.
    FEED-THROUGH INSULATORS
    Glazed Surface-No hardware included. Packaged Singly.
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{4}{|l|}{} & \multicolumn{2}{|l|}{} \\
    \hline Cat. No. & Fig. & Height 7/8 \({ }^{14}\) & Base Diam. \(11 / 4^{\prime \prime}\) & \[
    \begin{aligned}
    & \text { Size } \\
    & 10-32
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { List Price } \\
    \$ 0.25
    \end{gathered}
    \] \\
    \hline  & \({ }_{\text {D }}\) & \(11 \%\) & 13/4' & 1/4"-20 & . 30 \\
    \hline X-38 & E & \(15 / 6^{10}\) & \(2{ }^{21 / 2}{ }^{\prime \prime \prime}{ }^{\prime \prime}\) & 7/8"-16 & 1.50 \\
    \hline X-39
    \(\times \mathbf{x}\) & F & \({ }^{\prime \prime}\) & \(31 /{ }^{\prime \prime}\) & B-32 & 1.50 \\
    \hline
    \end{tabular}

    THROUGH PANEL BUSHINGS
    See Fig. H. Matched pairs of male and female bushings for feeding See Fig, H. Mo pares shes included fackaged one matched pair per carton.
    Cat. No. Top Max. Panel Panel Max. Screw List
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Cat. No. Pair & \({ }_{\text {Height }}\) & Diam. & Pane
    Hole & Thickness & Size & Price \\
    \hline X-41 & 1/3' & \(1 / 2^{\prime \prime}\) & 5/16" & to 1/8." & 6-32 & \$0.30 \\
    \hline X-42 & 7/32 \({ }^{\text {² }}\) & \(5 / 8\). & 7/16". & to \(1 /{ }^{\circ \prime}\) & 8.32 & . 40 \\
    \hline x-43 & 3/4, & 1/2." & 1/4.". & to \(3 / 16^{\prime \prime}\) & 6-32 & . 35 \\
    \hline X-44 & 3/2. & 5/: & \% 3 , & to \({ }^{\text {che }}\) & 8-32
    10.32 & 1.00 \\
    \hline X-45
    \(\times\) - 46 & \(13 / 4\) & \(11 / 4\). & \(1 / 2^{\prime \prime}\) & to \(2^{\prime \prime}\) & 10-32 & 1.70 \\
    \hline
    \end{tabular}

    JAN CERAMIC STANDOFF INSULATORS
    Complete listings and prices on steatite standoffs made to JAN-I-8 and JAN-1-10 specifications. All styles carried in stock. Ask for Bulletin 42-181.

    \section*{STOCK CERAMIC FEED-THRU BUSHINGS}

    22 styles of feed-thry bushings, male and female, are carried in stock. Complete details, dimensions, and prices are found in Bulletin 42-214.

    \title{
    SANGAMO CAPACITORS
    }

    \section*{ELECTROLYTIC CAPACITORS}

    TYPE MT－MTD－MTH
    

    SANGAMO Type MT＂Chieftoin＂electrolytics are especiolly designed for televisian and other electronic applicotions where operation at \(85^{\circ} \mathrm{C}\) ．temperatures is required．They are hermetically sealed in round aluminum containers which are encased in heavy insulating sleeves on which polarity is clearly indicated．Being small in physical size they are most popular where mounting in limited space is required－They will fit anywhere and can be mounted in almost any position．Double－thick paper spacers as－ sure adequate breakdown characteristics and all sections are tightly held in place within the container．Multiple staking con－ nects the terminol tabs to the electrodes ond provides permanent low resistance contact throughout the life of the capacitor．Low voltage units utilize etched cathodes to maintain uniform capacity when they are subjected to combined conditians of heat and high ripple currents．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog & Capacity & Single U Working & \[
    \begin{aligned}
    & \text { Inits } \\
    & - \text { Size - }
    \end{aligned}
    \] & List & Resale \\
    \hline Numbar & mfd． & Volts D．C． & Dia．Len． & Price & Net Price \\
    \hline MT－0210 & 10 & \(\stackrel{5}{9}\) & \({ }_{5}^{5} \mathrm{E}\) I 1 d & \＄ 1.00 & \＄0．60 \\
    \hline MT－0225 & 2.8 & \(\because\) & \(3_{58} \times 1{ }_{10}^{10}\) & 1.00 & ． 60 \\
    \hline MT－0250 & 511 & \(\pm 5\) & \(8_{8}^{5} \times 1{ }^{5}\) & 1.10 & ． 66 \\
    \hline MT－0510 & 111 & 711 &  & 1.00 & ． 60 \\
    \hline MT－0525 & 35 & at & 5 m 1 估 & 1.05 & .63 \\
    \hline MT－0550 & 54 & 50 &  & 1.20 & ． 72 \\
    \hline MT－1504 & 4 & \(1: 11\) & \(5 \times 1\) ， & 1.00 & ． 60 \\
    \hline MT－1508 & s & 150 & 5 I 1 in & 1.05 & ． 63 \\
    \hline MT－1512 & 12 & 150 & \％\(\times 1\) dim & 1.10 & ． 66 \\
    \hline MT－1516 & 16 & 150 &  & 1.15 & ． 69 \\
    \hline MT－1520 & 30 & 150 & \％\({ }^{\text {\％}} 1\) & 1.20 & ． 72 \\
    \hline MT－1530 & 30 & 150 & \％\(\times 1\) & 1.30 & ． 78 \\
    \hline MT－1540 & 46 & 150 & \(3 \times 12\) & 1.35 & ． 81 \\
    \hline MT－1550 & 50 & 150 & \(7 \times 18\) & 1.40 & ． 84 \\
    \hline MT－2508 & 8 & 250 & \％\(\times 1\) 3080 & 1.15 & ． 69 \\
    \hline MT－2512 & 12 & 250 & \(5 \times 11{ }^{5}\) & 1.25 & ． 75 \\
    \hline MT－2516 & \(1{ }^{10}\) & 2.0 &  & 1.30 & ． 78 \\
    \hline MT－2520 & 20 & 250 & \％ 1 號 & 1.35 & ． 81 \\
    \hline MT－2540 & 40 & 250 & －5 \％ & 1.55 & ． 93 \\
    \hline MT－3508 & 8 & 350 &  & 1.20 & ． 72 \\
    \hline MT－3512 & 12 & 3.00 & S．\(\times 1\) & 1.30 & ． 78 \\
    \hline NT．3516 & 16 & 350 & －\(\% 118\) & 1.40 & ． 84 \\
    \hline MT－4504 & 4 & 4.40 & \％x \(\times 1\) & 1.15 & .69 \\
    \hline MT－4508 & ＊ & 450 &  & 1.25 & ． 75 \\
    \hline MT． 4510 & 10 & 4.50 & \(\cdots \mathrm{Cl}{ }^{3}\) & 1.30 & ． 78 \\
    \hline MT．4512 & 12 & 4.00 & \({ }^{-1} 1{ }^{\text {m }}\) & 1.35 & ． 81 \\
    \hline MT． 4516 & 14 & 450 &  & 1.40 & ． 84 \\
    \hline MT－4520 & ！ 11 & 450 & \(1 \times 1\) 18， & 1.55 & .93 \\
    \hline MT． 4530 & 311 & 450 & x 2 永 & 1.70 & 1.02 \\
    \hline MT－4540 & 40 & 1.50 & Y 2 \％ & 1.80 & 1.08 \\
    \hline & & Dual U & & & \\
    \hline Catalog & Capacity & Working & nisize & List & Resale \\
    \hline M TD．0210 & \[
    \underset{10=10}{\mathrm{mfd}}
    \] &  & Dia. Len. & \[
    \begin{aligned}
    & \text { Price } \\
    & \$ 1.40
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Nrt Price } \\
    \$ 0.84
    \end{gathered}
    \] \\
    \hline MTD－0220 & 20－20 & \(\stackrel{\square}{\square}\) & Fsx \(\mathrm{F}_{3}{ }^{2}\) & 1.40 & ． 84 \\
    \hline MTD－1520 & \(20-20\) & 150 & \({ }^{3} \times 116\) & 1.65 & ． 99 \\
    \hline MTO－1530 & \(30 \cdot 810\) & 1：0 &  & 1.80 & 1.08 \\
    \hline MTD－301 & 50－30 & 1：11 & x \(1^{\frac{183}{18}}\) & 1.95 & 1.17 \\
    \hline MTD－302 & \(40-0\) & 150 & \(\times 1 \frac{18}{12}\) & 1.75 & 1.05 \\
    \hline MTD－1540 & 40－40 & 151 & \(1 \times 118\) & 1.85 & 1.11 \\
    \hline MTD－1550 & \(511-50\) & 150 &  & 2.10 & 1.26 \\
    \hline MTD－2520 & 2080 & 2.50 & \(1 \times 112\) & 1.85 & 1.11 \\
    \hline MTD－352？ & 20－20 & 8 & \(1 \times 2{ }^{\text {\％}}\) & 2.25 & 1.35 \\
    \hline MTD－4508 & 8－8 & 1.00 & \(7 \times 18\) & 1.70 & 1.02 \\
    \hline MTO．4510 & 10－10 & 450 & 1 玉 1 1 1 & 1.85 & 1.11 \\
    \hline MTD－4520 & 20－20 & 1：0 & \(1 \times 2 \mathrm{~m}\) & 2.50 & 1.50 \\
    \hline \multicolumn{6}{|l|}{NOTE：I＇ackaging：10，25，or 50 capaciturs ber disulay carton．} \\
    \hline \multicolumn{6}{|l|}{NOTE：Diagram dimensions are for metal tubes．Add to to diameter and IS＂to lenget for dimensions orer cardboard instatang tubes．} \\
    \hline Catalog & Capacity & Working &  & List & Resale \\
    \hline \[
    \begin{aligned}
    & \text { Number } \\
    & \text { MTH } 0010
    \end{aligned}
    \] & & & Dia． & \begin{tabular}{l}
    Price \\
    S 1.20
    \end{tabular} & Net Price \\
    \hline MTH－0625 & \(2{ }^{\text {20，}}\) & ， & \(\times \times 1\) \％ & 1.35 & ． 81 \\
    \hline MTH－0650 & 500 & 6 & \(3 \times 2\) & 1.55 & .93 \\
    \hline MTH－06100 & 1100 & 6 & \(\pm 1\) 展 & 1.90 & 1.14 \\
    \hline MTH－06150 & 1500 & f & \(1 \times 2 \mathrm{c}\) & 2.10 & 1.26 \\
    \hline MTH－1210 & 100 & 12 & 58 \(\times 18\) & 1.20 & ． 72 \\
    \hline MTH－1225 & 200 & 12 & \％＞ 114 & 1.45 & ． 87 \\
    \hline MTH－1250 & 300 & 12 & 7 \(\times 2\) & 1.70 & 1.02 \\
    \hline MTH－1510 & 100 & 15 &  & 1.25 & ． 75 \\
    \hline MTH－1525 & 250 & 15 & \(3 \times 118\) & 1.55 & ． 93 \\
    \hline MTH－1550 & 500 & 15 & 7／6x \({ }^{5}\) & 1.75 & 1.05 \\
    \hline MTH－2510 & 100 & 25 & \％\(\times 1 \times\) & 1.35 & ． 81 \\
    \hline MTH－2525 & 350 & 2.5 & \(7 / 8 \times 18\) & 1.70 & 1.02 \\
    \hline MTH－2550 & 500 & 25 & \(1 \times 2\) 䄷 & 2.30 & 1.38 \\
    \hline MTH－5010 & 100 & 50 & \％ 118 & 1.40 & ． 84 \\
    \hline \multicolumn{6}{|l|}{NOTE：Dimensions are for metal tubes．Add 盾＂to diameter and \(\frac{30}{6 \prime \prime}\) to length for dimensions over cardboard insulating tube．} \\
    \hline NOTE：Packa & 10， 25. & r 50 capacit & ors yer dibpl & arton． & \\
    \hline
    \end{tabular}

    TYPE FM
    

    The SANGAMO Type FM＂Arrowhead＂electrolytic capocitors are similar in design to the Type MT＂Chieftain＂in every respect except leads．The Type FM is equipped with flexible，insulated wire leads and stud terminals eliminating the problem of crossed wires and the necessity for the use of insulating sleeves．They ore much smaller than the wax－end filled types with insulated leads． The capocitors themselves are housed in round aluminum con tainers which are encased in heavy insulating sleeves．They are especially designed for the rugged television requirements where \(85^{\circ} \mathrm{C}\) ．operating temperatures are encountered．

    Dual Units
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalcg Number & Capacity mfd． & \begin{tabular}{l}
    Working \\
    Volts D．C．
    \end{tabular} & Diaize Len. & List Price & Resale Net Prier \\
    \hline FMD－0210 & 10－10 & 2. & 7／\(\times 1\) 敢 & \＄1．40 & \＄0．84 \\
    \hline FMD－0510 & 10－10 & \(\therefore 0\) & \％\(\times 1\) & 1.40 & ． 84 \\
    \hline FMD． 1520 & 20－20 & 1.70 & \％ 118 & 1.65 & ． 99 \\
    \hline FMO．305 & \(30 \cdot 0\) & 150 & 7／ax 1 最 & 1.70 & 1.02 \\
    \hline FMD－1530 & 30－80 & 150 & 7／819 & 1.80 & 1.08 \\
    \hline FMD－302 & \(40-20\) & 150 & \(1 \times 1{ }^{16}\) & 1.75 & 1.05 \\
    \hline FMD－304 & \(40-30\) & 1：0 & \(1 \times 118\) & 1.80 & 1.08 \\
    \hline FMD－1540 & 40－40 & 150 & \(1 \times 1\) 18 & 1.85 & 1.11 \\
    \hline FMD－301 & 50－：30 & 1：0 & \(1 \times 1\) 媑 & 1.95 & 1.17 \\
    \hline FMO．1550 & 50－50 & 130 & \(1 \times 15\) & 2.10 & 1.26 \\
    \hline FMD－4508 & 8－8 & 450 & \(7 / 6 \times 18\) & 1.70 & 1.02 \\
    \hline FMO－308 & 8－16 & 450 & \(x 1\) 如 & 2.00 & 1.20 \\
    \hline FMD．4520 & 20－20 & 450 & \(\pm 27\) & 2.50 & 1.50 \\
    \hline \multicolumn{6}{|c|}{Triple Units} \\
    \hline Catalog Number & Capacity mfd ． & \begin{tabular}{l}
    Working \\
    Volts D．C．
    \end{tabular} & \[
    \overline{\text { Dia. Size }} \overline{\text { Len. }}
    \] & List Price & Resale Net Prict \\
    \hline FMT－1520 & 20－20－20 & 150 & 源 \(\times 1\) 品 & \＄2．20 & \＄1．32 \\
    \hline FMT－1530 & 30－30－30 & 150 & 7／8x \({ }^{\text {a }}\) & 2.35 & 1.41 \\
    \hline FMT－310 & \(40-2000\) & 150 & \(7^{7} \times 2{ }^{\text {息 }}\) & 2.25 & 1.35 \\
    \hline FMT－312 & 40－30－20 & 150 & 7／8 \(\times 2\) & 2.35 & 1.41 \\
    \hline FMT－1540 & 40－40－40 & 150 & \(1 \times 2\) 喿 & 2.45 & 1.47 \\
    \hline FMT－3i5 & 50－30－20 & 150 & \(\mathrm{x}: 2\) 底 & 2.45 & 1.47 \\
    \hline \multicolumn{6}{|l|}{NOTE：All units are scuplied whit mounting strap attached．} \\
    \hline \multicolumn{6}{|l|}{NOTE：Parkagistg： 10.25 ，or 50 caracitors per display carton．} \\
    \hline \multicolumn{6}{|l|}{NOTE：Diagram dimensions are for metal tubes．Add ick 10 diameter and dis＂to length for dimensions over cardhoard insulating tube．} \\
    \hline
    \end{tabular}

    TYPE MMT
    

    MINIATURE TUBES
    SANGAMO Type MMT miniature tubular electrolytic capacitors are designed for use in miniaturized equipment and are ideally suited to meet the precise operoting require－ ments of low valtage circuits．They are small in physical size and are self supporting by means of strong bare tinned copper wire leads． The Type．MMT capacitors are contained in drown aluminum tubes encased in a fitted cardboard insulating sleeve．Polarity of all units is clearly marked on the cardboard sleeve．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Capacity mfd ． & Working Volts D．C． & \[
    \overline{\text { Dia. Lize }} \text { Len. }
    \] & List Price & Resale Net Price \\
    \hline MMT－605 & 5 & \({ }^{1}\) & \％\(\times 18\) & \＄0．80 & \＄0．48 \\
    \hline MMT－0505 & 5 & 30 & \％\(\times 1 \times\) & 1.00 & ． 60 \\
    \hline MMT．0210 & 10 & 2.5 & 20x \(\times 14\) & 1.00 & ． 60 \\
    \hline MMT－0510 & 10 & 50 & \(3 \times 1\) ， & 1.00 & ． 60 \\
    \hline MMT．0220 & 20 & 25 & \(3 \times 1 \frac{1}{4}\) & 1.00 & ． 60 \\
    \hline MMT－325 & 25 & 3 & \％ 714 & ． 85 & .51 \\
    \hline MMT－625 & 25 & 6 & \(3 \times 18\) & ． 85 & ． 51 \\
    \hline MMT－350 & 50 & & \(3.11{ }^{3}\) & ． 95 & ． 57 \\
    \hline MMT－650 & 50 & &  & ． 95 & ． 57 \\
    \hline MMT－1505 & 5 & 150 & \(3 \times 11\) & 1.00 & ． 60 \\
    \hline MMT－4501 & 1 & 4.50 & \(3 \mathrm{y} \times 1 \mathrm{l}\) & 1.00 & 60 \\
    \hline NOTE：Dia & imension to lene & re for me （03 dinenn & tubes． nes cers & \[
    \begin{aligned}
    & 4 p e \\
    & 44
    \end{aligned}
    \] & diameter ng tube． \\
    \hline
    \end{tabular}

    \title{
    SANGAMO CAPACITORS
    }

    ELECTROLYTIC CAPACITORS

    TYPE PL FOR TELEVISION AND OTHER ELECTRONIC APPLICATIONS

    The SANGAMO Type PL "Warrior" electrolytic capacitors are specially designed for all television and electronic applications requiring long life and dependable performance at \(85^{\circ} \mathrm{C}\) under conditions of extreme ripple currents and high surge voltages. They are sealed in round aluminum cans and have iwist-prong tabs for washer or direct chassis mounting. The capacitor element current carrying tabs are securely clamped and staked to the terminal lugs, providing permanent, low resistance connections. In all cases the aluminum can is negative and the mounting ring provides the negative electrical connection.

    The Type PL has been specially engineered for the rigid TV replacement applications found in all of the leading television receivers manufactured in the industry.
    

    \section*{SANGAMO CAPACITORS}

    \section*{TYPE PL ELECTROLYTIC CAPACITORS（Confinued）}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Stack No． & Catalog No． & Capaclty mfd． & wkg．Volts D．C． & -Size - & List Price & Resale Net Price & Stock No． & Catatog No． & Capacity mfd ． & Wkg．Vofts D．C． & - Size - & List Price & Resale et Price \\
    \hline T－070 & PLT－739 & 10－1：－1： & \(2 \cdot \mathrm{O}\) & \(1 \times 2\) & \＄2．45 & \＄1．47 & T． 510 & PLT－7679 & \(30-111 / 20\) & \(3.50-3.50 / 2.50\) & \(\times 3\) & \[
    \$ 3.0
    \] & \[
    \$ 1.83
    \] \\
    \hline T－075 & PLT－7393 & 20－20．10 & 2.31 & x \(21 / 2\) & 2.50 & 1.50 & T． 515 & PLT－768 & \(60.40,20\) & \(400 / 3170 \cdot 5\) & \(13 \times\) & 4.20
    2.90 & 2.52
    1.74 \\
    \hline T．080 & PLT－7395 & 30－15－10 & 290 & x \(21 / 1 /\) & 2.70 & 1.62 & 25 & ． 7682 & 80／20－10 & \(400 / 300 \cdot 300\) & 13 \％\({ }^{1 / 2}\) & 4.25 & 2.55 \\
    \hline T． 085 & PLT． 7397 & 40－20－10 & 250 & \(138 \times 2\) & 2.85 & ． 71 & T． 530 & PLT－7687 & 111／511／30 & \(400 / 3: 50105\) & \(1 \times 31 / 2\) & 3.10 & 1.86 \\
    \hline T－090 & PLT－740 & 10．20－20 & 2511 & ． & 2.90 & ． 74 & T． 535 & PLT－7688 & 40／10／100 & \(4100 \% 50 \% 0\) & \(13 \times 8\) & 3.40 & 2.04 \\
    \hline T．095 & PLT－3010 & 10－10－10 & 100 & \(\times 2\) & 2.40 & 1.44 & T－537 & PLT－76885 & 1111／1020 & \(400 / 3.90 / 30\) & \(x\) ？ & ． 50 & 70 \\
    \hline T． 100 & PLT－3020 & 20－20－20 & 3011 & \(\times 3\) & 3.10 & 1.86 & 40 & & & 400／350－ & & 280 & \\
    \hline T． 105 & PLT－3510 & 10－110－110 & 850 & x？ & 2.40 & 1.44 & 50 & PLT－770 & 10－20／20 & \(400-400 / 25\) & & 2.85 & 1.71 \\
    \hline 10 & PLT－7407 & 0．0－40－2011 & 3：0） & \(13 \times 3\) & 4.25 & 2.55 & T－552 & PLT－7704 & 80－111100 & 41011－1111 & \(14 \times 1\) & 5.25 & 3.15 \\
    \hline T－115 & PLT－7409 & \(80-60 \cdot 611\) & 3.81 & \(13 \times 8\) & 5.60 & 3.36 & T． 555 & PLT－7707 & \(40-40 / 20\) & \(400-100 / 300\) & \(13 \times 31 / 2\) & 4.15 & 2.49 \\
    \hline T－120 & PLT－4010 & 10－10－11 & 4011 & \(\times 21 / 2\) & 2.40 & 1.44 & T－560 & PLT－771 & \(30 / 100-25\) & \(450 / 2.5-2\) & 1 管 \(\times 2\) & 3.00 & 1.80 \\
    \hline 5 & PLT－4510 & 10－10－10 & 450 & \(\times 21 / 4\) & 2.60 & 1.56 & T－565 & PLT－7712 & 40／40／130 & 450／150／50 & & 3. & 2.19 \\
    \hline 130 & PLT－741 & 1－5－15－10 & 450 & \(1 \times 3\) & 2.95 & 1.77 & & PLT．7714 & \(10.110 / 50\) & \％．in & & 4.00 & 2.40 \\
    \hline T－135 & PLT－7412 & 20－10－10 & 451 & \(1 \times\) x & 2.95 & 1.77 & T． 580 & PLT－77152 & 20 ¢ 6150 & 150 201\％ & & 3.40 & 2.04 \\
    \hline T－140 & PLT－4520 & \(20.20 \cdot 20\) & \(4: 0\) & \(13 \times \times 21 / 2\) & 3.60 & 2.16 & T－585 & PLT－7716 & 20 60 190 & 4，50\％50 25 & \(13_{4} \times\) & 3.65 & 2.19 \\
    \hline T－145 & PLT－7413 & 310－20－20 & 4 ¢ & \(1{ }^{1} \times\) & 3.85 & 2.31 & T－590 & PLT－77165 & 16， \(811 / 10\) & 4510 & \(1{ }^{1 / 4} \times\) & 3.60 & 2.16 \\
    \hline T－150 & PLT．7414 & 30－30－20 & 4.11 & \(134 \times 3\) & 4.10 & 2.46 & T－595 & PLT－77168 & 10／80－80 & \(4.0{ }^{2} 510-250\) & \(13 \times 4\) & 4.20 & 2.52
    1.89 \\
    \hline T． 155 & PLT－4530 & 30 30－30 & \(4: 31\) & 13 & 4.35 & 2.61 & T 600 & PLT－7717 & 20／40－10 & \(4.0 / 2500-50\) & & 3.15 & 1.89
    3.03 \\
    \hline T－160 & PLT－74145 & \(410-: 10-20\) & \(4: 11\) & 13 & 4.30 & 2.58 & T．602 & PLT－7719 & \(20 \times 150\) &  & 1／2 & 5.05
    2.85 & \begin{tabular}{l}
    1.71 \\
    \hline 1.03
    \end{tabular} \\
    \hline T－165 & PLT－7415 & ［11 10－111 & 1 & 1 18， & 4.15 & 2.49 & T． 610 & PLT－772 & 10／10／20 & 1：71） \(3: 00 / 2\). & 迷 & 2.30 & 1.38 \\
    \hline T－170 & PLT－4540 & 111） \(10-411\) & 8.4 & \(1{ }^{13} \times\) x \(:\) 1／2 & 4.90 & 3.54 & T－615 & PLT－773 & 16／11／50 & 4511850 & \(\times\) & 2.40 & 1.44 \\
    \hline T． 175 & PLT－7417 & fill－30－11 & 1011 & 13.5 ： & 4.50 & 2.70 & T－620 & PLT－7735 & －1180 100 & 1．31） 35018 & \(1044 \times 31 / 2\) & 4.50 & 2.70 \\
    \hline T－180 & PLT－7419 & 11－41－20 & 1：7 & ｜ \(3-\times 1\) & 5.40 & 3.24 & T－625 & PLT－774 & 1．5 20 & 4.503508 & & 0 & 0 \\
    \hline T－185 & PLT－4710 & 10－10－111 & 15 & \(1 \times 3\) & 2.70 & 1.62 & T．630 & PLT． 7745 & －\％／80／l0 & 401100 & & 4.30 & 2.58
    2.70 \\
    \hline T－190 & PLT－742 & （30－30－30 & 17. & 13，x & 4.45 & 2.67 & T．632 & PLT．7748 & 4111110 & 4－0 100 &  & 4.60 & 2.76 \\
    \hline T－195 & PLT－4730 & 311－311－？ & 15： & 13－531／2 & 4.65 & 2.79 & T．635 & PLT－775 & 10 只0／30 & 4， 50 100 300 &  & 3.35 & 2.01 \\
    \hline T－200 & PLT－5010 & 10－10－111 & S0） & ： & 2.70 & 1.62 & T－640 & PLT． 776 & \(110-1010\) & 4．010－15：810 & \(1{ }^{1}\) & 2.40 & 1.44 \\
    \hline T－205 & PLT－7425 & 31120－211 & 171 & \(1 \sim\) & 4.20 & 2.52 & T－645 & PLT－777 & 101020 & 1．00－1：0 & \(21 / 2\) & 2.40 & 1.44 \\
    \hline T－210 & PLT－745 & 20／ゼロー100 & 150／1．－15 & 1＂5 \(\times 2\) & 2.90 & 1.74 & T－650 & PLT－779 & 15－1．420 & 1：0．450 & \(1 \times 3\) & 2.75 & 5 \\
    \hline T．215 & PLT－746 & 10058 & 150 \％11 & \(1 \times\) ： & 3.00 & 1.80 & T．655 & PLT－778 & －17－11／20 & 100－150 & －\({ }^{\text {x }}\) & 2.90 & 1.62 \\
    \hline T． 220 & PLT－747 & 10 20100 & 1．50．170 & 1 3： & 2.40 & 1.44 & T．665 & PLT．782 & ジ1－ジ1 & （－1）－180 & 3 & 3.05 & 1.83 \\
    \hline T． 225 & PLT－7471 & \(30-211010\) & 130－150／10 & 1 エ & 2.40 & 1.44 & T－670 & PLT－7825 &  & 1：10－150 & \(13.80{ }^{1 / 6}\) & 3.30 & 1.98 \\
    \hline T－2 & PLT－7473 & （11）－80\％000 & 150－1：5010 & x & 2.50 & 1.50 & T． 675 & PLT－783 & ：10 311 111 & 1511－1：00 & \(13 \times 21 / 2\) & 3.55 & 2.13 \\
    \hline T－235 & PLT－7475 & 4112015 & \(150150 / 10\) & \(\pm\) & 2.40 & 1.44 & T． 680 & PLT－7831 & 111－1110 & 1．90－4．50 & \(13 \times 3\) & 3.95 & 2.37 \\
    \hline T－240 & PLT－7477 & 111202011 & 1511－1510 & x： & 2.56 & 1.50 & T－685 & PLT－7832 & 111 111 10 & 1．0．150 & & 4.00 & 2.40 \\
    \hline T－242 & PLT－7479 & 10110010 & 1．0．17110 & －x \(\geq^{1}\)－ & 3.20 & 1.92 & T－690 & PLT－7834 &  & 1：40－11 & \(1^{4} \times \times 21 / 2\) & 2.75 & 1.65 \\
    \hline T． 24 & PLT－748 & 20 20 ご0 & 150－150 25 & \(1 \times\)－ & 2.20 & 1.32 & T． 700 & PLT－7837 & \(20-10\)－ 0 & 150－4．51180 & － & 2.85 & 1.71 \\
    \hline T－250 & PLT． 750 & 1104 & 150－150 20 & \(1 \times\) & 2.25 & 1.35 & T－702 & PLT－78372 & （10－11／1：0 & 1511－1518 & 1： \(\mathrm{x}: 2 \mathrm{k}\) & 3.70 & 2.22 \\
    \hline T－25 & PLT－751 & \％0： 3 & 1511－150 & 1 x ： & 2.30 & 1.38 & \(\bigcirc .705\) & PLT－78375 & \(30-3010\) & \(150-150 / 50\) & \(13 \times 3\) & 3.65 & 2.19 \\
    \hline T－260 & PLT－749 & 1110 & 1．00－150 & x & 2.30 & 1.38 & T－710 & PLT－78377 & 11－10＇10 & \(150 \cdot 1: 115\) & 134218 & 3.25 & 1.95 \\
    \hline T－265 & PLT－7517 & 1021100 & 1．50－150 & －21\％ & 2.50 & 1.50 & \(\begin{array}{r}\text { T．} \\ \text { T } \\ \hline-720\end{array}\) & PLT－7839 & 111
    \(40 \cdot 111\)
    +1010 & 150－80， & & 4.00
    4.30 & 2.40
    2.58 \\
    \hline T－270 & PLT－7519 & \(10 \pm 02 \mathrm{tc}\) & 150 150 & 「 \(21 / 2\) & 2.70 & 1.62 & T．725 & PLT－784 & 1111110 & 450－450 1：0 & 4 \(\times\) & 4.15 & 2.49 \\
    \hline T－275 & PLT－752 & \(411-3010\) & 150－180 & \(1 \times 2\) & 2.35 & 1.41 & T－730 & PLT－785 & 411－16 80 & 450 －4．711 & 1 1\％\(\times 3\) & 3.90 & 2.34 \\
    \hline T． 280 & PLT－7521 & 1110 & 1511－1510 2.5 & \(\times 21 / 2\) & 2.3 .5 & 1.41 & T．735 & PLT－7855 & 411－11100 & 150－450 200 & \(13 \times 31 / 2\) & 4.15 & 2.49 \\
    \hline T－285 & PLT． 7525 & 11．10 2！ & 1．00－1：0 2．5 & x ご年 & 2.40 & 1.44 & T－740 & PLT－7857 & \(40 \cdot 40100\) & \(450-150200\) & \(1 \times \pm 4\) & 4.95 & 2.97 \\
    \hline T－290 & PLT－7526 & 111．10 111 & 150－150 2.8 & \(\mathrm{x}: 1 / 2\) & 2.45 & 1.47 & T． 742 & PLT－7858 & \(417-1110\)
    \(16-10 / 100\) & － & & 4.90 & 2.82 \\
    \hline T－295 & PLT－7527 & \％10－30／20 & 150－150／e5 & \(1 \times 2\) & 2.50 & 1.50 & ＋．750 & PLT．786 & 150－15／10 & 450－450／：30 & \(1 \times 3\) & 2.85 & 1.71 \\
    \hline T－300 & PLT－753 & －10－30／100 & 1511－10\％ & x \(21 / 2\) & 2.70 & 1.62 & T－755 & PLT－7865 & 1．5－51\％ & \(150-1511: 30\) & \(1 \times 3\) & 2.85 & 1.71 \\
    \hline T． 305 & PLT－754 & ¢0， 0 & 150－150 & x \(\because\) 1 & 2.65 & 1.59 & T． 760 & PLT－787 & \(90-20160\) & \(450 \cdot 150 \quad 80\) & \(13 \times 31 / 2\) & 4.05 & 2.43 \\
    \hline T． 310 & PLT．7541 &  & 150－150， & － & 2.65 & 1.59 & T－765 & PLT－789 & 40－10／10 & \(4 \pi 0-1010\) &  & 3.30 & 1.98 \\
    \hline T－315 & PLT． 7543 & 120－60／ & 1．30－1814 25 & \(13 / 8 \times 21 / 2\) & 3.35 & 2.01 & T－768 & PLT－7893 & 20.80 & 175 & & 2.75 & 1.65 \\
    \hline T－320 & PLT－7545 & ： \(0- \pm 0\) ¢ 0 & 200－201\％ & \(1 \times 21 / 2\) & 2.55 & 1.53 & T－770 & PLT． 7895 & 40101010 & 470 － & \(18 \times 8 \times 2\) & 3.35
    4.30 & 2.58 \\
    \hline T－325 & PLT－7547 & 1011－10 10 & 200 2110 511 & 1440 & 3.15 & 1.89 & T－775 & PLT．7897 & \(40 / 40.10\) & 475－2－11－2：0 & \(13 / 4 \times 3\) & 4.05 & 2.43 \\
    \hline T． 330 & PLT－757 & 15－1．5 20 & 250－2511 & 。 & 2.35 & 1.41 & T－780 & PLT－790 & \(20 / 20 / 40\) & \(475 / 3010 / 2.5\) & \(13 \times 2\) & 3.10 & 1.86 \\
    \hline T． 335 & PLT．7575 & \(\because 0-1.5 \% 0\) & 2．50－2．30 & \(x\) & 2.35 & 1.41 & T－782 & PLT－791 & 411510 & \(47.5810-3010\) &  & 4.80 & 2.88 \\
    \hline T．340 & PLT． 758 & \(30-30 / 20\) & 2510－2510 2 & \(1 \times 21 / 2\) & 2.80 & 1.68 & T－785 & PLT－792 & 40／40／25 & 475／400／50 & \(1{ }^{2 / 4} \times 3\) & 4.30 & 2.58 \\
    \hline T－345 & PLT－7585 & －1100 &  & \(18 \times 3\) & 3.90 & 2.34 & T－790 & PLT－793 & 40／20－20 & \(47.450-150\) & & 4.50
    4.80 & 2.70
    2.88 \\
    \hline T－350 & PLT－7587 & 111－2010 & 2．0．25\％1．0n & \(13 \mathrm{4} \times 2\) & 2.75 & 1.65 & T－790 & PLT－7945 & 4040100 & 500／25050 & \(1{ }^{1} \times 3\) & 4.30 & 2.58 \\
    \hline T． 355 & PLT－7588 & （10－40／10 & 250－250／204 & \(1{ }^{1} \times 3\) & 2.10 & 1.86 & T． 805 & PLT－795 & 201 & －00／300 & \(13 \times 2\) & 3.10 & 1.86 \\
    \hline T． 360 & PLT． 759 & \(811-80 / 611\) & 250－250／200 & \(13 \times 311 / 2\) & 4.50 & 2.70 & T－810 & PLT－7955 & 10－10／100 & 5110－500／50 & \(1 \times\) & 2.85 & 1.71 \\
    \hline T． 365 & PLT． 7593 & 31120 & 250 \％301 25 & \(1 \times 3\) & 2.80 & 1.68 & T－815 & PLT－796 & \(30-10 / 20\) & \(500-500 / 50\) & \(13 / 4 \times 21 / 2\) & 3.10 & 1.86 \\
    \hline T－370 & PLT－7595 &  & 300 1．al／ & \(13 \times 3\) & 4.20 & 2.52 & T－820 & PLT－7965 & 11010 & 500－500 35 & & & 1.50 \\
    \hline T－375 & PLT－7597 & 100／60－20 & \(30085010 \pm 60\) & \(138 \times 31 / 2\) & 4.90 & 2.94 & Q． 00 & PLQ－797 & \(40 \cdot 40 \cdot 20-10\) & 310 & 1 & 4.55 & 2.73 \\
    \hline T－378 & PLT－761 & 111－10＇11 & ：000．3010， 5 & \(1 \times\) & 2.40 & 1.44 & Q－610 & PLQ－3540 & 40－10－10－40 & 3.511 & \％\(\times 3\) & 5.55 & 3.33 \\
    \hline T． 380 & PLT－762 & 20－20／20 & \(: 300-: 001 / 2.5\) & \(1 \times 21 / 2\) & 2.75 & 1.65 & Q－015 & PLQ－7981 & 30－30－20－20 & 400 & \(13 \times 31 / 2\) & 4.85 & 2.91 \\
    \hline T． 385 & PLT－763 & 16－1．7 20 & \(300-8.1011 / 2.5\) & \(1 \times 3\) & 2.95 & 1.77 & Q－017 & PLQ－7982 & 50．111－30－200 & 1111 & 1.41 & 5.50 & 3.30 \\
    \hline T． 390 & PLT－7631 & 10－\％ 20 & \(300-: 801 / 2\). & \(1 x^{1} \times 2\) & 3.10 & 1.86 & Q． 020 & PLQ－7983 & \(80-10-10-10\) & 400 & \(1{ }^{3 \prime} 3^{3} \times 3\) & 4.70 & 2.82 \\
    \hline T－395 & PLT． 7632 & 30－30／ロ－ & 300－3011／50 & \(1 \times 3\) & 2.90 & 1.74 & Q． 025 & PLQ－7984 & 80－25－10－10 & 400 & \(15 \times 1\) & 5.25 & 3.15 \\
    \hline T－397 & PLT－7034 & \(210-210 / 10\) & \(300-: 310 / 100\) & 13,1 & 4.90 & 2.94 & O－030 & PLQ－4510 & 10－10－10－10 & 450 & \(18 \times 2\) & 3.35
    3.70 & 2.22 \\
    \hline T－400 & PLT－7635 & 10．10／1 & 300－300 250 & \(1 \times 2\) & 2.45 & 1.47 & Q． 040 & PLQ－4520 & \(\pm 0-20-20-20\) & 1511 & 13 & 4.70 & 2.82 \\
    \hline T－405 & PLT－7633 & 21100100 & 3511／11150 & \(138 \times 3\) & 3.45 & 2.07 & Q－045 & PLQ－799 & （10）－15－1：－15 & 15.10 & \({ }^{*}\) & 4.45 & 2.67 \\
    \hline T．410 & PLT－7636 & 111：50／100 & \(350 / 100 / 75\) & \(1 \times 3\) & 3.05 & 1.83 & Q． 050 & PLQ－800 & ：40－：0－15－10 & \(1: 00\) & \(1^{36} \times 3 \times 3\) & 4.70 & 2.82 \\
    \hline T－415 & PLT． 7638 & 10／50／1010 & 350／1511／50 & \(1 \times 3 \frac{1}{2}\) & 2.85 & 1.71 & a． 055 & PLQ－8002 & 40．10－70．10 & 4.0 & 13 & 4.15 & 2.49
    2 \\
    \hline T－417 & PLT－76382 & \(1: 57100\) & \(350 / 201175\) & \(1 \because, ~ 8: 312\) & 5.30 & 3.18 & a．060 & PLQ－8004 & \(40-20-10-10\)
    \(40-40-40-40\) & 4 Cl & & 4.45
    6.45 & 3.87 \\
    \hline T－420 & PLT－76385 & \(20 \times 30-20\) & 38.80 2．11／25 & \(1 \times 3\) & 2.80 & 1.68 & a－065 & PLQ－8006 & 710－119－10－． & 4 4 & \(1: 3\) & 4.75 & 2.85 \\
    \hline T．425 & PLT－760 & ：0 \(20-111\) & 3502002510 & x： & 3.00 & 1.80 & Q． 070 & PLQ－4710 & 10－10－10－10 & 47. & \(13 \times 5\) & 3.50 & 2.10 \\
    \hline T． 430 & PLT－7639 & ： \(0 / 30 / 20\) & \(350 /: 60110 / 25\) & \(1 \times 3\) & 3.15 & 1.89 & Q－075 & PLQ－801 & 40－30－10－10 & 175 & 1 会 x & 5.10 & \\
    \hline T－435 & PLT－7605 & \(\pm 010110\) & 25：11／300／151 & \(1 \times 31 / 2\) & 3.15 & 1.89 & Q－080 & PLQ－8012 & 10．40＇ &  & \(\times \mathrm{x}\) & 3.35 & ． 0 \\
    \hline T－440 & PLT－704 & 10／20／10 & ：50 310 200 & \(1^{3} \times x=\) & 3.30 & 1.98 & & & 1010－0\％． &  & & & \\
    \hline T－445 & PLT－7645 & \(30 \% 00\) & 880 & \(1 \times 3\) & 3.30 & 1.98 & Q－085 & Q－80 & \[
    \because 0 / 201
    \] & \[
    15010
    \] & \(3 \times 2\) & ． 10 & 1.86 \\
    \hline T． 450 & PLT． 765 & 11－10／20 & \(350-350 / 25\) & \(\times 2\) & 2.25 & 1.35 & Q－090 & PLQ－8015 & （10）． 10 & 150－1：50－ & & & \\
    \hline T． 455 & PLT． 7655 & 10－15／20 & 350－：30／25 & x & 2.50 & 1.50 & & & 20 & 1：50／10 & 1783 & 3.50 & 2.1 \\
    \hline T－460 & PLT－766 & 15－1．5 \(\because 0\) & ：50－：50 & \(1 \times 21 / 2\) & 2.70 & 1.62 & Q． 095 & PLQ． 802 & 3n & 50－1： & & & \\
    \hline T－465 & PLT－7665 & \(211-10 / 20\) & \(350-3.518\) & \(\times 21 / 2\) & 2.55 & 1.53 & & & \(?\) & & & 3.10 & ． 8 \\
    \hline T． 470 & PLT－7671 & 20－20／20 & 3\％0－3．30 2\％ & \(1 \times 21 / 2\) & 2.80 & 1.68 & Q－ 100 & PLQ－803 & & & & & \\
    \hline T． 475 & PLT－7672 & 30－10／20 & 350－350／25 & 121／2 & 2.85 & 1.71 & & & \(31 / 2\) & － & 13／82 & 3.10 & 1.86 \\
    \hline T－480 & PLT． 767 & \(30-20 / 20\) & \(350 \cdot 350 / 25\) & 1－x． & 3.10 & 1.86 & Q－105 & PLQ－8035 & 10 & 1：50－1：0 & & & \\
    \hline T－485 & PLT． 7674 & \(30-3020\) & \(350-3.502 .5\) & \(1 \cdots \times 2{ }^{1}\) & 3.40 & 2.04 & & & 10．－ & & & 3.1 & ． 8 \\
    \hline T－490 & PLT－76745 & \(111 \cdot 40.50\) & 350－3：50／2． & \(13_{5} \times 21 / 2\) & 3.75 & 2.25 & Q－110 & Q． 804 & 10. & \％－ & & & \\
    \hline T－495 & PLT－7675 & 10－5／150 & 350－350／50 & 1 x ： & 2.70 & 1.62 & & & 10／100 & & 12x2 & ． 3 & 2.0 \\
    \hline T． 500 & PLT． 76755 & 111－20／10 & 3\％n－350／100 & \(178 \times\) & 2.85 & 1.71 & Q－115 & PLQ－805 & 50－．50－ & 150－15 & & & \\
    \hline T．505 & PLT． 7677 & 20－10／5 & 350－350\％ 250 & 8 \(21 / 2\) & 2.55 & 1.53 & & & \(50 / 20\) & 150 & \({ }^{\times} \times 2\) & 3.55 & 2.13 \\
    \hline
    \end{tabular}

    \title{
    SANGAMO CAPACITORS
    }

    Type PL Electrolytic Capacitors（Cont＇d．）
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Stock No． & \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Capacity mfd． & Working Volts D．C． & Dia. Sizen. & \begin{tabular}{l}
    List \\
    Price
    \end{tabular} & \begin{tabular}{l}
    Resale \\
    et Price
    \end{tabular} \\
    \hline Q－120 & PLQ－8050 & 80－10－10／40 & 150－150－150／25 & \(\times 3\) & 3.60 & \＄2．16 \\
    \hline Q－125 & PLQ－80502 & 80－40－40／100 & 150－150－150 & \(13 \times 21 / 2\) & 3.75 & 2.25 \\
    \hline a． 130 & PLQ－8011 & 150－150／20 100 & 150－150／300／50 & \(1318 \times 31 / 2\) & 5.30 & 3.18 \\
    \hline Q－135 & PLO－8051 & 40－20－10／20 & 200－200－200 & \(1^{13} 3^{3} x\) & 3.20 & 1.92
    3.99 \\
    \hline a．140 & PLQ－8052 & 100－411－10／100 &  & \(\times\) & 5.10 & 3.06 \\
    \hline Q－145 & PLQ－8054 & \(80.60-10-20\)
    \(100 / 40 / 80-20\) & 250－20／50／25－2．00 &  & 4.55 & 2.73 \\
    \hline Q－150
    0.152 & PLQ－8055 & 100000－140－30 & \(300 / 150-150-150\) & 1 & 5.10 & 3.06 \\
    \hline Q－155 & PLQ－8057 & 120／20／20／100 & ：011 20005 & \(1{ }^{3} 4\) & 5.05 & 3.03 \\
    \hline Q－160 & PLQ－8059 & 200／20／20／100 & 300 250 2：5／31 & \(13 \times 5\) & 5.45 & 3.27 \\
    \hline Q－162 & PLQ－80593 & 100－10 200－30 & 300－300 150－150 & \(1^{3}, \times 1\) & 5.90 & ． 54 \\
    \hline Q－163 & PLQ－80595 & 100－111200／30 & 300－：300 200＇1．70 & \(13 \times 5\) & 5.90 & ． 54 \\
    \hline Q－165 & PLQ－806 & 10－10－10／20 & 300－300－300／23 & \(13 / 8 \times 2\) & 2.95 & ， \\
    \hline Q－170 & PLQ－808 & 60－40－20／50 & 300－300－300／25 & \(18 / 8 \times 31 / 2\) & 4.70 & 2.82 \\
    \hline Q－175 & PLQ－8085 & 40－40－40／20 & 310－300－300／150 & 1 \％\({ }^{\text {8 }} 3\) & 4.90 & 2.94 \\
    \hline Q． 180 & PLQ－809 & 15／80－40／200 & 350／200－200／27 & \(13 / 5 \times 3\) & 4.50 & 2.70 \\
    \hline Q－185 & PLQ． 810 & 40／40－20／20 & \(350300-300 / 25\) & \(13 \times 3\) & 4.50 & 2.70 \\
    \hline Q－186 & PLQ．8101 & 60－4／110－10 & \(350-35020-2.7\) & \(1^{3 / 4} \times 21 / 2\) & 3.80 & 2.28 \\
    \hline Q． 187 & PLQ－8102 & \(80-20 / 20 / 100\) &  & \(13 *\) & 4.65 & 2.79 \\
    \hline 188 & PLQ－8103 & 60－11／10／20 & \(3: 00-1.50 / 210 / 150\) & \(1^{3 / 8} \times 3^{1 / 2}\) & 5.05 & 3.03 \\
    \hline Q－190 & PLQ－8105 & 30－30／15／20 & 350－350／300 2．7 & \(13 / 83\) & 4.15 & 2.49 \\
    \hline 5 & PLQ．811 & 10－10／10－10 & 350－350／300－：300 & \(13 / 8 \times 2\) & 3.10 & ． 86 \\
    \hline 0 & PLQ 8113 & 20－10－． 10 & 3．41－3．50－3．50 25 & \(1^{33_{3}^{3}} \times\) & 3.10 & 1.86 \\
    \hline 5 & PLQ．8115 & 20－10－3／20 & 3．50－：50－3．10 2． & \(1{ }^{3 / 3 \times 2}\) & 3.10 & 1.86 \\
    \hline Q－210 & PLQ－8116 & 40－20－20 25 & 350－3．50－3．50 2.5 & \(1^{3} 8 \times 21 / 2\) & 4.25 & 2.55 \\
    \hline Q－215 & PLQ－8117 & 40－40－40／40 & 350－：350－350／25 & \(13^{3} \times 131 / 2\) & 5.20 & 3.12 \\
    \hline Q－220 & PLQ－8119 & 40－40－40／150 & 350－350－350／50 & 1 \％\({ }^{\text {\％}} 4\) & 5.70 & 3.42 \\
    \hline Q－221 & PLQ－81191 & 60－25－25／100 & －350－：3：50 & 1 －\(x\) ： & 5.15 & 3.09 \\
    \hline Q－221．5 & PLQ－81191．5 & \(5100-411-30 / 50\) & \(550-350-350 / 50\) & 1 用 x & 5.90 & 3.54 \\
    \hline Q－222 & PLQ－81192 & （4）\(-30-5 / 100\) & 3．50－3．90－3．30／7． & \(13_{8} \times 3\) & 5.70 & 3.42 \\
    \hline O－223 & PLQ－81193 & 10／10－10／10 & 1011／200－200／50 & 134 x 2 & 3.20 & 1.92 \\
    \hline Q． 224 & PLQ－81194 & 10／1011／10／100 & 1110 ： 510075 & \(1^{134} \times 3\) & 4.70 & 2.82 \\
    \hline Q－225 & PLQ－8il95 & 80／40－20－10 & 100／300－300－300 & \(13 / 8 \times 4\) & 5.55 & 33 \\
    \hline 0 & PLQ－81197 & 20／40／100－10 & \(4110 / 350 / 50-511\) & 1\％\(\times 3\) & 4.20 & 2.52 \\
    \hline Q－235 & PLQ－812 & 40／10／80－10 & \(4100 / 350 / 250-2.50\) & 13 泿 \(\times 1 / 2\) & 4.65 & 2.79 \\
    \hline 3 & PLQ－8123 & 80／40－10／10 & 1610 ：350－：5， \(0^{10}\) & \(13, \times 31 / 2\) & 5.30 & 3.18 \\
    \hline 0 & PLQ－8125 & 10－10／25－25 & 400－400／25－2．7 & 138 \(\times\) 2 & 2.80 & 8 \\
    \hline 45 & PLQ－8127 & 40－10／80－10 & 100－400／250－2．50 & \(13^{3} \times 31 / 2\) & 4.70 & 2.82 \\
    \hline Q－250 & PLQ－814 & 20－20－20／20 & 400－400－400／25 & \(1^{1 / 6} \times 21 / 2\) & 3.85 & 2.31 \\
    \hline Q－251 & PLQ－8141 & 80－10－30／40 & 1160－1110－111195 & \(13^{3} \times 1\) & 5.95 & 3.57 \\
    \hline Q－253 & PLQ－8143 & 10／80－50／100 & 151 200－2018 510 & \(13, x: 3\) & 4.25 & 2.55 \\
    \hline Q－255 & PLQ－8145 & 20／80－20／50 & \(450 / 200-200 / 50\) & \(13 / 3 \times 3\) & 4.15 & 2.49 \\
    \hline Q－260 & PLa－8147 & 40／40－40／20 & 450／2．50－250／25 & \(13_{8} \times 3\) & 4.55 & 2.73 \\
    \hline Q－265 & PLa－8149 & 10／10／60／100 & 4.50300200 510 & \(13^{3} \times 2{ }^{2} /{ }^{2}\) & 3.80 & 2.28 \\
    \hline Q－270 & PLQ－815 & 20／15－15／20 & 8．50／35．50－350／2． & \(13 / 8 \times 2\) & 3.80 & 2.28 \\
    \hline 5 & PLQ－8152 & \(110 / 60-10 / 2 \mathrm{i}\) & \(450 / 350 \cdot 350 / 25\) & \(13 / 8 \times 31 / 2\) & ． 60 & ． 76 \\
    \hline 0 & PLQ－8154 & 10／100－10／20 & \(4.50 / 350-350 / 25\) & \(13 \times 31 / 2\) & 5.25 & 3.15 \\
    \hline Q－282 & PLQ－8155 & \(20 \times 0-50 / 100\) & 450／350－：515150 & \(1{ }^{1} \times\) & 6.00 & 3.60 \\
    \hline Q－285 & PLQ－8156 & \(30 / 40-40 / 10\) & 450／350－350／200 & \(13 \mathrm{~s} \times 31 / 2\) & 5.15 & 3.09 \\
    \hline 90 & PLQ－8158 & \(80 / 10 / 3040\) & 450／400／3110／150 & \(1{ }^{3} \times 1\) & 5.25 & 3.15 \\
    \hline Q－295 & PLQ－8159 & 10－10 \(20-20\) & \(450-450 / 25-25\) & \(138 \times\) & 2.95 & 1.77 \\
    \hline 0 & PLQ－816 & 20－15／20－20 & \(4.50-450 / 25-25\) & 1\％82 & 3.45 & 2.07 \\
    \hline Q－305 & PLQ－817 & 20－20／20－20 & 450－450／25－25 & 13／8 \(\times\) & 3.60 & 2.16 \\
    \hline Q－307 & PLQ－8172 & \(3.7-25 / 20 / 100\) & \(150-500000\) & \(13 \times 3\) & 4.65 & 2.79 \\
    \hline Q－310 & PLQ－8175 & 40－40／10／50 & \(450-450 / 300 / 50\) & \(13 \times 3\) & 4.75 & 2.85 \\
    \hline Q－315 & PLQ－818 & 20－20／30－30 & 4：00－450／300－3110 & \(13_{9} \times 3\) & 4.50 & 2.70 \\
    \hline Q－320 & PLQ－819 & 40－10／35－10 & 150－4．50／3．50－3．50 & \(13_{8} \times 31 / 2\) & 4.60 & 2.76 \\
    \hline Q－325 & PLQ－8195 & \(40 \cdot 40 / 30 \cdot 30\) & 450－450／350－350 & \(1{ }^{3 / 3} \times 4\) & 5.90 & 3.54 \\
    \hline Q－330 & PLQ－820 & 10－10－10／20 & \(450-450-450 / 25\) & 13 3 \({ }^{3}\) & 3.15 & 89 \\
    \hline Q－335 & PLQ－8 202 & 20－10－10／100 & 450－450－4．70／2． & \(138 \times 21 / 2\) & 3.70 & 2.22 \\
    \hline －． 340 & PLQ－8205 & 20－20－20／20 & 450－450－450／2． & \(138 \times 21 / 2\) & 4.15 & 2.49 \\
    \hline Q－345 & PLQ－82055 & \(30-20-20 / 20\) & \(450-150-450 / 25\) & \(13 / 8 \times 3\) & 4.40 & 2.64 \\
    \hline Q－350 & PLQ－82057 & 30－30－10 20 & 450－450－4．50 2.5 & \(13 / 8 \times 3\) & 4.35 & 2.61 \\
    \hline Q－355 & PLQ－8206 & \(30-30-20 / 20\) & \(4.50-4.50-4.50 / 25\) & \(13 / 9 \times 3\) & 4.65 & 2.79 \\
    \hline Q－360 & PLQ－8207 & 40－10－10／250 & \(450-450-450 / 45\) & \(13 / 4 \times 3\) & 4.25 & 2.55 \\
    \hline Q－365 & PLQ－82075 & 40－15－10／20 & 450－450－450／25 & \(13 / 8 \times 3\) & 4.10 & 2.46 \\
    \hline Q－370 & PLQ－8208 & 40－20－20－20 & \(450-450-450 / 25\) & 13／3 \(\times 3\) & 4.60 & 2.76 \\
    \hline Q－375 & PLQ－8209 & 40－20－20／40 & \(450-4.50-4.50 / 2.5\) & \(13 / 8 \mathrm{x}\) & 4.65 & 2.79 \\
    \hline Q－380 & PLQ－821 & 40－30－10／20 & 4．50－450－450／25 & 1383 & 4.50 & 2.70 \\
    \hline Q－385 & PLQ－8215 & 40－40－10／20 & \(450-450-450 / 25\) & \(13 \times 3\) & 4.70 & 2.82 \\
    \hline Q－390 & PLQ－8216 & 40－41－40／40 & \(450-450-450 / 25\) & \(13 / 8 \times 4\) & 5.50 & 3.30 \\
    \hline Q－395 & PLQ－8217 & \(20 \cdot 20 \cdot 20 / 100\) & 450－450－450／50 & \(13 / 8 \times 3\) & 4.55 & 2.73 \\
    \hline Q－400 & PLQ－822 & \(30 \cdot 30 \cdot 1.5 / 30\) & 450－450－4．50／50 & \(13 \times 3\) & 4.15 & 2.49 \\
    \hline Q－405 & PLQ－8225 & 40－20－10／100 & \(450-450-450 / 50\) & 13／8 \(\times 31 / 2\) & 4.65 & 2.79 \\
    \hline Q－410 & PLQ－8226 & 40－40－10／25 & 450－4．50－450 50 & \(13 \times 3 \times 1 / 2\) & 4.70 & 2.82 \\
    \hline Q－415 & PLQ－8227 & 40－40－10／100 & \(450-450-450 / 100\) & \(13 / 3 \times 4\) & 5.35 & 3.21 \\
    \hline Q－420 & PLQ－823 & 10－10－10／10 & \(450-450-450 / 150\) & \(13 / 8 \times 2\) & 3.15 & 1.89 \\
    \hline Q． 425 & PLQ－8235 & 20－10－10／10 & 450－450－450／1．50 & \(13 / 8 \times 3\) & 3.50 & 2.10 \\
    \hline Q． 430 & PLQ－824 & 60－10－10／20 & 450－450－450／150 & \(1{ }^{3 / 8} \times 3\) & 4.60 & 2.76 \\
    \hline Q． 432 & PLQ－824－5 & 35－35－10／10 & 15．0）－1．51－450／200 & \(1 \mathrm{~s} \times\) ： & 4.60 & 2.76 \\
    \hline Q－435 & PLQ－8240 & 40／40／50／80 & 475－2．50／150／50 & 13／8 \(\times 31 / 2\) & 5.05 & 3.03 \\
    \hline Q． 440 & PLQ－8241 & 20／40／100／80 & 475／300／50／25 & 1 年× 3 & 4.50 & 2.70 \\
    \hline Q－442 & PLQ－82415 & 10／40／100／10 & \(475 / 400 / 50 / 2.5\) & 13／8×21／2 & 4.00 & 2.40 \\
    \hline 5 & PLQ－8242 & 10／10／80／50 & 475／450／200／60 & 1\％ 1 3 & 3.85 & 2.31 \\
    \hline Q－450 & PLQ－8243 & 25／20／20／100 & 475／450／300／50 & \(13 / 8 \times 3\) & 4.60 & 2.76 \\
    \hline Q－455 & PLQ－8244 & 25／20／40／100 & 475／450／300／50 & 13／8 3 3／4 & 4.95 & 2.97 \\
    \hline Q． 460 & PLQ－8246 & 10／60／30／125 & \(475 / 450 / 400 / 50\) & 1 \％ 14 & 5.45 & 3.27 \\
    \hline Q． 465 & PLQ－8247 & 15－15／80／40 & 475－475／300／50 & 1\％ 7 I 3 & 4.80 & 2.88 \\
    \hline Q－467 & PLQ－8248 & 40－10／4／40 & 475－475／3．10／300 & 1 咱 \(\times 3\) & 4.95 & 2.97 \\
    \hline Q－470 & PLQ－8249 & 10－5／80／40 & 475－475／450／50 & 1\％\(\%\) 3 4 & 4.95 & 2.97 \\
    \hline Q． 475 & PLQ－8250 & 30－30－10／20 & 475－475－475／25 & 1\％ 3 & 4.55 & 2.73 \\
    \hline Q－480 & PLa－825 & 40－20－10／10 & 475－475－475／25 & 1 嘒 53 & 4.85 & 2.91 \\
    \hline Q－485 & PLQ－826 & 20－20－10／10 & 475－475－475／300 & 1 \％ 5 2 \(/ 2\) & 4.30 & 2.58 \\
    \hline
    \end{tabular}

    NOTE：Maximum operating temperature of \(47 . \mathrm{J}\) and 500 volt units is \(65^{\circ} \mathrm{C}\) ．
    NOTE：Fach unit is supplied with a bakelite and a metal mount－ lng plate．Additional hardware avallahle at extra cost． NOTE：Packaming：Individual display cartom．

    CARDBOARD INSULATING TUBES
    \begin{tabular}{|c|c|c|c|}
    \hline \multicolumn{2}{|l|}{Catalog} & List & Resale \\
    \hline Number & Description & Price & Net Price \\
    \hline KCT－1 & For \(1^{\prime \prime} \times y^{\prime \prime}\) can & \＄0．06 & \＄0．03 \\
    \hline KCT－2 & Four \(1^{\prime \prime} \times 21 / 2{ }^{\prime \prime}\) can & ． 06 & ． 03 \\
    \hline KCT－3 & Fors \(1^{\prime \prime} \times 3^{\prime \prime}\) can & ． 06 & ． 03 \\
    \hline KCT－4 & Forr \(1^{\prime \prime} \mathrm{x} \mathrm{l}^{\prime \prime}\) can & ． 06 & ． 03 \\
    \hline KCT－5 & For \(14 / 80 \times 2 \times\) can & ． 06 & ． 03 \\
    \hline KCT－6 & For \(13 / 8{ }^{\prime \prime} \times 21 / 2^{\prime \prime}\) can & ． 06 & ． 03 \\
    \hline KCT－7 & Fror 1 攵＂ \(\mathrm{x}^{\prime}\) ： \(3^{\prime \prime}\) can & ． 06 & ． 03 \\
    \hline KCT－8 & For \(133^{\prime \prime} \times 3\) 发＂can & ． 06 & ． 03 \\
    \hline KCT－9 & Fiur \(13_{s \prime \prime}{ }^{\text {x }} 4^{\prime \prime}\) can & ． 06 & ． 03 \\
    \hline
    \end{tabular}

    \section*{ELECTROLYTIC CAPACITORS \\  \\ TYPE BTE \\ }

    The SANGAMO Type BTE electrolytic capacitor is ideally suited for filter and bypass circuits in marine， aircraft，geophysical and many other applications． The Type BTE cartridges are first sealed in aluminum lubes and then encased in sturdy－corrosion－resistant， hot tinned steel cases providing a complete hermetic seal under extremes of weather conditions．All units are equipped with glass－to－metal sealed terminals． Mounting flanges with \(3 / 16^{\prime \prime}\) holes are provided at each end．
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{3}{*}{Catalog} & \multicolumn{5}{|c|}{Working} & \multirow[b]{2}{*}{List} & \multirow[b]{2}{*}{Resalo} \\
    \hline & Capacity & Volts & \multicolumn{3}{|l|}{－Size－} & & \\
    \hline & mid． & D．C． & W & L & H & Prico & Net Price \\
    \hline BTE－0225 & 2.7 & 25 & 1 & 118 & 䦽 & \＄4．50 & \＄2．70 \\
    \hline BTE－0250 & 50 & 25 & 1 & \(1 \frac{18}{28}\) & 28 & 4.60 & 2.76 \\
    \hline BTE－0275 & 75 & 25 & 1 & 128 & 3 & 4.65 & 2.79 \\
    \hline BTE．0525 & 25 & 50 & 1 & 1 1478 & 18 & 4.55 & 2.73 \\
    \hline BTE－0550 & 50 & 50 & 1 & 118 & 18 & 4.70 & 2.82 \\
    \hline BTE－1510 & 10 & 150 & 1 & \(1 \frac{18}{18}\) & 18 & 4.65 & 2.79 \\
    \hline BTE－1520 & 20 & 150 & 1 & 118 & 18 & 4.70 & 2.82 \\
    \hline BTE－2510 & 10 & 250 & 1 & \(1 \frac{1}{2}\) & 18 & 4.50 & 2.70 \\
    \hline BTE－2512 & 12 & 250 & 1 & 112 & \(\frac{18}{28}\) & 4.65 & 2.79 \\
    \hline BTE－3508 & 8 & 350 & 1 & 128 & 3 \({ }^{4}\) & 4.75 & 2.85 \\
    \hline BTE－4504 & 4 & 450 & 1 & 118 & 18 & 5.50 & 3.30 \\
    \hline
    \end{tabular}

    Designed and fabricated to conform to all phssical and per－ formance requirements of the CF663 style capactior of Joint Armed Services Specification JAN－C－62．
    Stmilar design in case atyles CE61，CE62．and CE64 may be furnished upon request．

    \title{
    SANGAMO CAPACITORS
    }

    \section*{ELECTROLYTIC CAPACITORS}

    \section*{TYPE CS}
    

    \section*{}

    The SANGAMO Type CS
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog Number & Capacity mid． & Wrarking Volls D．C． & Dia. Len. \\
    \hline CSS－1520 & 20－20 & 1：50 & 1 \(21 / 2\) \\
    \hline CSS－4508 & 8 8 & 4 ：0 & \(1 \times 81 / 4\) \\
    \hline CSS．4516 & 1ti－16 & 1．3） & \(11 / 3 \times 31 / 8\) \\
    \hline
    \end{tabular}
    \begin{tabular}{cc} 
    Nit & Resale \\
    Pricr & Nct Price \\
    \(\$ 2.05\) & \(\$ 1.23\) \\
    2.15 & 1.29 \\
    2.80 & 1.68
    \end{tabular}
    ＂Tomahawk＂electrolytic ca－ pacitors are contained in wax－filled cardboard tubes with insulated leads ap－ proximately 8 inches in length extending from both ends of the unit．Capacity，voltage and polarity of each section is clearly indicated by color of the lead wires；coding information necessary to identify the in－ dividual sections is clearly stamped on the tube．Each unit is supplied with a mounting strap to facilitate mounting to the chassis．

    Dual Common Negative Units
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & Canacity mfd． & \[
    \begin{aligned}
    & \text { Working } \\
    & \text { Volts D.C. }
    \end{aligned}
    \] & \[
    \overline{\text { Dia. Len. }}
    \] & Net Price & Resale Net Price \\
    \hline CSO．0210 & 10．14） & \(\because 5\) & ＂x \(\times 2\)＂ & \＄1．40 & \＄0．84 \\
    \hline CSD－0510 & 11－10 & \(\therefore 0\) &  & 1.40 & ． 84 \\
    \hline CSD－1508 & 8． 8 & 1．， &  & 1.50 & ． 90 \\
    \hline CSD．1516 & 16i－1／i & 1：14 & \(3 \times 21 / 2\) & 1.80 & 1.08 \\
    \hline CSD． 1520 & 20－20 & 1.11 & ＊\(\times 21 / 2\) & 1.65 & ． 99 \\
    \hline CSD－500 & ：01－20 & 1 in & 恸 \(\times 23\) & 1.70 & 1.02 \\
    \hline CSD． 1530 & 30－30 & 151 & 58 \(\times 21 / 2\) & 1.80 & 1.08 \\
    \hline CSD－505 & 411－20 & 1.01 & \(1 \times 21 / 2\) & 1.75 & 1.05 \\
    \hline CSD．506 & （1）－311 & \(1: 11\) & \(1 \times 2\) 12 & 1.80 & 1.08 \\
    \hline CSD－1540 & 1110 & 1：11 & \(1 \times{ }^{1}{ }_{2}\) & 1.85 & 1.11 \\
    \hline CSD－512 & ，11）－：30 & \(1: 11\) & \(1 \times 212\) & 1.95 & 1.17 \\
    \hline CSD－1550 & at in & 1.31 & 1 － 3 & 2.10 & 1.26 \\
    \hline CSD．2516 & \(16 i=11 i\) & 2.9 & \(1 \times 21 / 2\) & 1.75 & 1.05 \\
    \hline CSD．4508 & s． 8 & 1：11 & \(1 \times 21 / 2\) & 1.70 & 1.02 \\
    \hline CSD－522 & s 110 & 4：11） & \(1 \times 2\) \％ & 2.00 & 1.20 \\
    \hline CSD－4520 & 20－20 & 4.60 & \(1 \times\) ut & 2.50 & 1.50 \\
    \hline
    \end{tabular} wax－filled cardboard tubes
    C
    N,
    CS T
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & Canacity mid． & Working valts D．C． & \[
    \overline{\text { Dia. Len. }}
    \] & Net Price & Resale Net Price \\
    \hline CST． 1520 & \(20.20-20\) & 1：0 & \(\times 27\) & \＄2．20 & \＄1．32 \\
    \hline CST． 523 & 10－20－20 & 1.0 & x 28 & 2.25 & 1.35 \\
    \hline CST－524 & 111－30－20 & 1.80 & v \(27 / 8\) & 2.35 & 1.41 \\
    \hline CST． 1540 & 10140－40 & 1.81 & \(\times 31 / 8\) & 2.45 & 1.47 \\
    \hline CST－526 & こ11－20－20 & 1．in 150－2．5 & x \(21 / 2\) & 2.05 & 1.23 \\
    \hline CST－527 & （1）－20－20 & 1．00 150－2．5 & ＞ 27 & 2.15 & 1.29 \\
    \hline CST－528 & （1） 3020 & 150－150－25 & \(1 \times 27\) & 2.20 & 1.32 \\
    \hline CST． 532 & \(5.11-30-20\) & 1511－150－2．5 & \(1 \times 27 / 8\) & 2.35 & 1.41 \\
    \hline CST． 533 & \(\therefore 0-: 30-100\) & 1．50－150－25 & \(1 \times 33\) & 2.55 & 1.53 \\
    \hline CST－534 & \(\therefore 11-40-20\) & 1．50－1．50－2．5 & \(1 \times 38\) & 2.60 & 1.56 \\
    \hline CST－535 & 12－12－20 & 4．70－450－25 & \(1 \times 2\) 汭 & 2.30 & 1.38 \\
    \hline CST－537 & 20－20－20 & 4－10－450－25 & \(13 / 4 \times 318\) & 2.90 & 1.74 \\
    \hline
    \end{tabular}

    NOTE：l＇achagiug： 10,25 ，or 50 per display curtum．

    COLOR CODE OF WIRE LEADS FOR TYPES FM，CS，AND SL CAPACITORS
    Black．．
    Orange．
    Red．．．
    Blue．．
    Yellow．
    Brown．
    NOTE：


    NOTE：

    Common negative Positive，highest voltage or capacity Positive，Hext highest voltage or capacily Positive，next highest voltage of capacity Positive，next highest voltage or capacity Negative，in separate sreticn unit ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．ive，on separate sretion unit re iwo or more sections of ditherent poltages and the same caparity． he lead color will tesignate the voltage；whin the same wollafes and bere are tho sections with equal capacithes and voltares the two bead Mises will be in the same color

    \section*{TYPE EM（MOTOR STARTING）}

    220 Volts A．C．
    

    The SANGAMO Type EM electrolytic capacitor is a standard universal replacement for all motor starter types presently in use，and its dimensions are comparable in every respect．The Type EML is provided with solder lug terminals，the Type EMS being equipped with screw types；otherwise the two units are dentical in construction and operational characteristics．Insu． lating tubes are supplied with both types．
    \[
    110 \text { Volts A.C. }
    \]
    
    

    110 Volts A．C．
    

    EMS Catalog EMS－2220 MS－2226 EMS－2232 EMS． 2243
    EMS． 2253 EMS－225 NOTE：For insulating tube dimensions add \(\frac{1}{20}\) to the can diameter ond Note：Parkaging：Individual display carton．

    \title{
    SANGAMO CAPACITORS
    }

    \section*{TYPE SL}
    wet electrolytics，the Designed primarily as replacements for Type SL electrolytic capacitors are assem－ bled in round aluminum cans with threaded necks providing easy mounting to a chassis with the aid of a palnut which is supplied．The Type SL is completely insulated from the container，the negative connection being made to one of the insulated leads extending through the threaded neck of the can．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{Single Section} \\
    \hline Catalog Number & Capatity mfd． & \begin{tabular}{l}
    Wkg． \\
    Volts D．C．
    \end{tabular} & \[
    \overline{\text { Dia. Len. }}
    \] & List Prite & Resale Net Price \\
    \hline SL－2512 & \(1 \underline{ }\) & \(2 .: 11\) & x \(\because 1 / 2\) & \＄1．75 & \＄1．05 \\
    \hline SL． 2525 & \(\underline{1}\) & 2.91 & x \(31 / 2\) & 1.95 & 1.17 \\
    \hline SL－4508 & 8 & 4.51 & \(13 \times 81 / 2\) & 2.20 & 1.32 \\
    \hline SL－4512 & 12 & 4.50 &  & 2.40 & 1.44 \\
    \hline SL－4516 & 16 & 451 & \(13_{4} \mathbf{x}\) ¢ \({ }^{1 / 2}\) & 2.45 & 1.47 \\
    \hline SL－4520 & 20 & 1：il & \(13_{8} \times 11 / 1 / 2\) & 2.70 & 1.62 \\
    \hline SL－4530 & 310 & 4.10 & \(13_{4} \times\) x \(: 3 / 1 / 4\) & 3.00 & 1.80 \\
    \hline SL－+540 & 40 & 480 &  & 3.15 & 1.89 \\
    \hline \multicolumn{6}{|c|}{Common Negative Section} \\
    \hline Catalog Number & Capatity mfd． & \begin{tabular}{l}
    Wkg． \\
    Volts D．C．
    \end{tabular} & \[
    \overline{\text { Dia. Len. }}
    \] & List Price & \begin{tabular}{l}
    Resale \\
    Net Price
    \end{tabular} \\
    \hline SLD． 4508 & S－8 & 450 & \(13_{4} \times 1{ }^{\text {a }}\) & \＄3．00 & \＄1．80 \\
    \hline SLD－4516 & 16－16 & 4.0 & \(1{ }_{4} \times 3{ }^{1}\) & 3.55 & 2.13 \\
    \hline SLT－4508 & 8－8－8 & 480 & 1 \％\({ }^{\text {a }}\) ： & 5.00 & 3.00 \\
    \hline
    \end{tabular}

    High Voltage，Series Wound Sections
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & Capacity mfd． & \begin{tabular}{l}
    Wkg． \\
    Volts D．C．
    \end{tabular} & \[
    \overline{\text { Dia. Len. }}
    \] & List Price & Resale Net Price \\
    \hline SL． 6004 & 1 & 4601 & \(13 \times 131 / 2\) & \＄2．95 & \＄1．77 \\
    \hline SL． 6008 & \％ & 404 & \(1{ }^{124} \times 11\) & 3.15 & 1.89 \\
    \hline SL－6016 & 10 & 600 & \(1^{3} \times 1^{14}\) & 3.75 & 2.25 \\
    \hline
    \end{tabular}

    \section*{TYPE TS}
    

    Ideally suited for all applications where quick capacitor changes are required，the SAN－ GAMO Type TS units are equipped with a four－pin octal base mounting for use with standard octal base tube sockets．The special design of the bakelite octal base insures that the aluminum con－ tainer will not contact the mounting surface and the connections to the brass pin terminals are imbedded in this bakelite base．The base pins are nickel－plated to prevent corrosion and insure good contact with the socket terminals．
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{5}{|c|}{Single Section} \\
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Capatity mid． & \[
    \begin{gathered}
    \text { Wkg. } \\
    \text { volts Dic. Sia. Len. }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Prite }
    \end{aligned}
    \] & Resate Net Price \\
    \hline TS－1520 & 20 & \(150 \quad 1{ }^{3} \mathbf{4} \times 2.1 / 8\) & \＄3．95 & 2.37 \\
    \hline TS． 1540 & 40 & 150 & 4.10 & 2.46 \\
    \hline TS－4510 & & 4.00 （1） & 4.05 & \({ }_{2}^{2.43}\) \\
    \hline TS－4520 & 20 & 450 136 & 4.30 & \({ }_{2}^{2.78}\) \\
    \hline TS．4540 & 40 & 4.0010 & 4.55
    5 & 2.73
    3.33 \\
    \hline TS－4580 & 80 & \(450 \quad 138\) & & \\
    \hline \multicolumn{5}{|c|}{Dual Sections} \\
    \hline Catalog Number & Capacity mfd． & \[
    \begin{gathered}
    \text { Wkg.c. } \\
    \text { Ditsize Lize }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Resale Net Prite \\
    \hline TSO．1520 & \(20-20\) & \(150 \quad 13 \times 13\) & \＄4．20 & \＄2．52 \\
    \hline TSD－1540 & \(40-40\) & \(5{ }^{50} 510 \times 9\) & 4.40 & 2．64 \\
    \hline TSO．4510
    TSD．4520 & \(10-10\)
    20.20 &  & 4.40
    5.05 & 2.64
    3.03 \\
    \hline \multicolumn{5}{|c|}{Multiple Sections} \\
    \hline Catalog Number & Capacity mid． & \[
    \begin{gathered}
    \text { Wkg. } \\
    \text { Volts Dic. Sia. Len. }
    \end{gathered}
    \] & \[
    \begin{gathered}
    \text { List } \\
    \text { Prjlee }
    \end{gathered}
    \] & Resale Net Prite \\
    \hline TST－4510 & 10－10－10 & 450 134 \({ }^{3}\) & \＄5．10 & 3.06
    3.33 \\
    \hline TST．901 & \(20 \cdot 20 \cdot 20\) & 150－450－25 \(13 \% \times 21 / 2\) & 5.55 & 3.33 \\
    \hline \multicolumn{5}{|l|}{NOTE：Not normally carried in stock．Available on special order NOTE only．} \\
    \hline
    \end{tabular}

    \author{
    PAPER CAPACITORS
    }

    \section*{Telechié－}

    \author{
    PLASTIC MOLDED TUBULAR
    }
    

    The SANGAMO＂Telechief＂is molded in Sangamo HUMIDI－ TITE to provide more stable caparity values，unsurpassed mois－ ture resistance，exceltent seal choracteristics，and operation up － \(85^{\circ} \mathrm{C}\) ．temperature．Small in physical size，and rugged in onstruction，this rubular is especially adaptable to television， auto radio，small AC－DC set，and other uses．The leads are firmly imbedded in the hard plastic case and have been especially designed to resist breckage．The＂Telechief＂assures operating dependability under extremes of heat，humidity and physical stress．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalog Number & Capacity mfd． & Working Volts D．C． & Dia. Lizen. & \[
    \underset{\text { Prict }}{\text { List }}
    \] & Resale Nat Prite \\
    \hline 330221 & ． 1101 & 200 & in \(\mathbf{x} 1\) & 30.25 & \＄0．15 \\
    \hline 330225 & ． 00. & 204 & 趘 1 & ． 25 & ． 15 \\
    \hline 330211 & ． 01 & 2010 &  & ． 25 & ． 15 \\
    \hline 330212 & 02 & 2011 & 3.5118 & ． 25 & ．15 \\
    \hline 3302147 & .047 & 200 & \({ }^{2} 4 \times{ }^{1}\) & ． 30 & ． 18 \\
    \hline 330215 & .05 & 200 &  & ． 30 & ．18 \\
    \hline 330201 & ． 1 & 9011 & 1／2 \(\times 18\) & ． 35 & .21 \\
    \hline 3302015 & ． 1.5 & 200 &  & ． 40 & .24 \\
    \hline 3302022 & \(2 \pm\) & 200 & 10x & .45 & .27 \\
    \hline 3302025 & ．2．7 & 200 & \％天 & ． 60 & ． 36 \\
    \hline 3302047 & \({ }_{5}^{4}\) & 2011 & 新区 x & ． 60 & ． 36 \\
    \hline 330205
    330210 & 1.5 & 2004
    200 &  & ． 90 & ． 54 \\
    \hline 330210 & 1.0 & & & & \\
    \hline 330421 & 001 & ＋100 & 爱 1 & .25 & ．15 \\
    \hline 330425 & ． 00.5 & 4011 & 起 & ． 25 & ． 15 \\
    \hline 330411 & ． 01 & 400 & 38 & ． 25 & .15 \\
    \hline 330412 & ．0＊ & 4130 & 17x \(\times 1.0\) & ． 25 & ． 15 \\
    \hline 3304122 & ．02\％ & 4011 &  & ． 30 & ． 18 \\
    \hline 3304147 & ． 041 & 4180 & \％19131／2 & ． 30 & .18 \\
    \hline 330415 & －0．3 & 400 & \(1 / 2 \times 1412\) & ． 35 & ． 21 \\
    \hline 3304168 & ． 068 & 4110 &  & .35 & ． 21 \\
    \hline 330401 & ． 1. & 4110 & 趗边 & ． 35 & ． 21 \\
    \hline 330402 & \％ & 410 &  & －40 & ． 24 \\
    \hline 3304022 & 22 & 4010 & 5\％\({ }^{\text {\％}}\) & ． 40 & ． 27 \\
    \hline 3304025 & ．2． & 400 & \％x & ． 60 & ． 36 \\
    \hline 330405 & ． & 4011 &  & ． 90 & ． 54 \\
    \hline 330410 & 1.1 & 400 & 1 込 \(51 / 2\) & & \\
    \hline & & 600 & 䀎 11 & \＄0．25 & \＄0．15 \\
    \hline 330635
    330621 & ．1001 & 600 &  & ． 25 & ． 15 \\
    \hline 3306215 & ． 015 & 600 & 161 & ． 25 & ．15 \\
    \hline 330622 & 00？ & 600 & \({ }_{610} 1\) & ． 25 & ． 15 \\
    \hline 3306222 & ．0022 & 6011 & 淮 \({ }^{1}\) & .25 & －15 \\
    \hline 330623 & ．00： & 600 &  & ． 25 & ． 15 \\
    \hline 330624 & ． 004 & 6015 &  & ． 25 & .15 \\
    \hline 3306247 & ．0047 & 600 & \％ & ． 25 & .15 \\
    \hline 330625 & ． 00.7 & 600 & 倆 \(\times 11 \%\) & ． 25 & .15 \\
    \hline 330626 & ． 00668 & 6600 & \(\mathrm{i}_{3} \times 11 / 8\) & ． 30 & .18 \\
    \hline 3306268 & ． 01068 & 600 & \({ }^{\frac{3}{16}} \times 138\) & ． 30 & .18 \\
    \hline 330611
    3306115 & ． 015 & 600 & \％ 1413 & ． 30 & .18 \\
    \hline 330612 & ． 01 & 600 & If \(\mathrm{I}_{1} 114\) & ． 30 & 18 \\
    \hline 3306122 & ．02\％ & 600 & \({ }^{7} 1811 / 4\) & ． 35 & 21 \\
    \hline 330613 & ．0：3 & 6110 & 极 x 172 & ．35 & 21 \\
    \hline 330614 & ． 01 & 600 & 溉 \(\times 1.2\) & ． 40 & 24 \\
    \hline 3306147 & ． 017 & 600 & 3 1 & ． 40 & 24 \\
    \hline 330615 & ． \(0 \%\) & 6011 & \％ 218 & ． 40 & ． 24 \\
    \hline 330616 & ． 014 & 600
    600 &  & ． 45 & ． 27 \\
    \hline 330601 & －1 & 600 & 81 \({ }_{4}\) & ． 55 & ． 33 \\
    \hline 330602 & 9 & 600 & 多 \(\times 1\) & ． 55 & .33 \\
    \hline 3306025 & － & 600 &  & ． 80 & ． 48 \\
    \hline 330605
    330610 & 1.0 & 600 & 13 \％ 2 娢 & 1.25 & ． 75 \\
    \hline
    \end{tabular}

    NOTE：Additional capaclty values in the 200 and 400 volt ratinge can be sumplied on request
    NOTE：l＇ackaginf：20．50，or 100 per display carton．
    NOTE：Standard capacity tolerance：
    \(.005 \mathrm{mid} . . . .+60 \%-25\)
    001 mid．to ． \(01 \mathrm{mfd} . . . . .-60 \%\)－ 20
    01 rufd．to \(1:\) rifd．．．．．\(\pm=0 \%\)
    15 mid．and up．．．．． \(20 \%-10\)

    \title{
    SANGAMO CAPACITORS
    }

    \section*{PAPER CAPACITORS}
    

    The Type 50 paper capacitors are pri－
     marily intended for bypass application． They are non－inductively wound，are sup－ plied in fractional capacity values，and will provided efficient and continuous oper－ ation in R．F．and A．F．bypass，audio fre－ quency coupling，and other A．C．circuits． These units are impregnated and filled with mineral oil and may be operated under severe humidity conditions at tempera－ tures up to \(+85^{\circ} \mathrm{C}\) ．
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multicolumn{7}{|c|}{600 W．V．D．C．} \\
    \hline Catalog Number & Capacity mfd． & Dimensi
    L & ons - & \begin{tabular}{l}
    - Inches \\
    H
    \end{tabular} & List Price & Resale Net Price \\
    \hline 5006．05 & ． 05 & 1188 & 1 & \％ & \＄2．90 & \＄1．74 \\
    \hline 5006 ． 1 & ． 1 & 1 婹 & 1 & 4 & 2.95 & 1.77 \\
    \hline 5006.25 & 0 & 1 1理 & 1 & ＊ & 3.10 & 1.86 \\
    \hline 5006－．5 & ． 5 & 119 & 1 & 1 & 3.30 & 1.98 \\
    \hline 5006－1 & 1.0 & \(\because\) & \(13 / 4\) & \％ & 3.75 & 2.25 \\
    \hline 5006.2 & \(2.10 *\) & 2 & & \(11^{\prime \prime}\) & 5.00 & 3.00 \\
    \hline 5006．05x2 & ．05－．05 & 18 & 1 & \(3{ }_{1}\) & 3.65 & 2.19 \\
    \hline 5006．1×2 & ． 1.1 & 118 & 1 & ＋ & 3.70 & 2.22 \\
    \hline 5006－．25x2 & 250， 25 & 138 & 1 & \％ & 3.75 & 2.25 \\
    \hline 5006－．5×2 & 5 －5 & 2 & 13／4 & \％ & 4.30 & 2.58 \\
    \hline 5006－1x2 & 1．0－1．0＂ & 2 & ， & \(1{ }^{18}\) & 5.30 & 3.18 \\
    \hline 5006－．1x3 & ．1－1．1 & 131 & 1 & 3 & 4.20 & 2.52 \\
    \hline 5006－．25x3 & 23－25－．25 & 2 & 1\％ & \％ & 4.75 & 2.85 \\
    \hline 5006．．5×3 & 5－．5－．5＊ & \(\because\) & ， & \(1{ }^{1 / n}\) & 5.75 & 3.45 \\
    \hline \multicolumn{7}{|c|}{1000 W．V．D．C．} \\
    \hline \begin{tabular}{l}
    Catalog \\
    Number
    \end{tabular} & Capacity mid． & \multicolumn{3}{|l|}{\[
    \underset{\mathrm{L}}{\underset{\mathrm{~W}}{\text { Dimensions }}-\underset{\mathrm{H}}{\text { Inches }}}
    \]} & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Resale
    Net Price \\
    \hline 5010－． 05 & \({ }^{11}\) & 1 124 & 1 & 3 & \＄3．05 & \＄1．83 \\
    \hline 5010.1 & ． 1 & 1 缺 & 1 & 3 & 3.15 & 1.89 \\
    \hline 5010－． 25 & ． 25 & 13 & 1 & 7\％ & 3.25 & 1.95 \\
    \hline 5010.5 & ．\({ }^{\text {a }}\) & 2 & \(1 \%\) & \％ & 3.55 & 2.13 \\
    \hline 5010.1 & 1．1＊＊ & － & 2 & 1 1／4 & 4.40 & 2.64 \\
    \hline \(5010.05 \times 2\) & ．05－．05 & 118 & 1 & 3／4 & 3.85 & 2.31 \\
    \hline \(5010 . .1 \times 2\) & ． 1 －． 1 & 178 & & 7／8 & 4.00 & 2.40 \\
    \hline \(50100.25 \times 2\) & ． \(25-25\) & 2 & 1\％ & \％／8 & 4.20 & 2.52 \\
    \hline \(5010-.5 \times 2\) & ．5－．5＊ & 2 & 2 & 11／8 & 5.45 & 3.27 \\
    \hline \(5010-.1 \times 3\) & ．1－．1－．1 & 2 & 1\％ & 78 & 4.60 & 2.76 \\
    \hline \(5010-.25 \times 3\) & ．25－．25－．25＊ & & 2 & 11／8 & 5.50 & 3.00 \\
    \hline \multicolumn{7}{|l|}{NOTE：＂For bottom or tup terminal，case size becomes 2 ＂\(\times 2\)＂\(\times 1_{1 / 4}^{1 / 4}\) NOTE：I＇ackaging：Individual display carton．} \\
    \hline \multicolumn{7}{|l|}{NOTE：The above units，built to comply with the electrical pestuirements of specification J．AN－C－25 style Cl－53－54－55．} \\
    \hline
    \end{tabular}
    

    \section*{Sout}

    The Types 62 and 64 SANGAMO non－inductively wound paper copac－ itors are impregnated and filled with mineral oil and are hermetically sealed in seamless drawn－steel cases． The mineral oil impregnant assures dependable service betwen the wide temperature limits of \(-55^{\circ} \mathrm{C}\) ．and \(+85^{\circ} \mathrm{C}\) ．Standard capacitors are supplied with top terminals and brackets for upright mounting．When bottom terminals and inverted mounting are required，add the let－ ter＂\(B\)＂to the end of the catalog number．

    \section*{TYPE 62 PAPER CAPACITORS}
    

    TYPE 64 PAPER CAPACITORS
    
    

    Catalo
    Numb
    64 A06er .01
    64A06． 05
    \(64 A 06-1\)
    \(64 A 06-1\)
    \(64 A 06-.25\)
    64A06－．5
    64406.1 ．

    Catalog
    Number
    \(64 A 10.05\)
    \(64 A 10.05\)
    \(64 A 10-.1\)
    \(64 A 10-1\)
    \(64 A 10-.25\)
    64 A 10.5
    \(64 A 10: 5\)
    \(64 A T E:\).
    NOTE：NO I：
    NOTE：Packacing：married in suock．Ava
    NOTE：Packaging：Individual display carton． specification JAN－\({ }^{\prime}\)－2．

    TYPE 40－41
    The SANGAMO Types 40 and 41 diaclor impregnated and filled paper capacitors are ideal for use in high voltage fitter applications． Enclosed in aluminum containers，they facil－ itate convenient mounting to the chassis，an insulating washer and spade lug being provided for this purpose．In the Type 40 one connection is provided by an insulated terminal and the other is provided by the case．in the Type 41 both terminals are completely insulated from the case．
    NOTE：These units built to comply with the electrical requirements of specification JAN－C－25 style CP－40－41．
    

    \section*{Pueblo}
    Cataloe
    Number

    4006－1
    4006－2
    4006.4
    4010.1
    4010.1
    4010.2
    \(4010 \cdot 2\)
    \(4015 . .5\)
    Capacity

    TYPE 40 PAPER CAPACITORS
    \begin{tabular}{|c|c|c|}
    \hline Capacity mfd． & Workin： Volts D．C． & \[
    \overline{\text { Dia. Lize }}
    \] \\
    \hline 1. & 600 & \(11 / 8 \times 1 \%\) \\
    \hline \(\because\) & 100 & \(11 / 2 \times 2\) \％／8 \\
    \hline 4. & H00 &  \\
    \hline 1. & 1000 & \(131 / 3 \times 2\) \％ \\
    \hline 2. & 1000 & \(11 / 2 \times 35\) \\
    \hline ． 25 & 1500 & 13／6 \(\times 18 / 8\) \\
    \hline ． 5 & 1500 & 1 1／2x 2 \％ \\
    \hline 1. & 1500 & 11／3 \(\times 3 \%\) \\
    \hline
    \end{tabular}

    TMPE 41 PAPER CAPACITORS
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Catalo Number & Capaeity mid． & Working Volts D．C． & \[
    \overline{\text { Dian. Len. }}
    \] & List Prite & Resate Net Prico \\
    \hline 4106.1 & 1. & 600 & 1\％ 1 ¹5 & \＄4．70 & \＄2．82 \\
    \hline 4106.2 & 2. & 600 & 1\％ 3 2\％ & 5.40 & 3.24 \\
    \hline 4106－4 & 4. & 600 & 11／2×35 & 7.10 & 4.26 \\
    \hline 4110.1 & 1. & 1000 & \(11 / 2 \times 238\) & 5.00 & 3.00 \\
    \hline 4110．2 & 2. & 1000 & 1 1／2 3 \％ & 6.30 & 3.78 \\
    \hline 4115－．25 & ． 25 & 1500 & 114．15 & 5.65 & 3.39 \\
    \hline 4115－．5 & ． 5 & 1500 &  & 5.85 & 3.51 \\
    \hline 4115－1 & 1. & 1500 & 11483学 & 6.30 & 3.78 \\
    \hline
    \end{tabular}

    NOTE：Packaging：Inaloddual disploy carton
    \begin{tabular}{cc}
    \begin{tabular}{l} 
    List \\
    Price
    \end{tabular} & \begin{tabular}{c} 
    Ressate \\
    Net Price
    \end{tabular} \\
    \(\$ 3.85\) & \(\$ 2.31\) \\
    4.60 & 2.76 \\
    6.30 & 3.78 \\
    4.20 & 2.52 \\
    5.45 & 3.27 \\
    4.85 & 2.91 \\
    5.00 & 3.00 \\
    5.45 & 3.27
    \end{tabular} \(\$ 2.31\)
    2.76
    3.78
    2.52
    3.27
    2.91
    3.00
    3.27

    Resate et Price 2.24
    3.26 4.26
    3.00 3.00
    3.78 3.51
    3.78

    \section*{SANGAMO CAPACITORS}

    \section*{PAPER CAPACITORS} TYPE 71 Seminale

    SANGAMO Type 71 diaclor impregnated and filled paper capacitors have the advantage of light weight，and are smaller than the case size specified by JAN－C－25．Diaclor＊is a spe－ cially compounded，chemically purified chlorinated dielectric oil．This synthetic impregnant，whose characteristics can be controlled with great uniformity，possesses a high dielectric constant，high volume resistivity，low power factor，high dielec－ tric strength，and is non－inflammable and non－explosive．Type A mounting brackets are supplied with each capacitor as standard equipment．If Type B or C brackets are required，they must be specified when ordering．Either composition rivet or stand－off parcelain terminals can be supplied，and the type desired should be specified．
    
    \begin{tabular}{cc}
    \begin{tabular}{c} 
    Catalog \\
    Number
    \end{tabular} & \begin{tabular}{c} 
    Capacity \\
    mfd．
    \end{tabular} \\
    \(7110-.1\) & .1 \\
    \(7110-.25\) & .2. \\
    \(7110-.5\) & .5 \\
    \(7100-1\) & 1. \\
    \(7110-2\) & 2. \\
    \(7110-4\) & 4. \\
    \(7110-6\) & 6. \\
    \(7110-8\) & 8. \\
    \(7110-10\) & 10. \\
    \(7110-12\) & 12. \\
    7110.15 & 15.
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multicolumn{6}{|c|}{1000 V．D．C．Working} \\
    \hline A & & \[
    C^{\text {nions }}
    \] & － & nehes & F \\
    \hline \(11{ }^{1}\) & \(1 \frac{1}{18}\) & 1\％ & \％ & 紫 & 2 \\
    \hline 113 & \(11^{18}\) & 18 & \％ & 18 & \(\bigcirc{ }^{1}\) \\
    \hline 118 & 1 m & 2 & \％ & 3＊ & 2 \\
    \hline \(1 \frac{18}{8}\) & 1 尔 & \(21 / 8\) & ？ & \(1{ }^{1}\) & \(21 /\) \\
    \hline 118 & 1 18 & \(37 / 8\) & 7／6 & 18 & 2 \\
    \hline \(21 / 4\) & 18 & \(41 / 8\) & \％ & \(1^{1 / 8}\) & 3 \\
    \hline \(3 \%\) & 14 & 37 & 7／8 & 2 & 43 \\
    \hline \(3 \%\) & 11／4 & \(4{ }^{6}\) & 78 & 2 & 4 \\
    \hline \(3 \%\) & \(13 /\) & \(41 / 6\) & \％\({ }^{\text {\％}}\) & 2 & 4 \\
    \hline \(3 \% / 4\) & \(24 / 6\) & 37\％ & 7／a & 2 & 4 \\
    \hline \(3 \%\) & \(21 / 2\) & 45 & Tis & 2 & 4 \％ \\
    \hline
    \end{tabular}
    

    NOTE：Brackets supplied at no extra cost．
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Catalog Number} & \multirow[b]{2}{*}{Capacity mfil．} & \multicolumn{6}{|c|}{2000 V．D．C．Working} & \multirow[b]{2}{*}{List Price} & \multirow[b]{2}{*}{\begin{tabular}{l}
    Resale \\
    Net Prit
    \end{tabular}} \\
    \hline & & A & & \[
    \underset{\text { ension: }}{\text { en }}
    \] & \[
    \frac{1}{0}
    \] & Ehes & F & & \\
    \hline 7120－．1 & ． 1 & 118 & \(1{ }_{1}{ }^{1}\) & 15 & 1\％＇8 & 18 & 21； & \＄6．60 & \＄3．96 \\
    \hline 7120－． 25 & ． 25 & 118 & 12 & 2 & 188 & 18 & \(21 / 4\) & 7.15 & 4.29 \\
    \hline \(7120 . .5\) & ． & 112 & \(1{ }^{1 / 4}\) & \(2{ }^{3}\) & 13 \％ & \(1{ }^{1}\) & \(21 / 4\) & 7.45 & 4.47 \\
    \hline 7120.1 & 1. & 23 & 18 & \(31 /\) & 13 & \(1^{14}\) & 3 & 9.10 & 5.46 \\
    \hline 7120.2 & 2. & 336 & 11 & 3 \％ & 13 & 2 & 4\％ & 10.75 & 6.45 \\
    \hline 7120.4 & 4. & \(3 \%\) & \(21 \%\) & 3\％ & 1 1／4 & 2 & 43 & 15.15 & 9.09 \\
    \hline 7120.6 & 6. & \(33 \%\) & \(21 / 2\) & \(43 /\) & 1\％ & 2 & 4 \％ & 20.10 & 12.06 \\
    \hline 7120.8 & 8. & \(3 \%\) & \％\({ }^{\circ}\) & \(4 \%\) & \(1 \%\) & 2 & 4 \％ & 25.05 & 15.03 \\
    \hline \(7120-10\) & 10. & ： 8 & \(4 \%\) & 4 &  & 2 & \(4{ }^{3}\) & 30.55 & 18.33 \\
    \hline 7120.12 & 12. & ［ \(\%\) & \(4 \%\) & \(5^{1 / 8}\) & \(1 \%\) & 2 & \(4^{3 \prime 3}\) & 33.30 & 19.98 \\
    \hline \multicolumn{10}{|c|}{2500 V．D．C．Working} \\
    \hline Catalog Number & \[
    \begin{gathered}
    \text { Capacity } \\
    \text { mfd. }
    \end{gathered}
    \] & A & \[
    { }_{B}^{\text {Dim }}
    \] & \[
    \underset{\mathrm{C}}{\text { ension }}
    \] & －\({ }^{\text {d }}\) & \[
    \underset{E}{\text { nehes }}
    \] & F & List Price & Resale Net Prien \\
    \hline 7125－．5 & ． 5 & 2 娒 & 128 & 278 & \(1 \% / 4\) & \(11 / 6\) & 3 & \＄11．55 & \＄8．93 \\
    \hline \(7125 \cdot 1\) & 1. & \(33 / 4\) & 13 & 38 & \(13 / 4\) & 2 & 4 \％＇s & 13.20 & 7.92 \\
    \hline 7125.2 & 2. & 3 y & 13 & 4 & 18 & 2 & \(4 \%\) & 21.45 & 12.87 \\
    \hline 7125－4 & 4. & 3 3／4 & 216 & 5 1／8 & 1 \％ & 2 & 43 & 30.00 & 18.00 \\
    \hline 7125－10 & 10. & 3 \％ & 4 \％ & 6 & 1 \％ & 2 & \(4 \%\) & 75.10 & 45.06 \\
    \hline \multicolumn{10}{|c|}{3000 V．D．C．Working} \\
    \hline Catalog Number & Capacity mfd． & A & \[
    \underset{B}{\text { Dim }}
    \] & \begin{tabular}{l}
    ension \\
    C
    \end{tabular} & & \[
    \underset{E}{\text { nches }}
    \] & F & List Price & Resule Net Price \\
    \hline \(7130 \cdot .1\) & ． 1 & 218 & \(1{ }^{18}\) & 2 & \(13 / 4\) & 1\％ & 3 & \＄14．05 & \＄8．43 \\
    \hline \(7130 \cdot .25\) & ． 25 & 2812 & 18 & 21／4 & \(1 \%\) & 11／8 & 3 & 14.85 & 8.91 \\
    \hline 7130－．5 & ． 5 & \(23 / 2\) & 118 & 3 \％ & 13 & \(11 / 1 / 8\) & 3 & 18.80 & 10.08 \\
    \hline 7130－1 & 1. & 3 L & 13 & 41 & 13 & 2 & 473 & 20.10 & 12.06 \\
    \hline 7130－2 & 2. & 38 & 216 & \(41 / 4\) & 1 \％ & & 4 8／8 & 25.05 & 15.03 \\
    \hline 7130－4 & 4. & 33 & \(4{ }^{\text {2 }}\) & \(4^{1 / 4}\) & 13 & 2 & 48 & 36.85 & 22.11 \\
    \hline
    \end{tabular}

    TYPE 21
    Hermetically sealed in metal tubes，the SANGAMO Type 21 paper capacitor is primarily de－ signed for bypass and coupling applications．They are non－in－ ductively wound；and，impreg－ nated and filled with mineral oil assuring greatest stability of capacity and low power factor over the wide range of temperatures from \(-55^{\circ} \mathrm{C}\) ．to \(+85^{\circ} \mathrm{C}\) ． These units are built to comply with the electrical requirements of Specification JAN－C－25 Style CP 25－26－27－28－29．

    TYPE 21 METAL CASES MINERAL OIL PAPER CAPACITORS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & \[
    \begin{gathered}
    \text { Capacity } \\
    \text { mid. }
    \end{gathered}
    \] & Dia. size- Len. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Resale Net Price \\
    \hline 2106 －． 003 & ． \(00: 1\) & \％\({ }^{2}\) & \＄0．95 & \＄0．57 \\
    \hline 2106.006 & ． 0006 & 1／2 \(\times 1.10\) & & ． 57 \\
    \hline 2106.01 & ． 01 & \％ 21.16 & ． 95 & ． 57 \\
    \hline 21060.02
    2106.03 & ． 02 & 多 81. & 1.10 & ． 63 \\
    \hline 2106.05 & ． 05 & 年 \(\times 1\) 1㫛 & 1.10 & ． 66 \\
    \hline 2106.06 & ． 06 & 慈区1品 & 1.10 & ． 66 \\
    \hline 2106.1
    \(2106 . .25\) & \(\cdot{ }^{-15}\) & \％\(\times 1.18\) & 1.25
    1.70 & ． 75 \\
    \hline \(2106 . .5\) & ：5 &  & 2.20 & 1.32 \\
    \hline
    \end{tabular}

    1000 W．V．D．C．
    \begin{tabular}{|c|c|}
    \hline Capacity mfd． & Dia. Len. \\
    \hline ． \(010 \%\) & 1／151退 \\
    \hline ． 1 & 发 \(\times 1\) 空 \\
    \hline ．65 & \(3{ }_{6} \times 1\) 113 \\
    \hline ． 1 & \(1{ }^{10} \times 2{ }^{\text {c }}\) \\
    \hline ． 25 & 1发 \(\times 2 \mathrm{c}\) \\
    \hline
    \end{tabular}
    \begin{tabular}{cc} 
    List & \begin{tabular}{c} 
    Resale \\
    Price
    \end{tabular} \\
    \(\$ 1.10\) & \(\$ 0.66\) \\
    1.10 & .66 \\
    1.30 & .78 \\
    1.50 & .90 \\
    2.30 & 1.38
    \end{tabular}

    1600 W．V．D．C．
    \begin{tabular}{|c|c|c|c|}
    \hline Capacity mfd． & \[
    \overline{\text { Dia. Lize }} \text { Len. }
    \] & \[
    \begin{gathered}
    \text { L.lst } \\
    \text { Priet }
    \end{gathered}
    \] & Resale Net Prite \\
    \hline ． 000 ． & \％ 11 寿 & \＄1．10 & \＄0．86 \\
    \hline ． 001 & \％x1寝 & 1.10 & ． 66 \\
    \hline ． 002 & \％ 81 fo & 1.10 & ． 66 \\
    \hline ． 005 & \(3 \times 1{ }^{3}\) & 1.20 & ． 72 \\
    \hline ． 01 & \％ 413 & 1.20 & ． 72 \\
    \hline ． 02 & \(8 \mathrm{4} \times 1 \mathrm{l}\) & 1.30 & ． 78 \\
    \hline ． 05 & 18923 & 1.30 & ． 78 \\
    \hline ． 1 & \(1 \mathrm{k} \times 2 \mathrm{dc}\) & 2.10 & 1.26 \\
    \hline
    \end{tabular}

    2000 W．V．D．C．
    \begin{tabular}{|c|c|c|c|}
    \hline Capacity mfd． & \[
    \overline{\text { Dia. Len. }}
    \] & List Priee & Resale Not Prite \\
    \hline ． 11005 & 18.18 & \＄1．25 & \＄0．75 \\
    \hline ． 001 & \(12 \times 14\) & 1.25 & ． 75 \\
    \hline ． 005 & 18180 & 1.25 & ． 75 \\
    \hline ． 01 & \％ 18 & 1.25 & ． 75 \\
    \hline ． 02 &  & 1.30 & ． 78 \\
    \hline ． 05 & \(12 \times 2{ }^{\text {a }}\) & 1.45 & ． 87 \\
    \hline
    \end{tabular}

    \title{
    SANGAMO CAPACITORS
    }

    \section*{NEW MOLDING COMPOUND FOR}

    \section*{SANGAMO WIRE LEAD MICAS}

    All SANGAMO wire-lead micas are molded in HUMIDITITE, a new molding compound developed by Sangamo, that gives them moisture resistance characteristics far superior to any others on the market. The standard moisture resistance test described in MIL-C-5A (proposed) Specification requires mica capacitors to offer at least 100 megohms of insulation resistance after ten 24-hour cycles in a humidity chamber at \(\mathbf{9 0 \%}\) to \(95 \%\) relative humidity. The best competitive micas barely meet this requirement . . . but Sangamo HUMIDITITE Micas, under the same conditions, all tested in excess of 50,000 megohms! For additional information about HUMIDITITE, write for Engineering Bulletin No. TS-111.
    
    \begin{tabular}{|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & \begin{tabular}{l}
    wkg. \\
    Volts D.C
    \end{tabular} \\
    \hline RK-1550 & . 000005 & 500 \\
    \hline RR-1410 & . 000001 & 500 \\
    \hline KK-1412 & . 000012 & 500 \\
    \hline RK-1115 & . 000015 & 500 \\
    \hline RK-1418 & . \(00001 \times\) & 500 \\
    \hline RK-1420 & .00002 & 500 \\
    \hline RK-1422 & .000022 & 500 \\
    \hline RK-1424 & . 000024 & 500 \\
    \hline RR-1427 & . 000027 & 500 \\
    \hline RK-1430 & . 00003 & 500 \\
    \hline RR-1433 & . 000033 & 500 \\
    \hline RK-1436 & . 0000036 & 500 \\
    \hline KR-1439 & . 0100039 & 500 \\
    \hline RR-1443 & . 000043 & 500 \\
    \hline RR-1447 & . 000047 & 500 \\
    \hline RR-1450 & . 00005 & 500 \\
    \hline KR-1456 & . 000056 & 500 \\
    \hline KR-1462 & . 000062 & 500 \\
    \hline KR-1468 & .00006 & 500 \\
    \hline
    \end{tabular}

    SILVERED MICA CAPACITORS
    
    \begin{tabular}{llc}
    \begin{tabular}{c} 
    Catalog \\
    Number
    \end{tabular} & \begin{tabular}{c} 
    Capacity \\
    Mfd.
    \end{tabular} & \begin{tabular}{c} 
    Wkg. \\
    Volts D.C
    \end{tabular} \\
    RK-1475 & .000075 & 500 \\
    RR-1482 & \(.0000 \times 2\) & 500 \\
    RR-1491 & .000091 & 500 \\
    RK-1310 & .0001 & 500 \\
    RR-1312 & .00012 & 500 \\
    RR-1315 & .00015 & 500 \\
    RR-1318 & .0001. & 500 \\
    RR-1320 & .0002 & 500 \\
    RR-1322 & .00022 & 500 \\
    RR-1324 & .00024 & 500 \\
    RR-1325 & \(.0002:\) & 500 \\
    RR-1327 & .00027 & 500 \\
    RR-1330 & .0003 & 500 \\
    RR-1333 & .00033 & 500 \\
    RR-1336 & .00036 & 500 \\
    RR-1339 & .00039 & 500 \\
    RR-06343 & .00043 & 300 \\
    RR-063477 & .00047 & 300 \\
    RR-06351 & .00051 & 300
    \end{tabular}

    NOTE: Standard tolerance \(\pm 5 \%\), but in no instance less than \(\pm 1 \mathrm{mmf}\).

    NOTE: Capacitors are identified by color coding. Size of case prohibits stamping of ratings.

    NOTE: Paciaging: 10,25 . 50 or 100 per display carton.

    \section*{TYPE \(C\) \\ Mica Capacitor \\ }

    Type C Mico
    \(\begin{array}{llll}\text { Catalog } & \text { Capacity } & \text { List } & \text { Net } \\ \text { Number } & \text { Mifd. } & \text { Price } & \text { Price }\end{array}\)
    500 V.D.C. Working1000 V.D.C. Test
     600 V.D.C. Test
    \begin{tabular}{llll}
    \(* \mathrm{C}-06275\) & .0075 & .90 & .54 \\
    \(* \mathrm{C}-06280\) & .008 & 1.00 & .60 \\
    \#C-06290 & .009 & 1.00 & .60 \\
    *C-06110 & .01 & 1.20 & .72
    \end{tabular}

    \footnotetext{
    Standard tolerance. \(\pm 20 \%\).
    }

    B characteristic. Thickness dh
    
    \begin{tabular}{l} 
    Type \(C R\) \\
    \hline \(\begin{array}{c}\text { Catalog } \\
    \text { Number }\end{array}\) Capacity \\
    Cild \\
    Mfd
    \end{tabular} 500 V.D.C. Working-
            1000 V.D.C. Test
    CR-1350 .0005 \(\$ 0.70 \quad \$ 0.42\)
    \begin{tabular}{llll} 
    CR-1350 & .0005 & \(\mathbf{\$ 0 . 7 0}\) & \(\mathbf{\$ 0 . 4 2}\)
    \end{tabular} CR-1362 . \(00062 \quad .80\) \(\begin{array}{lll}\text { CR-1375 } & .00075 & .85 \\ C R-1380 & .0008 & 95\end{array}\) CR-1390 .0008 .95 \(\begin{array}{lll}\text { CR-1390 } & .0009 & 1.00\end{array}\)
    \begin{tabular}{llll} 
    CR-1215 & .0015 & 1.105 & .66
    \end{tabular}
    \begin{tabular}{llll}
    \(C R-1220\) & .002 & 1.35 & .81
    \end{tabular}
    CR-1225 .0025 1.80 1.08
    \begin{tabular}{llll} 
    CR-1240 & .004 & 2.15 & 1.29
    \end{tabular}
    \begin{tabular}{llll}
    \(* C R-1250\) & .005 & 2.25 & 1.35 \\
    \(*\) CR-1260 & .006 & 2.40 & 1.41
    \end{tabular}
    

    600 YD C Test
    \begin{tabular}{llll}
    \(*\) \\
    * & CR-06275 & .0075 & 2.60 \\
    * CR-06280 & 1.56
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline CR-06275 & . 0075 & 2.60 \\
    \hline * CR-06280 & . 008 & 2.80 \\
    \hline * CR-06290 & . 009 & 3.10 \\
    \hline
    \end{tabular}
    \begin{tabular}{cccr} 
    * CR-06290 & .009 & 3.10 & 1.86 \\
    *CR-06110 & .01 & 3.40 & 2.04 \\
    Standard & tolerance & \(+5 \%\)
    \end{tabular}

    Standard tolerance. \(\pm 5 \%\). Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed.

    \section*{SANGAMO CAPACITORS}

    \section*{High Voltage＂Television＂Mica Capacitors}

    These molded mica capacitors are specially designed for the high temperatures and voltages encounterd in television applications．They may also be used in power amplifiers，low power transmitters and other industrial uses．They are fabricated with India ruby mica and are carefully tested to insure maximum performance under these difficult operating conditions
    

    LIST PRICES
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Cataloy Number & Capacity Mfd ． & \[
    \begin{aligned}
    & 6000 \text { D.C. } \\
    & \text { Test } \\
    & 3000 \text { D.C. } \\
    & \text { Workiny }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 5000 \text { D.C. } \\
    & \text { Test } \\
    & 2500 \text { D.C. } \\
    & \text { Workin!! }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1000 \text { D.C. } \\
    & \text { Test } \\
    & 2000 \text { D.C. } \\
    & \text { Work ing }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3000 \text { O.C. } \\
    & \text { Test } \\
    & 1500 \text { D.C. } \\
    & \text { Working }
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2000 \text { O.C. } \\
    & \text { Test } \\
    & 100 \text { D.C. } \\
    & \text { Workininy }
    \end{aligned}
    \] \\
    \hline C． 312 & ．00011： & \＄0．50 & & & & \\
    \hline C－315 & ．0001： & ． 55 & & & & \\
    \hline C． 316 & ．100111 & ． 60 & & & & \\
    \hline C． 318 & ．0001－ & ． 60 & & & & \\
    \hline C． 320 & ．now： & ． 65 & & & & \\
    \hline C． 324 & ．1000：1 & ． 70 & & & & \\
    \hline C． 325 & ．0002． & ． 70 & \＄0．55 & & & \\
    \hline C． 327 & ．1060－8 & 70 & ． 55 & & & \\
    \hline C． 330 & 1101： & 75 & ． 60 & & & \\
    \hline C． 333 & 0100：\({ }^{\text {a }}\) & ． 80 & ． 60 & & & \\
    \hline C． 336 & ．1011：3： & ． 85 & ． 65 & & & \\
    \hline C． 339 & 111003： & ． 90 & ． 70 & & & \\
    \hline C． 343 & （1）104：3 & 1.00 & ． 70 & \＄0．60 & & \\
    \hline C． 347 & ．1010 5 & 1.05 & ． 70 & ． 65 & & \\
    \hline C． 350 & （100\％： & 1.10 & ． 75 & ． 65 & & \\
    \hline C．351 & －100\％1 & 1.10 & ． 75 & ． 65 & & \\
    \hline C． 356 & ． 10011.51 & 1.20 & ． 80 & ． 65 & & \\
    \hline C． 362 & ．000いご & 1.25 & ． 85 & ． 70 & & \\
    \hline C． 368 & 1006tia & 1.35 & ． 90 & ． 70 & \＄0．65 & \\
    \hline C． 382 & ．000：－ & 1.55 & 1.00 & ． 80 & ． 75 & \\
    \hline C．391 & ．000！ 1 & 1.65 & 1.10 & ． 85 & ． 80 & \\
    \hline C． 210 & ． 601 & 1.80 & 1.20 & ． 95 & ． 80 & \\
    \hline C－211 & ．011） & 1.80 & 1.20 & 1.00 & ． 85 & \＄0．55 \\
    \hline C． 212 & ．10112 & 1.95 & 1.30 & 1.05 & ． 95 & ． 60 \\
    \hline C－213 & ．001：3 & 2.10 & 1.40 & 1.10 & 1.00 & ． 60 \\
    \hline C－215 & ．0015 & 2.35 & 1.60 & 1.25 & 1.10 & ． 65 \\
    \hline C． 216 & ． 10110 & & 1.70 ＊ & 1.30 & 1.10 & ． 70 \\
    \hline C． 218 & 001， & & 1.85 & 1.40 & 1.25 & ． 70 \\
    \hline C－220 & ．002 & & \(2.05{ }^{\text {＊}}\) & 1.55 & 1.35 & ． 75 \\
    \hline C－222 & ．010－2 & & & 1.70 & 1.40 & ． 85 \\
    \hline C． 224 & ．0024 & & & 1.85 ＊ & 1．55＊ & ． 90 \\
    \hline C． 227 & ．001：7 & & & & \(1.65{ }^{\prime}\) & ．90＊ \\
    \hline C． 223 & ．003 & & & & 1.75 ． & 1.00 \\
    \hline C－233 & ． 0033 & & & & & 1．05＊ \\
    \hline NOTE： & \multicolumn{6}{|l|}{When ordoringe inser in blank space prometing catalog number，desimation indicating test volage raquirements． For instance．（ 6312 means di000 wols lest：（5312 means boon wolts test．ente．} \\
    \hline NOTE： & \multicolumn{6}{|l|}{＊Means thick case．Sere diauram ahove．} \\
    \hline NOTE： & \multicolumn{6}{|l|}{Standand tolerance \(\pm 20 \%\) ．B characteristic．Priees will bu supplied on refuest for closer tolarances or for silvered mica units．} \\
    \hline NOTE： & Standard & trade di & nts apl & & & \\
    \hline
    \end{tabular}

    NOTE：When orderine．inery in blank space prowetins ratalow mimer ．
    

    NOTE：＊Mans thele case sere diatram ahove．
    supplied refuest for closer toldances or for silvered mica units．

    NOTE：Standard trade discounts apply

    TYPE K
    

    LISTPRICES
    6000 D．C． 5000 D．C． 4000 D．C． 3000 D．C． 2000 D．C
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline K－550 &  & \＄0．30 & & & & \\
    \hline K－410 & ．10001 & ． 30 & & & & \\
    \hline K．412 & ．10001： & ． 30 & & & & \\
    \hline K．415 & ．01601\％ & 35 & \＄0．30 & & & \\
    \hline K． 418 & 00101， & 35 & 30 & & & \\
    \hline K． 420 & ．11100？ & 35 & ． 30 & & & \\
    \hline K． 422 & （1）nou－ & 35 & ． 30 & & & \\
    \hline K－424 & （1）1011－1 & 35 & 30 & & & \\
    \hline K． 427 & （1）0リッて & 35 & ． 30 & & & \\
    \hline K－430 & ． 1 ¢0\％： & 40 & ． 35 & & & \\
    \hline K－433 & ． 1 （nons：3 & .40 & ． 35 & & & \\
    \hline K－436 & ．1001033 & ． 45 & ． 35 & & & \\
    \hline K－439 & （11100：3： & ． 45 & ． 35 & & & \\
    \hline K． 443 & п10601：3 & 45 & ． 35 & & & \\
    \hline K－447 & ．1060に & ． 45 & ． 35 & \＄0．30 & & \\
    \hline K－450 & ．10000： & ． 50 & ． 35 & ． 35 & & \\
    \hline K． 451 & ．0000．51 & 50 & ． 35 & ． 35 & & \\
    \hline K－456 & ．0000．5ti & ． 50 & ． 35 & ． 35 & & \\
    \hline K－462 & （0）0\％sai & ． 50 & ． 35 & ． 35 & & \\
    \hline K．468 & 000ヶい心 & ． 55 & ． 40 & ． 35 & & \\
    \hline K－475 & 0060\％－： & ． 60 & 45 & ． 35 & \＄0．30 & \\
    \hline K－482 & ．00hlus： & & ． 45 & ． 35 & ． 30 & \\
    \hline K－491 & ．10001s1 & & ． 45 & ． 35 & ． 35 & \\
    \hline K． 310 & ．1001 & & 45 & ． 35 & ． 35 & \\
    \hline K． 311 & ． 110011 & & 50 & ． 40 & ． 35 & \\
    \hline K－312 & ．0001： & & ． 50 & 40 & 35 & \＄0．30 \\
    \hline K－313 & ． \(00011:\) & & ． 50 & 40 & ． 35 & ． 30 \\
    \hline K． 315 & ．0ヶ015 & & ． 55 & 40 & ． 35 & ． 35 \\
    \hline K． 316 & ． 0 （0）15 & & ． 60 & 45 & ． 35 & ． 35 \\
    \hline K－318 & ． 10001 ， & & ． 60 & 45 & 35 & ． 35 \\
    \hline K． 320 & ． \(1000 \cdot\) & & & 50 & ． 40 & ． 35 \\
    \hline K． 322 & ．000：2 & & & 50 & ． 40 & ． 35 \\
    \hline K－324 & ．000： 4 & & & ． 55 & 40 & ． 35 \\
    \hline K． 325 & ．000－5 & & & ． 55 & ． 45 & ． 40 \\
    \hline K－327 & 11000－8 & & & ． 55 & ． 45 & ． 40 \\
    \hline K－330 & （10）0：3 & & & ． 60 & ． 50 & ． 40 \\
    \hline K－333 & ．0000：3 & & & & ． 50 & ． 40 \\
    \hline K． 336 & ．1001313 & & & & ． 50 & ． 40 \\
    \hline K． 339 & ．0003： & & & & ． 55 & ． 40 \\
    \hline K－343 & ． 100013 & & & & ． 55 & ． 45 \\
    \hline K－347 & ．notor \({ }^{-1}\) & & & & ． 60 & ． 45 \\
    \hline K－350 & ． 10015 & & & & & 45 \\
    \hline K－351 & ．0000．5 & & & & & 45 \\
    \hline K－356 & ． 000.56 & & & & & ． 50 \\
    \hline K－362 & ．01062 & & & & & ． 50 \\
    \hline K．368 & ．13001： & & & & & ． 55 \\
    \hline
    \end{tabular}

    NOTE：Wher ordering，insert in blank space preceding eatalow mambr．desighation indication test colage requirements． For instance，Kbaso means tio00 volt test；Kūju means a000 volt test，ete．
    NOTE：Standard toldance \(\pm 20 \% / 2\) characteristic．Prices will lat supplied on request for closer tolerances or for silvereal mica units．
    NOTE：Standard trande discounts apply．

    \section*{SANGAMO CAPACITORS}

    TYPE A mica capacitors
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & List Price & Net Price & Catalog Number & Capacity Mid. & List Price & Net Price \\
    \hline \multicolumn{4}{|l|}{600 W.V.D.C.-1200 T.V.D.C.} & A-T2350 & . \(1010 \cdot 0\) & 81.60 & \$. 96 \\
    \hline A-T1450 & . 00005 & \$1.45 & \$0.87 & A-T2210 & . 101 & 1.90 & 1.14 \\
    \hline A-T1310 & . 000101 & 1.45 & . 47 & A-T2220 & .002 & 2.50 & 1.50 \\
    \hline A-T1315 & .00015 & 1.4: & A\% & A-T222: & . 11025 & 2,00 & 1.68 \\
    \hline A-T1320 & .0002 & 1.45 & \(\cdots\) & A-T2230 & . 11103 & 2.95 & 1.77 \\
    \hline A-T1325 & .010025 & 1.45 & . \(\%\) & A-T22.40 & .10.4 & 3.10 & 1.86 \\
    \hline A-T1350 & . 01005 & 1.45 & . 7 & A-T 2250 & . 100.5 & 3.30 & 1.9\% \\
    \hline A-T1210 & . 001 & 1.45 & . 57 & A-T2260 & . 1 Heti & 3.45 & 2.07 \\
    \hline A-T1220 & . 002 & 1.65 & . 99 & A-T22.0 & . \(010 \times\) & 4.10 & 2.46 \\
    \hline A-T1225 & .0025 & 1.60 & 1.02 & A-T2110 & . 11 & 4.70 & 2.82 \\
    \hline A-T1230 & . 0003 & 1.85 & 1.11 & A-K211. \({ }^{\text {c }}\) & . 11.7 & 5.80 & 3.14 \\
    \hline A-T1240 & . 00.4 & 2.00 & 1.20 & A-K212.5: & .112 & 7.0 .5 & 1.23 \\
    \hline A-T1250 & . 00.5 & 2.10 & 1.26 & A-K212. \({ }^{\text {* }}\) & .112-7 & 7.90 & 1.74 \\
    \hline A-T1260 & .f06 & 2.211 & 1.32 & A-K2130* & .11\% & \(\therefore .11\) & 4.96 \\
    \hline A-T1280 & . 00 O & 2.45 & 1.47 & \multicolumn{4}{|l|}{\multirow[t]{2}{*}{2500 W.V.D.C. -5000 T.V.D.C.}} \\
    \hline A-T1110 & .11] & 2.40 & 1.68 & & & & \\
    \hline A-T1115 & . 015 & 3.05 & 1.43 & A-T.5150 & . 00005 & \$1.90 & \$1.11 \\
    \hline A-T1120 & .1)2 & 3.55 & 2.13 & A-T.3310 & .f1\%1 & 1.90 & 1.14 \\
    \hline A-T1125 & .025 & 4.35 & 2.61 & A-T5325 & .101025 & 2.1.5 & 1.24 \\
    \hline A-T1130 & . 03 & 4.55 & 2.73 & A-T5350 & . 01105 & 2.5 .5 & 1.53 \\
    \hline A-K1140* & . 0.4 & 5.45 & 3.51 & A-T5210 & . 0101 & 2.90 & 1.74 \\
    \hline A-K1150* & . 115 & 7.10 & 4.26 & A-T:220 & .1012 & 4.25 & 2.55 \\
    \hline A-K1160* & .114 & 8.0 .5 & 4.83 & A-T5225 & . 0105 & 4.60 & 2.76 \\
    \hline \multicolumn{4}{|l|}{1200 W.V.D.C. -2500 T.V.D.C.} & A-T5230 & . 003 & 5.10 & 3.06 \\
    \hline A-T2450 & .00005 & \$1.60 & \$0.96 & A-T5240
    A-K. 250 & . 0104 & 5.65
    6.20 & 3.39
    3.7 \\
    \hline A-T2310 & .0001 & 1.60 & . 96 & A-K:260* & . 11116 & 6.35 & 3.81 \\
    \hline A-T 231 ; & . 00015 & 1.60 & . 96 & A-K.5280* & (1) & 6.8 .5 & 4.11 \\
    \hline A-T2320 & . 00002 & 1.60 & . 96 & A-K.5110* & . 11 & 7.30 & 4.38 \\
    \hline A-T2325 & . 00005 & 1.60 & . 96 & A-K.11\%* & . 015 & 8.05 & \(4 . \times 3\) \\
    \hline
    \end{tabular}
    *Thickness :u" Standard insulators are available if desired. If \(.144^{\prime \prime}\) clearance holes are required. designate by adding letter "A" to Type No. (AA).
    standard tolerance \(\pm 10^{\circ} \%\) B Characteristic, unless otherwise specified.

    Inquiry should be directed to the factory as to the availability of capacities and voltages other than those listed above.

    \section*{TYPE H mica capacitors}
    
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & List Price & \[
    \begin{aligned}
    & \text { Net } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline \multicolumn{4}{|l|}{600 W.V.D.C.-1200 T.V.D.C.} \\
    \hline H-T1450 & . 010005 & \$1.20 & \$0.72 \\
    \hline H-T1310 & .0001 & 1.20 & . 72 \\
    \hline H-T1320 & . 0002 & 1.20 & . 72 \\
    \hline H-T1325 & . 10101025 & 1.20 & .72 \\
    \hline H-T1330 & . 01003 & 1.20 & . 72 \\
    \hline H-T1340 & . 10004 & 1.20 & . 72 \\
    \hline H-T13.30 & . 01005 & 1.20 & . 72 \\
    \hline H-T1210 & . 001 & 1.20 & . 72 \\
    \hline H-T1215 & . 001.8 & 1.20 & . 72 \\
    \hline |-T1220 & .002 & 1.30 & .78 \\
    \hline H-T1225 & .0025 & 1.30 & .78 \\
    \hline H-T1230 & . 003 & 1.45 & . 87 \\
    \hline IJ-T1240 & . 00.4 & 1.30 & . 90 \\
    \hline H-T1250 & . 00 万 & 1.55 & . 93 \\
    \hline H-T1260 & . 006 & 1.80 & 1.0 s \\
    \hline H-T1270 & . 007 & 1.85 & 1.11 \\
    \hline H-T1280 & . 0108 & 1.90 & 1.14 \\
    \hline H-T1110 & . 01 & 2.15 & 1.29 \\
    \hline H-K111:* & . 1115 & 2.65 & 1.59 \\
    \hline H-K1120* & .14 & 3.05 & 1.83 \\
    \hline H-K112:* & . 1225 & 3.60 & 2.16 \\
    \hline H-K1130* & . 03 & 4.45 & 2.67 \\
    \hline \multicolumn{4}{|l|}{1200 W.V.D.C.-2500 T.V.D.C.} \\
    \hline H-T2450 & . 000005 & \$1.60 & \$0.96 \\
    \hline H-T2310 & . 0001 & 1.60 & . 46 \\
    \hline H-T2320 & .0002 & 1.60 & . 96 \\
    \hline H-T2325 & . 00025 & 1.60 & . 96 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline Catalog Number & Capacity Mid. & List Price & Net Price \\
    \hline H-T2330 & .100193 & \$1.60 & S. .96 \\
    \hline H-T2340 & . 0004 & 1.60 & . 96 \\
    \hline 11-T2350 & . 00005 & 1.60 & . 16 \\
    \hline H-T2210 & . 001 & 1.80 & 1.08 \\
    \hline 11-T2215 & . 0015 & 2.30 & 1.3 K \\
    \hline H-T2220 & .0192 & 2.40 & 1.11 \\
    \hline H-T2225 & .0025 & 2.80 & 1.6 C \\
    \hline H-T2230 & . 003 & 3.05 & I. N 3 \\
    \hline H-K2240* & . 110.1 & 3.05 & 1.83 \\
    \hline H-K22.50* & . 0005 & 3.30 & 1.9 \\
    \hline H-K2260* & . 000 & 3.30 & 1.9 \\
    \hline H-K2280* & . 11018 & 3.85 & 2.31 \\
    \hline H-K2110* & .(1) & 5. 10 & 3.06 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline H-T:54, 0 & . 000005 & \$1.90 & \$1.11 \\
    \hline H-T5310 & . 00011 & 1.90 & 1.11 \\
    \hline H-T5320 & .0002 & 1.90 & 1.14 \\
    \hline H-T5.325 & .00025 & 2.20 & 1.32 \\
    \hline H-T5,330 & .0003 & 2.25 & 1.3. \\
    \hline H-T5340 & . 0004 & 2.30 & 1.3 \\
    \hline H-T:350 & . 0005 & 2.40 & 1.14 \\
    \hline H-T5210 & . 001 & 2.80 & 1.68 \\
    \hline H-T5215 & . 0015 & 3.55 & 2.13 \\
    \hline H-K5220* & . 002 & 4.15, & 2.19 \\
    \hline H-K5230* & . 0031 & 4.90 & 2.91 \\
    \hline H-K5240* & . 004 & 5.65 & 3.39 \\
    \hline H-K5250* & .005 & 6.40 & 3.8 .4 \\
    \hline
    \end{tabular}
    *'Thickness 2964 ". For mexter mounting bracket add letter "F'" to Type designation; if assembled add 30 cents to list price: it unassembled add 20 cents and specify case size.
    Standard tolerance \(\pm 10^{\prime}: B\) Characteristic, unless otherwisa specified.
    Inquiry shoula be directed to the factory as to the availability of cabacities and voltages other than those listed above.

    \section*{TYPE FI}

    MICACAPACITORS
    

    TYPE F1
    

    Types F1 and F2 capacitors, the smallest of the Sangamo line of tronsmitting types, possess a range of voltage and current rotings suitable for many applications. They are housed in low loss molded bakelite cases. The mica and toil sections are permanently clamped, vacuum impreg nated, and installed in the case in such a manner as to provide stable characteristics and adequate moisture proofing.

    TYPE FI MICA CAPACITORS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mid. & Peak Wkg. Volts & List Price & Net Price \\
    \hline F1-331 & . 0001 & 3000 & \$12.60 & \$7.56 \\
    \hline F1-332 & . 0002 & 3000 & 12.60 & 7.56 \\
    \hline F1-3325 & . 00025 & 3000 & 12.60 & 7.56 \\
    \hline F1-335 & . 0005 & 3000 & 12.60 & 7.56 \\
    \hline F1-321 & . 001 & 3000 & 12.60 & 7.56 \\
    \hline F1-322 & . 002 & 3000 & 12.60 & 7.56 \\
    \hline F1-223 & . 003 & 2000 & 12.60 & 7.56 \\
    \hline F1-224 & . 004 & 2000 & 12.60 & 7.56 \\
    \hline F1-225 & . 005 & 2000 & 12.60 & 7.56 \\
    \hline F1-226 & . 006 & 2000 & 12.60 & 7.56 \\
    \hline F1-1528 & . 008 & 1500 & 12.60 & 7.56 \\
    \hline F1-111 & . 01 & 1000 & 12.60 & 7.56 \\
    \hline F1-112 & . 02 & 1000 & 14.30 & 8.58 \\
    \hline F1-0215 & .05 & 250 & 14.30 & 8.58 \\
    \hline F1-0201 & . 1 & 250 & 15.10 & 9.06 \\
    \hline
    \end{tabular}

    Standard tolerance \(\pm 5\), 13 characteristic. 1nefuiry should be diracted to the factory for availability of camaidies and voltanges other than those listed above. I'rices subject to change without notice.

    \section*{SANGAMO CAPACITORS}

    \section*{TYPE F2}

    MICACAPACITORS
    

    Types F1 and F2 capacitors, the smallest of the Sangamo lines of transmitting types, possess a range of voltage and current ratings suitable for many applications. They are housed in low loss molded bail sect canses. The mica and foil sections are permanently clamped, vacuum impregcase in such a manner as to provide stable characteristics and adequate moisture proofing.

    TYPE F2 MICA CAPACITORS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & \begin{tabular}{l}
    Peak \\
    Wkg. Volts
    \end{tabular} & List Price & Net Price \\
    \hline F2-531 & . 0001 & 5000 & \$17.30 & \$10.38 \\
    \hline F2-5325 & . 00025 & 5000 & 17.30 & 10.38 \\
    \hline F2-535 & . 0005 & 5000 & 17.30 & 10.38 \\
    \hline F2-536 & . 00006 & 5000 & 17.30 & 10.38 \\
    \hline F2-521 & . 001 & 5000 & 17.30 & 10.38 \\
    \hline F2-522 & . 002 & 5000 & 17.30 & 10.38 \\
    \hline F2-523 & . 003 & 5000 & 17.30 & 10.38 \\
    \hline F2-325 & . 005 & 3000 & 17.30 & 10.38 \\
    \hline F2-326 & . 006 & 3000 & 17.30 & 10.38 \\
    \hline F2-211 & . 01 & 2000 & 17.30 & 10.38 \\
    \hline F2-212 & . 02 & 2000 & 17.30 & 10.38 \\
    \hline F2-1515 & . 05 & 1500 & 17.30 & 10.38 \\
    \hline F2-0501 & . 1 & 500 & 19.20 & 11.52 \\
    \hline F2-0202 & . 2 & 250 & 25.25 & 15.15 \\
    \hline F2-02025 & . 25 & 250 & 27.90 & 16.74 \\
    \hline
    \end{tabular}

    Standard tolerance \(\pm 5 \%\), B characteristic. Inquiry should be directed to the factory for availability of capacities and voltages other than those listed above. Prices subject to change without notice
    

    \section*{TYPE GI}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capatity Mfd. & \begin{tabular}{l}
    Peak \\
    Wkg. Volts
    \end{tabular} & List Price & Resale Net Price \\
    \hline G1.641 & . 010001 & 600) & \$35.45 & \$21.27 \\
    \hline G 1-645 & . 000007 & lit10) & 38.20 & 22.92 \\
    \hline G 1-631 & . 11011 & cillo & 40.60 & 24.36 \\
    \hline G 1-632 & 0002 & ¢180) & 40.60 & 24.36 \\
    \hline G 1-634 & . 0001 & 600) & 44.35 & 26.61 \\
    \hline G 1-635 & . 01005 & 80006 & 46.65 & 27.99 \\
    \hline G1-621 & .001 & 400) & 46.65 & 27.99 \\
    \hline G1-62 \({ }^{\text {a }}\) & . 0015 & 6040 & 48.90 & 29.34 \\
    \hline G1-622 & . 002 & 6000 & 48.90 & 29.34 \\
    \hline G1.623 & 003 & 6040 & 50.60 & 30.36 \\
    \hline G1-624 & . 0104 & S000 & 50.60 & 30.36 \\
    \hline G1.625 & . 005 & 6000 & 50.60 & 30.36 \\
    \hline G1-526 & . \(001 ;\) & 5001 & 51.45 & 30.87 \\
    \hline G1-511 & . 01 & 5000 & 51.45 & 30.87 \\
    \hline G1-4115 & .015 & 4000 & 51.45 & 30.87 \\
    \hline G1-312 & . 02 & 3000 & 51.45 & 30.87 \\
    \hline
    \end{tabular}

    TYPE G2
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mfd. & Peak Wkg. Volts & List Price & Resale Net Price \\
    \hline G2-1031 & . 10001 & 10010 & \$65.55 & \$39.33 \\
    \hline G2.10315 & . 00015 & 10000 & 65.55 & 39.33 \\
    \hline G2.1032 & . \(000 \pm\) & 10000 & 65.55 & 39.33 \\
    \hline G 2-10325 & . \(0000 \pm\). & 10000 & 65.55 & 39.33 \\
    \hline G2-1035 & . 0005 & 10000 & 65.55 & 39.33 \\
    \hline G2-1021 & . 001 & 10000 & 65.55 & 39.33 \\
    \hline G2-10212 & . 0012 & 10000 & 65.55 & 39.33 \\
    \hline G2-10215 & . 0015 & 100111 & 65.55 & 39.33 \\
    \hline G2. 1022 & . \(00 \%\) & 10000 & 65.55 & 39.33 \\
    \hline G2-823 & . \(000 \%\) & 8000 & 65.55 & 39.33 \\
    \hline G2-824 & . 004 & 8000 & 65.55 & 39.33 \\
    \hline G 2-525 & . 005 & 5000 & 65.55 & 39.33 \\
    \hline G2-526 & .006 & 5000 & 69.15 & 41.49 \\
    \hline G 2-511 & . 01 & 5000 & 69.15 & 41.49 \\
    \hline G2-4115 & .015 & 4000 & 69.15 & 41.49 \\
    \hline G2-312 & . 02 & 3000 & 69.15 & 41.49 \\
    \hline
    \end{tabular}

    Type G ceramic cased capacitors are intended for service where highest voltage and R.F current ratings are required, such as in commercial transmitting or induction heating applications. All possible stens are taken in design and manufacturing operations to insure permanence of quality. Current ratings of these four sizes as well as detailed information on the Type G5 will be supplied upon request. Ferminal plates are designed to permit any usual connecting or mounting practices

    \section*{TYPES G1, G2, G3 AND G4 mica capacitors}
    

    TYPE G1, 2, 3 and 4

    \section*{TYPE G3}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Catalog Number & Capacity Mid. & Peak Wkg. Volts & List Price & Resale Net Price \\
    \hline G3-2045 & 010005 & 201000 & \$110.90 & \$66.54 \\
    \hline G3-2031 & . 11001 & 201100 & -121.00 & 72.60 \\
    \hline G3-2032 & . 00010 & 20010 & 131.10 & 78.66 \\
    \hline G3-20325 & . \(0100 \%\) & 20000 & 131.10 & 78.66 \\
    \hline G3.2033 & .01013 & \(\underline{0000}\) & 131.10 & 78.66 \\
    \hline G3-2035 & .0005 & 20000 & 137.15 & 82.29 \\
    \hline G3-2038 & . 00008 & 20000 & 137.15 & 82.29 \\
    \hline G3-2021 & . 0191 & 20000 & 141.15 & 84.69 \\
    \hline G3-15215 & .001.- & 15000 & 143.20 & 85.92 \\
    \hline G3.1522 & .0122 & 15000 & 143.20 & 85.92 \\
    \hline G3.1523 & .1113 & 15000 & 151.25 & 90.75 \\
    \hline G 3 -1524 & .001 & 15000 & 151.25 & 90.75 \\
    \hline G3. 1025 & .100\% & 10000 & 151.25 & 90.75 \\
    \hline G3.1026 & .006 & 10000 & 151.25 & 90.75 \\
    \hline G3-1028 & .008 & 10000 & 151.25 & 90.75 \\
    \hline G3.1011 & . 01 & 10000 & 151.25 & 90.75 \\
    \hline G 3 -512 & .02 & 5000 & 151.25 & 90.75 \\
    \hline G 3.313 & . 03 & 3000 & 151.25 & 90.75 \\
    \hline TYPE G & & & & \\
    \hline Catalog Number & Capacity Mfd. & Peak Wkg. Volts & List Price & Resale Not Price \\
    \hline G4-3043 & 00003 & 30000 & \$167.90 & \$100.74 \\
    \hline G 4-3045 & . 000005 & 330100 & 167.90 & 100.74 \\
    \hline G 4.3031 & . 0001 & 30000 & 210.30 & 126.18 \\
    \hline G4-30315 & . 00015 & 30004 & 210.30 & 126.18 \\
    \hline G 4.30325 & . 000025 & 30001 & 221.16 & 132.69 \\
    \hline G 4-3035 & . 00065 & 30000 & 221.16 & 132.69 \\
    \hline G4.3038
    G4-3021 & . 00108 & 30000 & 221.16 & 132.69 \\
    \hline G4-3021
    G4.252 & . 001 & 30000 & 229.10 & 137.46 \\
    \hline G4-2022 & . 011.7 & 250110 & 229.10 & 137.46 \\
    \hline G4-2023 & . 00 : & 20000 & 229.10 & 137.46
    137.46 \\
    \hline G4-2024 & . 004 & 20000 & 234.35 & 140.61 \\
    \hline G4-1525 & . 00.5 & 15000 & 242.00 & 145.20 \\
    \hline G4-1526 & . 006 & 15000 & 252.25 & 151.35 \\
    \hline G4-1228 & .008 & 12000 & 260.00 & 156.00 \\
    \hline G4-1011 & . 01 & 10000 & 272.44 & 163.46 \\
    \hline G4-612 & . 02 & 6000 & 272.44 & 163.46 \\
    \hline G4-514 & . 04 & 5000 & 272.44 & 163.46 \\
    \hline
    \end{tabular}

    TYPE G MICA CAPACITOR DIMENSIONS - INCHES
    \begin{tabular}{llllllr} 
    Type & A & B & C & D & E & F \\
    G1 & \(31 / 4\) & 318 & 218 & \(1 / 4\) & \(21 / 2\) & 37 \\
    G2 & \(41 / 4\) & 5 & \(31 / 2\) & \(1 / 4\) & 3 & .272 \\
    G3 & \(53 / 4\) & \(61 / 2\) & 5 & \(3 / 4\) & 4 & .377 \\
    G4 & \(53 / 4\) & \(61 / 2\) & 5 & \(3 / 4\) & \(53 / 4\) & .377 \\
    G5 & 8 & 9 & \(63 / 4\) & \(1 / 2\) & 10 & 37
    \end{tabular}

    Inquiry as to the availability of capacities and voltages other than those listed above should be directed to the factory

    \title{
    1 \\ Plastic Cayacitors，Inc． CHICAGO 47，ILL
    }

    \section*{GLASSCAPS DC FILTER TYPES}
    

    ORLITE TYPE OG

    Voltage Rated for Operation at \(85^{\circ} \mathrm{C}\) ．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Part Number & Capacity MFD & Volts
    DC & \[
    \begin{gathered}
    \text { Dime } \\
    \text { Lgth. }
    \end{gathered}
    \] & ons Dia． & List Price \\
    \hline 0G6－103 & ．11 & （i10） & \(1{ }_{1}{ }^{3}\) & f \({ }^{\text {d }}\) & \＄ 1.50 \\
    \hline 0G6－203 & ．112 & till & 1 \％\({ }^{1}\) & \％ & 1.60 \\
    \hline 0G6－503 & ．10\％ & 1；10 & \(1 \%\) & \％ & 1.75 \\
    \hline 0G6－104 & 1.1 & \(1 ; 1010\) & \(1: 4\) & \％ & 1.95 \\
    \hline 0G6－254 & 11.05 & \(1 ; 10\) & 13 & 管 & 2.30 \\
    \hline 0G6－504 & \(10 . .3\) & 8001 & \％ 3 & \％ & 2.60 \\
    \hline 0G10－103 & ．11 & 10611 & \(1{ }^{13}\) & 19 & 1.60 \\
    \hline OG10．203 & ． 02 & 1000 & \(1{ }^{16}\) & ， & 1.70 \\
    \hline 0G10．503 & ．17\％ & 11000 & 13 & 3 & 1.85 \\
    \hline OG10－104 & 11.1 & 11010 & 18 & \％ & 2.15 \\
    \hline 0G10－254 & 10.0 .5 & 111011 & \(\because\) & \％ & 2.50 \\
    \hline 0G15－103 & ．11 & 1.300 & 13 & 19 & 2.25 \\
    \hline OG15－203 & ．10］ & 1.500 & 18 & \％9\％ & 2.50 \\
    \hline 0G15－503 & ．10．7 & 1.5010 & \(13 / 4\) & \％ & 2.70 \\
    \hline OG15－104 & 1.1 & 1.500 & 13／4 & 紿 & 3.20 \\
    \hline OG15－254 & 11．\({ }^{\text {a }}\) & 1．500 & ， & \(1 \mathrm{1} /\) & 3.60 \\
    \hline OG20－103 & ．11 & \(\because 10101\) & \(1 \ddot{ }\) & 10 & 5.20 \\
    \hline OG20－203 & ．113 & \(\because 1100\) & 13 & \(\pi\) & 5.40 \\
    \hline OG20．503 & ．10： & \(\because 1000\) & \(1 \pi / 4\) & 㫛 & 5.60 \\
    \hline OG20－104 & 1.1 & 21000 & \(1: / 4\) & \(11 / 6\) & 6.00 \\
    \hline 0G20－254 & 0．2．i & \(\because 000\) & \(\because{ }^{\prime \prime}\) & 1\％ & 6.50 \\
    \hline OG25－502 & ．60\％ & \(\because 500\) & \(1{ }^{16}\) & 1： & 5.30 \\
    \hline OG25－103 & ． 11 & \(\therefore .500\) & \(1{ }^{\prime \prime}\) & \％ & 5.60 \\
    \hline OG25－203 & ．11： & 2．510 & \(13 / 4\) & 4 & 5.80 \\
    \hline OG25－503 & ．17 & \(\because .5100\) & \(\because\) & \(1 \%\) & 6.00 \\
    \hline 0G25－104 & 11.1 & 2.500 & \(\because\) & \(11 / 8\) & 6.50 \\
    \hline 0G25－254 & 10．2． & \(\because 500\) & \(31 / 1\) & \(1{ }^{\prime \prime}\) & 7.00 \\
    \hline OG30－502 & ． 110.0 & 31100 & \(1^{5}\) & 19 & 5.70 \\
    \hline OG30－103 & ．11 & 310001 & 13 & 4 & 6.00 \\
    \hline OG30－203 & －110 & 86000 & \(\cdots\) & \({ }_{3}\) & 6.20 \\
    \hline OG30－503 & －115 & ：31000 & \(\cdots\) & 等 & 6.30 \\
    \hline OG30－104 & 0.1 & 31000 & \(\because{ }^{14}\) & \(1{ }^{3} \times\) & 7.00 \\
    \hline OG30－254 & 13．2． & 31600 & 3 & \(1 \%\) 。 & 7.60 \\
    \hline
    \end{tabular}

    \section*{LUROL TYPE LF}

    Voltage Rated for Operation at 85 C ．
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Part Number & Capacity MFD & Volts DC & \multicolumn{2}{|l|}{Dimensions Lgth．Dia．} & List Price \\
    \hline LF4－503 & ．11\％ & 400 & \(11 / 4\) & 12 & \＄ 3.40 \\
    \hline LF4－104 & \({ }^{1} .1\) & \(\ddagger 00\) & \(11 / 4\) & \％ & 3.60 \\
    \hline LF4－254 & 11． & \(+601\) & \(1{ }^{1}\) & 3 & 3.80 \\
    \hline LF4－504 & 11.5 & 1601 & \(\because\) & 3 & 4.40 \\
    \hline LF10－203 & ．19－1 & 11000 & \(1{ }^{1} 4\) & 1： & 3.40 \\
    \hline LF10－503 & ．115 & 111010 & \(1{ }^{1 /}\) & 4 & 3.60 \\
    \hline LF10－104 & 11.1 & 10001 & \(\because\) & \％，4 & 3.80 \\
    \hline LF10－254 & 11.2 .5 & 1006 & \(\because\) & \(11 /\) & 4.10 \\
    \hline LF20－103 & ．11 & \(\because 600\) & \(11 / 4\) & \(3 / 4\) & 5.30 \\
    \hline LF20－203 & ．102 & \(\because 000\) & \(11 / 4\) & \％ & 5.50 \\
    \hline LF \(20-503\) & ．10．5 & \(\because 1100\) & 2 & 13 & 5.80 \\
    \hline LF20．104 & 11.1 & \(\because 6010\) & 2 & \(11_{5}\) & 6.30 \\
    \hline LF20－254 & 10．3．7 & \(\because 1000\) & \(\because\) & 15／8 & 6.90 \\
    \hline LF30－103 & ．11 & 30001 & \(1{ }^{1} 4\) & 3 & 6.20 \\
    \hline LF 30.203 & ．110 & 30100 & \(11 / 4\) & \％ & 6.50 \\
    \hline LF 30－503 & ．10．） & 3000 & \(\because\) & \(1 \frac{1 / 8}{4}\) & 6.90 \\
    \hline LF30．104 & 1.1 & 311（14） & \(\because\) & \(1 \times\) & 7.30 \\
    \hline LF 30－254 & 4．25 & 316041 & 3 & \(15 \%\) & 8.10 \\
    \hline LF40．502 & ． 1115 & f0010 & 1 \％ & 13 & 6.60 \\
    \hline LF40－103 & ． 01 & 41100 & \(2{ }^{2}\) & ， & 6.80 \\
    \hline LF40－203 & ．113 & 10100 & 2 & \(11 / 8\) & 7.50 \\
    \hline LF40－503 & ．11） & 1000 & \(\stackrel{\square}{2}\) & \(15 / 8\) & 8.20 \\
    \hline LF60－502 & ． \(1011 . \%\) & 4000 & \(\because\) & \(3 / 4\) & 7.70 \\
    \hline LF60－103 & ．11］ & lilltol & \(\because\) & 部 & 7.90 \\
    \hline LF60－503 & ．10\％ & 1．1F0\％ & 3 & \(15^{\circ}\) & 11.40 \\
    \hline LF80－502 & ．111） & － 1901 & \(\underline{3 / 8}\) & 14 & 8.80 \\
    \hline LF80－103 & ．11 & － 11010 & \(\because 38\) & \(1:{ }_{4}\) & 9.60 \\
    \hline LF80－203 & ．193 & － 11011 & \(37 / 8\) & \(10 / 8\) & 11.80 \\
    \hline LF80．503 & ．11． & ＊1060 & 5．7\％ & \(75 / 4\) & 15.20 \\
    \hline LF120－202 & ．110 & 1 \(\because \mathrm{KV}\) & \(\because 3^{3}\) & \＃3 & 15.80 \\
    \hline LF120－502 & ． 110 i & 12 KV & ： \(7 / 8\) & 部 & 18.40 \\
    \hline LF120－103 & ． 11 & 12 KV & \(37 / 8\) & \(1{ }^{3}\) & 19.60 \\
    \hline LF 120－203 & ．113 & 1ごい & \(57 / 8\) & \(13 / 2\) & 22.50 \\
    \hline
    \end{tabular}
    the above are partial listings．other voltages and capacitances are available．

    \title{
    
    }

    \section*{GLASSCAPS DC FILTER TYPES \\ LUROL TYPE LG \\ Voltage Rated for Operation at \(125^{\circ} \mathrm{C}\) ． \\ }
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Part Number & \[
    \begin{gathered}
    \text { Capacity } \\
    \text { MFD }
    \end{gathered}
    \] & Volts DC & \multicolumn{2}{|l|}{Dimensions Lgth．Dia．} & \multicolumn{2}{|l|}{List Price} \\
    \hline LG7－203 & \(\cdots\) & －1111 & \(1{ }^{1}\) & ？ & \＄ & 4.40 \\
    \hline LG7－503 & 11. & 7！＂ & 11： & \％ & & 4.60 \\
    \hline LG7－104 & 10.1 & こ！11 & & & & 4.80 \\
    \hline LG7－254 & 0．2\％ & －10 & \(\because\) & \(1{ }^{14}\) & & 5.20 \\
    \hline LG10－203 & ．113 & \(11 / 1 / 4\) & \(1{ }^{1}\) & & & 6.50 \\
    \hline LG10－503 & ．11\％ & 111011 & & & & 6.80 \\
    \hline LG10－104 & 0.1 & 10 w & \(\because\) & 1：3 & & 7.40 \\
    \hline LG10－254 & 11.25 & 10.10 & \(\because\) & \(1^{\text {\％}}\)＊ & & 8.20 \\
    \hline LG15－203 & （12） & 1 10n & \(1{ }^{1 /}\) & \(\because\) & & 8.10 \\
    \hline LG15－503 & ． 11. & 1．：14 & \(\because\) & \(1{ }^{1 \%}\) & & 8.70 \\
    \hline LG15－104 & 11.1 & 1.701 & \(\because\) & \(1{ }^{1 / 4}\) & & 9.10 \\
    \hline LG15－254 & 11.2 & 1．00\％ & 3 & \(1{ }^{\text {\％}}\) & & 9.60 \\
    \hline LG20－103 & ．11 & － 1 ¢0\％ & 2 & 1． & & 8.10 \\
    \hline LG20－203 & ．112 & －110， & \(\underline{2}\) &  & & 8.70 \\
    \hline LG20－503 & \(\ldots\) & \(30 \cdot 0\) & \(\because\) & \(1{ }^{*}\) & & 9.40 \\
    \hline LG20－104 & 11. ？ & \(\because\) & 3 & 1：－ & & 10.20 \\
    \hline LG30－502 & ．136： & ： 1110 & \(\because\) & ＂ & & 8.90 \\
    \hline LG30－103 & ．11 & ＂ぃ！！ & \(\stackrel{2}{2}\) & & & 9.10 \\
    \hline LG30－203 & ．10： & 81810 & 2 & \(1 \because\) & & 9.70 \\
    \hline LG30－503 & ．10：5 & ：\(川 \cdots\) & ： & 1： & & 12.50 \\
    \hline LG60－202 & ．1110： & ，．010］ & 3： & ＂－ & & 17.40 \\
    \hline LG60－502 & ，110： & 1：100 & 37 & \％ & & 20.00 \\
    \hline LG60－103 & ． 1 & ＂：lい＂ & \(3{ }^{3}\) & \(1:\) & & 22.40 \\
    \hline LG60－203 & 110 &  & \(5_{5}{ }_{5}\) & 13， & & 24.00 \\
    \hline LG90－202 & ＊11： & ：116 11 & ： 1. & 11. & & 23.30 \\
    \hline LG90－502 & ．1010 & ： 1101 & 1：＂ & \(1{ }^{1 /}\) & & 25.80 \\
    \hline LG90－103 & ． 11 & ！！ 141 & ：\(\%\) & \(1 \therefore\) & & 27.20 \\
    \hline LG90－203 & ．12 & － 1 ¢， & \(\cdots 1\) & 1 & & 31.50 \\
    \hline LG150－201 & ．1011 & 1．5k & \(\because 1\) & \(\because\) & & 27.70 \\
    \hline LG150－501 & ．100\％ & 1．5心 & \(\therefore \%\) & & & 30.30 \\
    \hline LG150－102 & ．1041 & 1，心 & \％： & \(1{ }^{1}\) & & 32.20 \\
    \hline LG150－202 & ．1003 & \(1 .:\) ぶ & ：\％ & \(1: 3\) & & 36.70 \\
    \hline
    \end{tabular}

    POLYSTYRENE TYPE PG
    The Finest Capacitor for Computers and Standards
    \begin{tabular}{ccccrr}
    \hline Part & Capacity & Volts & \multicolumn{2}{c}{\begin{tabular}{c} 
    Dimensions \\
    Number
    \end{tabular}} & MFD
    \end{tabular}

    RF AND PULSE GLASSCAPS

    Voltage Rated for Operation at 150 C．

    ORLITE TYPE OE
    Voltage Rated for Operation at \(65^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Part Number & Volts DC & \[
    \begin{gathered}
    \text { Capacity } \\
    \text { MFD }
    \end{gathered}
    \] & A & \[
    \begin{gathered}
    \text { Case Size } \\
    \text { B }
    \end{gathered}
    \] & C & \multicolumn{2}{|r|}{\[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \]} \\
    \hline OE20-105 & -6, & 1.0 & \(2{ }^{2}\) & \(211 / 2\) & \(1{ }^{3} 8\) & \$ & 7.00 \\
    \hline 0E20-205 & 2000 & 2 & \(37 / 8\) & \(31 \%\) & \(1{ }^{15}\) & & 8.10 \\
    \hline OE20-405 & \(2 \times 10\) & 4 & \(31 / 2\) & 3 3 & \(1{ }^{1}\) & & 11.00 \\
    \hline OE20-605 & 2060) & 1 & \(4{ }^{4}\) & \(33 / 4\) & 13 & & 15.50 \\
    \hline 0E30-105 & 3000 & 1.0 & \(33 / 4\) & 012 & \(1{ }^{3} 8\) & & 14.50 \\
    \hline OE30-205 & 3000 & 2 & \(4{ }^{1 / 3}\) & \(3{ }^{3}\) & \(11 / 4\) & & 18.40 \\
    \hline 0E30-405 & 3000 & \(t\) & 45 & \(3{ }^{3} 4\) & 211 & & 25.50 \\
    \hline 0E30-605 & 30100 & \(f\) & \(3{ }^{3}\) & \(4{ }^{*}\) & \(33 / 4\) & & 45.00 \\
    \hline 0E40-105 & 41000 & 1.0 & \(33 / 4\) & \(3{ }^{3}\) & \(11 / 4\) & & 31.00 \\
    \hline OE40-205 & +000 & \(\because\) & 43 & 38 & 13 & & 38.50 \\
    \hline 0E40-405 & 4000 & 4 & \(33 / 4\) & 1 & \(33 / 4\) & & 54.20 \\
    \hline 0E40-605 & 4000 & 6 & 47 & 4 \% & \(33 / 4\) & & 69.80 \\
    \hline OE50-105 & 5000 & 1.0 & 3 5/8 & \(3 \%\) & \(13 / 4\) & & 35.00 \\
    \hline OE50-205 & 5000 & 2 & \(41 / 8\) & 38 & \(21 / 4\) & & 44.30 \\
    \hline OE50-405 & 5000 & 4 & \(43 / 4\) & 4 & 3 & & 67.00 \\
    \hline OE50-605 & 5000 & fi & 63/4 & 4 it & 3 34 & & 94.00 \\
    \hline 0E60-105 & 4000 & 1.0 & 5 & \(33 / 4\) & 234 & & 49.00 \\
    \hline 0E60-205 & 8000 & , & 5 & 1 i & \(33 / 4\) & & 65.00 \\
    \hline 0E60-405 & 8000 & 4 & \(81 / 2\) & 4 \% & \(33 / 4\) & & 94.00 \\
    \hline OE60-605 & 6000 & 6 & 914 & \(\times\) & 4 & & 30.00 \\
    \hline OE75-105 & 7500 & 1.0 & & 33 & 318 & & 58.00 \\
    \hline 0E75-205 & 5 E 00 & 2 & 7 & 4 & & & 78.00 \\
    \hline 0E75-405 & \%\%00 & 4 & \(91 / 4\) & \(\checkmark\) & & & 18.00 \\
    \hline 0E75-605 & 7500 & 1 & 7 & 1314 & 41/4 & & 57.00 \\
    \hline OE100-105 & 10 KV & 1.0 & \(51 / 8\) & \(4 \%\) & \(3 \pi / 4\) & & 82.00 \\
    \hline OE100-205 & 10) KV & \(\because\) & 9 & 4 & \(33 / 4\) & & 05.00 \\
    \hline OE100-405 & 10 KV & 4 & 11 & - & & & 40.00 \\
    \hline OE100-605 & 10 KV & 6 & ! \(11 / 4\) & \(131 / 2\) & +14 & & 78.00 \\
    \hline OE150-254 & 15 KV & 0.25 & 434 & :3 \(3 / 4\) & 3 \% \({ }^{\text {8 }}\) & & 72.00 \\
    \hline OE100-504 & 15 KV & 0.5 & \(7 \%\) & \(4{ }^{4}\) & \(3 \frac{3}{4}\) & & 16.00 \\
    \hline 0E150-105 & 15 KV & 1.0 & 7 & & & & 58.00 \\
    \hline 0E150-205 & 15 KV & \(\because\) & \(131 / 8\) & 1:318 & 414 & & 89.00 \\
    \hline
    \end{tabular}

    \section*{ORLITE TYPE OC \\ Derated ta 75\%}

    Nameplate Voltage for \(105^{\circ} \mathrm{C}\). Operation Voltage Rated for Operation at \(85^{\circ} \mathrm{C}\).
    \begin{tabular}{llllllr}
    \hline \begin{tabular}{c} 
    Part \\
    Number
    \end{tabular} & \begin{tabular}{c} 
    Volts \\
    DC
    \end{tabular} & \begin{tabular}{c} 
    Capacity \\
    MFD
    \end{tabular} & A & Case Size \\
    B
    \end{tabular} C \begin{tabular}{c} 
    List \\
    Price
    \end{tabular}
    

    LUROL TYPE LC
    Voltage Rated for Operation at \(125^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Part Number & Volts DC & \[
    \begin{aligned}
    & \text { Capacity } \\
    & \text { MFD }
    \end{aligned}
    \] & A & \[
    \begin{gathered}
    \text { Case Size } \\
    B
    \end{gathered}
    \] & C & List
    Price \\
    \hline LC3-205 & 300 & 2 & 21/8 & \(13 /\) & 1 & \$ 10.60 \\
    \hline LC3-405 & 300 & 4 & \(31 / 2\) & 12 & & 13.40 \\
    \hline LC3-605 & 300 & 1 & \(31 \%\) & \(21 / 2\) & 178 & 16.60 \\
    \hline LC3-805 & 300 & \(\checkmark\) & 35/8 & \(33_{4}\) & \(11 / 4\) & 22.00 \\
    \hline LC7-105 & T00 & 1 & 27/4 & \(13 / 4\) & , & 14.20 \\
    \hline LC7-205 & 760 & \(\because\) & \(27 / 8\) & \(\underline{1} 1 / 2\) & \(1{ }^{176}\) & 17.50 \\
    \hline LC7-405 & 700 & 1 & 4\% & 21/2 & \(1{ }^{1 / 6}\) & 26.20 \\
    \hline LC7-605 & 700 & ; & 3 m & 33 & \(1 \%\) & 35.50 \\
    \hline LC7-805 & 700 & \(\checkmark\) & \(3 \%^{\prime}\) & \(33 / 4\) & \(21 / 4\) & 45.60 \\
    \hline LC10-504 & 1000 & 11.5 & 214 & \(21 / 2\) & \(1{ }^{3} 8\) & 13.00 \\
    \hline LC10-105 & 11000 & 1 & \(31 / 4\) & -1/1/2 & \(1{ }^{19}\) & 16.50 \\
    \hline LC10-205 & 1000 & 2 & \(3 \%\) & \(33 / 4\) & \(11 /\) & 25.20 \\
    \hline LC10-405 & 11000 & 4 & \(3{ }^{36}\) & \(33 / 4\) & \(21 / 4\) & 41.30 \\
    \hline LC10-605 & 1000 & © & \(35 \%\) & \(33 / 4\) & \(3{ }^{3} 8\) & 59.20 \\
    \hline LC15-504 & 1.500 & 0.5 & 278 & \(21 / 2\) & \(1{ }^{\text {哯 }}\) & 16.20 \\
    \hline LC15-105 & 1500 & 1 & \(311 / 2\) & \(33 / 4\) & \(11 / 4\) & 23.60 \\
    \hline LC15-205 & 1.500 & \(\because\) & \(31 / 2\) & \(3^{3} 3\) & \(21 /\) & 40.60 \\
    \hline LC15-405 & 1.700 & \(+\) & \({ }_{\text {fi }}{ }^{\text {\% }}\) & 334 & \(\because 14\) & 69.60 \\
    \hline LC15-605 & 1500 & \({ }^{\text {i }}\) & (1) \({ }^{3}\) & \(33 / 4\) & \(3{ }^{\frac{3}{818}}\) & 104.00 \\
    \hline LC20-504 & \(\because 000\) & 19.5 & \(31 / 4\) & \(33 / 4\) & \(13 / 4\) & 26.40 \\
    \hline LC20-105 & \(\because 000\) & , & \(333 / 4\) & 33 & \(21 / 4\) & 42.60 \\
    \hline LC20-205 & 2000 & , & \(51 / 4\) & \(33 \%\) & \(3{ }^{3}\) & 76.00 \\
    \hline LC20-405 & 20100 & \(+\) & \(61 / 2\) & 4 & 33 & 131.00 \\
    \hline LC30-254 & 3000 & 11.25 & \(3 \%\) & \(3{ }^{3}\) & \(11 / 4\) & 25.50 \\
    \hline LC30-504 & 31400 & 0.5 & \(33 / 4\) & 33 & 2114 & 42.70 \\
    \hline LC30-105 & \(31100^{\circ}\) & 1 & 53/8 & 334 & \(3{ }^{3}\) & 73.00 \\
    \hline LC30-205 & 3100 & \(\because\) & 159\% & 414 & 3314 & 124.50 \\
    \hline LC40-104 & 4000 & 10.1 & 4 & \(33 / 4\) & \(13 / 4\) & 30.80 \\
    \hline LC40-254 & 4000 & 0.25 & 4 & 33 & 21/4 & 47.50 \\
    \hline LC40-504 & 4000 & 0.5 & 63,4 & \(3 \%\) & \(2{ }^{11}\) & 89.10 \\
    \hline LC40-105 & 4000 & 1 & \(7^{3 \times}\) & 4 解 & \(3 \%\) & 137.60 \\
    \hline
    \end{tabular}

    POLYSTYRENE TYPE PC
    The Finest Capacitor for Camputers and Standards
    \(\left.\begin{array}{llllllr}\hline \begin{array}{c}\text { Part } \\
    \text { Number }\end{array} & \begin{array}{c}\text { Volts } \\
    \text { DC }\end{array} & \begin{array}{c}\text { Capacity } \\
    \text { MFD }\end{array} & \text { A } & \text { Case Size } \\
    8\end{array}\right)\) C \begin{tabular}{c} 
    List \\
    Price
    \end{tabular}
    the above are partial listings. other voltages and capacities are available.

    \section*{AEROUOR}

    \section*{Distributor Division}

    BRAND NEW CATALOG OF COMPLETE AEROVOX LINE (CATALOG DC-359)
    Space limitations prevent us from listing the complete Aerovox line of capacitors, resistors and filters. As a result, the Aerovox listing on the following pages contains only those industrial items that are of immediate interest to you. However, if you would like a complete catalog of the entire Aerovox line, simply write on your letterhead for Aerovox Catalog DC-359, illustrated here. This brand new edition lists all items
    for service and industrial applications including hundreds: DC-359, illustrated here. This brand new edition lists all items
    for service and industrial applications including hundreds of new items never before listed.

    \section*{AEROVOX CATALOGS} mustron the
    
    

    \section*{AC CAPACITORS (Catalog MS-55-10)}

    A complete catalog and replacement guide for the users of AC capacitors for motor-start and motor-run applications. Includes a complete section on airconditioning capacitors with up-to-the-minute replacement information.
    

    \section*{JAN MICA CAPACITORS \\ (Catalog DM-542)}

    Complete listing of the more popular commercial and military mica dielectric capacitors. Cross-referenced with JAN specifications. Inclucles molded and transmitting mica capacitors along with important color-code information.

    \section*{JAN PAPER CAPACITORS (Catalog DJ-5.41)}

    A complete listing of paper-oil capacitors as manufactured to specification JAN-C-25 and MIL-C-25A. All items cross-referenced with JAN specifications. All items listed are oilfilled. metal cased units, and are immersion proof and hermetically-sealed to meet all applicable JAN and MIL specifications.

    \section*{AFH \\ ELECTROLYTIC CAPACTORS (Catalog AFH-355)}

    The most complete line in the industry . . 738 twist-prong electrolytic capacitors, all rated for \(85^{\circ} \mathrm{C}\) operation. Listing includes 81 single units, 132 clual units, 281 triple units, and 244 quadruple units. In addition, a complete listing of PRS tubular electrolytics and SRE miniature Bantam electrolytics.

    \section*{DEROUOB}

    \section*{Distributor Division}
    

    \section*{ELECTROLYTICS}

    \author{
    Twist-Prong Base Electrolytic Capacitors
    }

    THE ONI.Y COMPLETE LINE
    OF TWIST-PRON(; EIECTROLYTICS

    SINGLES • DUALS • TRIPLES • QUADS
    

    Hermetically - sealed aluininum can unit, threaded cover with hex nut and washer for convenient mounting on chassis. Washer can be used to insulate can from chassis. Terminals molded in cover. Cathode connection through terminal in cover These units are the equivalent of case style CE41 and 42 of specufication JAN C62.
    \begin{tabular}{c|c|c}
    \hline \begin{tabular}{c} 
    Cap. \\
    Widd.
    \end{tabular} & \begin{tabular}{c} 
    Can Size \\
    Dia. 1 Hiht.
    \end{tabular} & List Price \\
    \hline
    \end{tabular}
    

    TYPE G450
    \begin{tabular}{|c|c|c|}
    \hline 450 & VDCW 500V. Surge & Peak \\
    \hline 4 & 1-3/8 \(\times 2-1 / 4\) & 2.15 \\
    \hline 8 & \(1-3 / 8 \times 2-1 / 4\) & 2.25 \\
    \hline 10 & \(1-3 / 8 \times 2-1 / 4\) & 230 \\
    \hline 12 & \(1-3 / 8 \times 2-1 / 4\) & 235 \\
    \hline 16 & \(1-3 / 8 \times 2-1 / 4\) & 2.40 \\
    \hline 20 & \(1-3 / 8 \times 2-1 / 4\) & 2.55 \\
    \hline 30 & \(1-3 / 8 \times 2-1 / 4\) & 2.70 \\
    \hline 40 & \(1-3 / 8 \times 2-3 / 4\) & 2.75 \\
    \hline 80 & \(1-3 / 8 \times 4-1 / 4\) & 2.80 \\
    \hline
    \end{tabular}

    DUAL ELEMENT
    TYPE G450
    \begin{tabular}{l|l|l}
    \(8-8\) & \(1-3 / 8 \times 2-1 / 4\) & 3.25 \\
    \(8-16\) & \(1-3 / 8 \times 2-1 / 4\) & 3.50 \\
    \(10-10\) & \(1-3 / 8 \times 2-1 / 4\) & 3.35 \\
    \(12-12\) & \(1-3 / 8 \times 2-1 / 4\) & 3.45 \\
    \(16-16\) & \(1-3 / 8 \times 2-3 / 4\) & 3.80 \\
    \(20-20\) & \(1-3 / 8 \times 2.3 / 4\) & 4.05
    \end{tabular}
    compact assemblles.
    \begin{tabular}{c|c|l}
    \hline \begin{tabular}{c} 
    Cap. \\
    Wtd
    \end{tabular} & \begin{tabular}{c} 
    Can Size \\
    Dia. \(~\) \\
    Hght.
    \end{tabular} & list Price \\
    \hline
    \end{tabular}

    DUAL ELEMENT TYPE GL475
    \(1-3 / 8 \times 4\) TYPE GL450
    \(8-8\)
    \(8-16\)
    \(10-10\)
    \(1.3 / 8 \times 4\)
    \(1-3 / 8 \times 4\)
    \(1-3 / 8 \times 4\)
    \(1-3 / 8 \times 4\)

    \section*{TYPE GL}

    SINGLE ELEMENT TYPE GL600 600 VDCW 750 V . Surge Peak
    

    \section*{TYPE GL475}

    475 VDCW 525V. Surge Peak
    \begin{tabular}{r|r|r}
    8 & \(1-3 / 8 \times 3\) & 2.75 \\
    12 & \(1-3 / 8 \times 3\) & 2.95 \\
    16 & \(1-3 / 8 \times 3\) & 3.15
    \end{tabular}

    TYPE GL450
    450 VDCW 500V. Surge Peak
    4
    8
    10
    12
    16
    20
    30
    40
    80
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 3\)
    \(1-3 / 8 \times 4\)
    Peak
    2.00
    2.20
    2.30
    2.40
    2.45
    2.75
    3.00
    3.15
    4.90
    4.90

    \section*{TYPE GL and GLS}

    These ever-popular liverted-mounting, aluminum can units, are furnished with the same high purity materlals as the more expensive type E and G. Twu separate color-coded leads \(4^{\prime \prime}\) long, for each section. Inverted chassis mounting can be made, using palnut and threaded neck.

    Type GL is furnished in 1-3/8* diameter.
    Type GLS is similar, except furnished in \(1^{*}\) diameter cans for more
    \begin{tabular}{c|c|l}
    \hline \begin{tabular}{c} 
    Cig. \\
    Mfd.
    \end{tabular} & \begin{tabular}{c} 
    Cax Size \\
    Dia. \(~\) \\
    Mght.
    \end{tabular} & list Price \\
    \hline
    \end{tabular}
    

    TYPE GLS SINGLE ELEMENT TYPE GLS450 450 VDCW 500V Surge Peak
    \begin{tabular}{r|l|r}
    4 & \(1 \times 2-3 / 16\) & \(\$ 2.00\) \\
    8 & \(1 \times 2-11 / 16\) & 2.20 \\
    12 & \(1 \times 3-1 / 4\) & 2.40 \\
    16 & \(1 \times 3-1 / 4\) & 2.45
    \end{tabular}

    TYPE GLS250
    250 VDCW 300V Surge Peak
    \begin{tabular}{r|l|l}
    4 & \(1 \times 2-3 / 16\) & 1.40 \\
    8 & \(1 \times 2-11 / 16\) & 1.65 \\
    12 & \(1 \times 2-11 / 16\) & 1.75 \\
    16 & \(1 \times 3-1 / 4\) & 1.80
    \end{tabular}

    DUAL ELEMENT TYPE GLS450
    \begin{tabular}{l|l|l}
    8.8 & \(1-3 / 8 \times 3\) & 3.00
    \end{tabular}
    

    \section*{"DANDEE" (85º)}

    \author{
    Metal Tubular \\ Electrolytic \\ Capacitors
    }

    \section*{ELECTROLYTICS}

    Compact, electrolytic tubular, furnished in aluminum can, with cardboard insulating sleeve. For use in television and radio applications where space is at a premium.

    Single section capacitors are furnished with bare, tinned copper leads \(3^{\prime \prime}\) long. Negative grounded to case. Multiple units furnished with insulated, stranded copper leads \(5^{\prime \prime}\) long. Negative is common and grounded to can.

    SINGLES • DUALS • TRIPLES • MULTIPLES
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Capacity Mid. & Size & List Price & Capacity Mfo. & Size & List Price \\
    \hline \multicolumn{3}{|c|}{PRS SINGLES} & & 150 V (cont.) & \\
    \hline \multicolumn{3}{|c|}{4V} & 100 & 15/16 \(\times 2-1 / 4\) & 1.75 \\
    \hline & & & 150 & \(1-1 / 16 \times 3\) & 1.90 \\
    \hline 2000 & 1-1/16 \(\times 2-3 / 4\) & 2.30 & 200 & \(1-1 / 16 \times 3\) & 2.20 \\
    \hline \multicolumn{3}{|c|}{6 V} & 300 & 1-1/16 \(\times 4\) & 2.55 \\
    \hline 100 & \(11 / 16 \times 1-1 / 4\) & 1.20 & \multicolumn{3}{|c|}{250 V} \\
    \hline 250 & \(11 / 16 \times 1-3 / 4\) & 1.35 & 4 & 11/16 \(\times 1-1 / 4\) & 1.00 \\
    \hline 500 & \(13 / 16 \times 1-3 / 4\) & 1.55 & 1 & \(11 / 16 \times 1-1 / 2\) & 1.15 \\
    \hline 1000 & 15/16 \(\times 2-1 / 4\) & 1.90 & 12 & \(13 / 16 \times 1-3 / 4\) & 1.25 \\
    \hline 1500 & 1-1/16 \(\times 2-1 / 4\) & 2.10 & 16 & \(13 / 16 \times 1-1 / 2\) & 1.30 \\
    \hline 2000 & 1-1/16 \(\times 2-3 / 4\) & 2.30 & 20 & \(13 / 16 \times 1-1 / 2\) & 1.35 \\
    \hline \multicolumn{3}{|c|}{\multirow[t]{2}{*}{12 V}} & 30 & \(13 / 16 \times 2-1 / 4\) & 1.45 \\
    \hline & & & 40 & \(13 / 16 \times 2-1 / 4\) & 1.55 \\
    \hline 100 & \(11 / 16 \times 1-1 / 2\) & 1.20 & 50 & \(15 / 16 \times 2-1 / 4\) & 1.70 \\
    \hline 250 & \(13 / 16 \times 1-3 / 4\) & 1.45 & 60 & 15/16 \(\times 2-1 / 4\) & 1.80 \\
    \hline 500 & \(15 / 16 \times 2-1 / 4\) & 1.70 & \multicolumn{3}{|c|}{350 V} \\
    \hline \multicolumn{3}{|l|}{\multirow[t]{2}{*}{\(1000|15 \mathrm{l}| 15 \mathrm{~V}\)}} & 4 & 11/16 \(\times 1-1 / 2\) & 1.05 \\
    \hline & & & 8 & 13/16 \(\times 1-1 / 2\) & 1.20 \\
    \hline & & & 10 & \(13 / 16 \times 1-3 / 4\) & 1.25 \\
    \hline 250 & \(11 / 16 \times 1-1 / 2\)
    \(13 / 16 \times 2-1 / 4\) & 1.25
    1.55 & 12 & \(13 / 16 \times 1-3 / 4\) & 1.30 \\
    \hline 500 & \(15 / 16 \times 2-1 / 4\) & 1.75 & 16 & \(13 / 16 \times 1-3 / 4\) & 1.40 \\
    \hline 1000 & 1-1/16 \(\times 2-1 / 4\) & 2.30 & 24
    30 & \(15 / 16 \times 1-3 / 4\)
    \(13 / 16 \times 2-1 / 4\) & 1.55
    1.65 \\
    \hline \multicolumn{3}{|c|}{25V} & 40 & \(15 / 16 \times 2-1 / 4\) & 1.75 \\
    \hline 10 & 9/16 \(\times 1-1 / 4\) & 1.00 & 50 & \(1-1 / 16 \times 2-1 / 4\) & 1.85 \\
    \hline 16 & \(9 / 16 \times 1-1 / 4\)
    \(9 / 16 \times 1-1 / 4\) & 1.00 & \multicolumn{3}{|c|}{\multirow[b]{2}{*}{450 V}} \\
    \hline 25 & \(9 / 16 \times 1-1 / 4\) & 1.00 & & & \\
    \hline 50 & \(11 / 16 \times 1-1 / 2\) & 1.10 & & & 1.10 \\
    \hline 100 & \(13 / 16 \times 1-1 / 2\) & 1.35 & 2 & 9/16 \(\times 1-1 / 4\) & 1.10 \\
    \hline 250 & 15/16 \(\times 2-1 / 4\) & 1.70 & & \(11 / 16 \times 1-1 / 2\) & 1.15 \\
    \hline 500 & \(1-1 / 16 \times 2-1 / 2\) & 2.30 & & \(13 / 16 \times 1-1 / 2\) & 1.25 \\
    \hline \multicolumn{3}{|c|}{50 V} & 10 & 13/16 \(\times 1-3 / 4\) & 1.30 \\
    \hline 10 & \(9 / 16 \times 1-1 / 4\) & 1.00 & 12
    16 & \(15 / 16 \times 1-1 / 2\)
    \(15 / 16 \times 1-3 / 4\) & 1.35
    1.40 \\
    \hline 20 & \(11 / 16 \times 1-1 / 4\) & 1.00 & 16
    20 & \(15 / 16 \times 1.3 / 4\)
    \(1.1 / 16 \times 1-3 / 4\) & 1.40
    1.55 \\
    \hline 25 & \(11 / 16 \times 1-1 / 4\) & 1.05 & 30 & 1-1/16 \(\times 2-1 / 4\) & 1.70 \\
    \hline 50 & \(11 / 16 \times 1-3 / 4\) & 1.20 & 40 & 1-1/16 \(\times 2-1 / 2\) & 1.80 \\
    \hline 100 & \(13 / 16 \times 1-3 / 4\) & 1.40 & 50 & \(1 \times 3\) & 2.10 \\
    \hline 150
    250 & \(15 / 16 \times 1-3 / 4\) & 1.55 & 60 & 1-1/16 \(\times 3-1 / 4\) & 2.35 \\
    \hline 250 & 15/16 \(\times 1-3 / 4\) & 1.75 & 80 & \(1-1 / 16 \times 3-3 / 4\) & 2.80 \\
    \hline \multicolumn{3}{|c|}{150 V} & 100 & 1-1/16 \(\times 3-3 / 4\) & 3.20 \\
    \hline 4 & \(9 / 16 \times 1-1 / 4\) & 1.00 & \multicolumn{3}{|c|}{500 V} \\
    \hline 8 & \(11 / 16 \times 1-1 / 4\) & 1.05 & 4 & 11/16 \(\times 2\) & 1.20 \\
    \hline 10 & \(11 / 16 \times 1-1 / 4\) & 1.05 & 8 & 13/16 \(\times 3-1 / 16\) & 1.30 \\
    \hline 12 & \(11 / 16 \times 1-1 / 4\) & 1.10 & 10 & 15/16 \(\times 3-1 / 16\) & 1.35 \\
    \hline 16 & \(11 / 16 \times 1-1 / 2\) & 1.15 & 12 & 15/16 \(\times 3-1 / 16\) & 1.40 \\
    \hline 20 & \(11 / 16 \times 1-3 / 4\) & 1.20 & 16 & \(1-1 / 16 \times 3-1 / 16\) & 1.50 \\
    \hline 24
    30 & \(11 / 16 \times 1-3 / 4\)
    \(13 / 16 \times 1-1 / 2\) & 1.25
    1.30 & 20 & \(1-1 / 16 \times 2-1 / 4\) & 1.60 \\
    \hline 40 & 13/16 \(\times 1-3 / 4\) & 1.35 & 30 & \(1-1 / 16 \times 2-3 / 4\) & 1.75 \\
    \hline 50 & \(15 / 16 \times 1-3 / 4\) & 1.40 & & 600 V & \\
    \hline 60 & 15/16 \(\times 1-3 / 4\) & 1.50 & 8 & 15/16 \(\times 3-1 / 16\) & 1.40 \\
    \hline 80 & 15/16 \(\times 2-1 / 4\) & 1.60 & 10 & 15/16 x 3-1/16 & 1.45 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|}
    \hline Capxity Mid. & Size & List Price \\
    \hline & 600 V (cont.) & \\
    \hline 12 & 1-1/16 \(\times 3-1 / 16\) & 1.50 \\
    \hline 16 & 1-1/16 \(\times 3-9 / 16\) & 1.65 \\
    \hline 20 & 1-1/16 \(\times 3-1 / 2\) & 1.70 \\
    \hline \multicolumn{3}{|c|}{700 V} \\
    \hline 8 & \(15 / 16 \times 3-1 / 16\) & 1.50 \\
    \hline 10 & 1-1/16 \(\times 3-1 / 16\) & 1.55 \\
    \hline 12 & 1-1/16 \(\times 3-9 / 16\) & 1.60 \\
    \hline 16 & 1-1/16 \(\times 3-9 / 16\) & 1.75 \\
    \hline \multicolumn{3}{|c|}{PRS DUALS} \\
    \hline \multicolumn{3}{|c|}{25V} \\
    \hline 10-10 & \(11 / 16 \times 1-1 / 4\) & 1.40 \\
    \hline 20-20 & \(11 / 16 \times 1-1 / 4\) & 1.40 \\
    \hline \multicolumn{3}{|c|}{50V} \\
    \hline 10-10 & \(11 / 16 \times 1-1 / 2\) & 1.40 \\
    \hline \multicolumn{3}{|c|}{150 V} \\
    \hline 8-8 & \(11 / 16 \times 1-3 / 4\) & 1.50 \\
    \hline 8-16 & \(11 / 16 \times 2-1 / 4\) & 1.55 \\
    \hline 20-10 & \(13 / 16 \times 1-1 / 2\) & 1.55 \\
    \hline 20.20 & \(13 / 16 \times 1-3 / 4\) & 1.65 \\
    \hline \(20-30\) & 13/16 \(\times 2-1 / 4\) & 1.70 \\
    \hline 20-40 & 15/16 \(\times 1-3 / 4\) & 1.75 \\
    \hline 30.30 & \(15 / 16 \times 1-3 / 4\) & 1.80 \\
    \hline 40.40 & \(15 / 16 \times 2-1 / 4\) & 1.80 \\
    \hline 40.30 & 15/16 \(\times 2-1 / 4\) & 1.80 \\
    \hline 30-50 & \(15 / 16 \times 2-1 / 4\) & 1.95 \\
    \hline 40-80 & 15/16 \(\times 2-3 / 4\) & 2.20 \\
    \hline 50-50 & \(15 / 16 \times 2.1 / 4\) & 2.10 \\
    \hline 100.100 & 1-1/16 \(\times 3-1 / 4\) & 3.20 \\
    \hline \multicolumn{3}{|c|}{200 V} \\
    \hline 8-8 & \(11 / 16 \times 1-3 / 4\) & 1.50 \\
    \hline 8-16 & 11/16 \(\times 2-1 / 4\) & 1.60 \\
    \hline 16-16 & 13/16 \(\times 1-3 / 4\) & 1.70 \\
    \hline 30-30 & 15/16 \(\times 2-1 / 4\) & 2.15 \\
    \hline \multicolumn{3}{|c|}{250 V} \\
    \hline 8.16 & 13/16 \(\times 1-3 / 4\) & 1.65 \\
    \hline 10-10 & \(13 / 16 \times 1-3 / 4\) & 1.65 \\
    \hline 16-16 & 13/16 \(\times 2-1 / 4\) & 1.70 \\
    \hline 20-20 & 15/16 \(\times 2-1 / 4\) & 1.85 \\
    \hline 30-30 & 15/16 \(\times 2-1 / 4\) & 2.25 \\
    \hline \multicolumn{3}{|c|}{450 V} \\
    \hline 8-8 & 13/16 \(\times 2-1 / 4\) & 1.10 \\
    \hline 8-16 & 15/16 \(\times 2-1 / 4\) & 2.00 \\
    \hline 10-10 & 15/16 \(\times 2-1 / 4\) & 1.85 \\
    \hline 16-16 & 1-1/16 \(\times 2-1 / 4\) & 2.25 \\
    \hline
    \end{tabular}

    \section*{AEROUDH}

    \section*{Distributor Division}

    \section*{ELECTROLYTICS}

    TYPE PRS "DANDEE" (85\({ }^{\circ}\) ) METAL TUBULAR ELECTROLYTIC CAPACITORS (cont.)
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Capacity Mfd. & Size & List Price & Capacity Mfd. & Size & List Price & Capaity Mid. & Size & List Price \\
    \hline & \multicolumn{2}{|l|}{PRS DUALS} & \multicolumn{3}{|c|}{PRS TRIPLES} & & 150V (cont.) & \\
    \hline & \multicolumn{2}{|l|}{450V (cont.)} & \multicolumn{3}{|c|}{150V} & \(40-40-20\)
    \(40-40-40\) & \(1-1 / 16 \times 2-1 / 4\)
    \(1-1 / 16 \times 2-1 / 4\) & 2.35
    2.45 \\
    \hline & & & 20-20-20 & 15/16 \(\times 1-3 / 4\) & 2.20 & 50-30-10 & 1-1/16 \(\times 2-1 / 4\) & 2.35 \\
    \hline 20-20 & 15/16 \(\times 1-1 / 16\) & 2.50 & 30-20-10 & 15/16 \(\times 1-3 / 4\) & 2.15 & 50-30-20 & 1-1/16 \(\times 2-1 / 2\) & 2.45 \\
    \hline 30-30 & 1-3/8 \(\times 2-3 / 4\) & 3.00 & 30-30-20 & 1-1/16 \(\times 1-3 / 4\) & 2.30 & 80-40-20 & 1-1/16 \(\times 2-3 / 4\) & 2.75 \\
    \hline 40-20 & \(1-3 / 8 \times 2-3 / 4\) & 2.95 & 30-30-30 & 15/16 \(\times 2-1 / 4\) & 2.35 & & & \\
    \hline 40-40 & \(1-3 / 8 \times 3-1 / 4\) & 3.35 & 40-20-20 & 15/16 \(\times 2-1 / 4\) & 2.25 & & 450V & \\
    \hline 50-30 & 1-1/16 \(\times 4\) & 3.40 & 40-30-20 & 15/16 \(\times 2-1 / 4\) & 2.35 & 10-10-10 & 1-1/16 \(\times 2-1 / 4\) & 2.45 \\
    \hline
    \end{tabular}

    \section*{PRS MULTIPLES}
    \begin{tabular}{l|r|r|c}
    \hline Capacity Mid. & \multicolumn{1}{|c|}{ VBCW } & \multicolumn{1}{|c}{ Size } & list Price \\
    \hline \(30-20 / 100\) & \(150 / 25\) & \(15 / 16 \times 2-1 / 4\) & 2.20 \\
    \(40-30 / 20\) & \(150 / 25\) & \(15 / 16 \times 2-1 / 4\) & 2.20 \\
    \(50-30 / 100\) & \(150 / 25\) & \(1-1 / 16 \times 2-1 / 4\) & 2.55 \\
    \(50-30 / 250\) & \(150 / 25\) & \(1-1 / 16 \times 2-3 / 4\) & 3.10 \\
    \(50-50 / 20\) & \(150 / 25\) & \(1-1 / 16 \times 2-1 / 4\) & 2.50 \\
    \(40-40 / 250\) & \(150 / 10\) & \(1-1 / 16 \times 2-1 / 4\) & 2.60 \\
    \(20-20 / 20\) & \(150 / 25\) & \(13 / 16 \times 1-3 / 4\) & 2.05 \\
    \(30-20 / 20\) & \(150 / 25\) & \(15 / 16 \times 1-3 / 4\) & 2.20 \\
    \hline
    \end{tabular}
    

    These units are of the separate-section construction, having two positive, insulated leads emerging from one end, and two negative, insulated leads from the other.
    \begin{tabular}{|c|c|c|}
    \hline \begin{tabular}{l}
    TYPE \\
    150 VDCW
    \end{tabular} & \(\begin{array}{cc}\text { PRS-B } & 150 \\ \text { 200V } & \text { Surge }\end{array}\) & Peak \\
    \hline Capacity Mid. & \[
    \begin{aligned}
    & \text { Can Size } \\
    & \text { Dia. } \times \text { Hght. }
    \end{aligned}
    \] & List Price \\
    \hline \[
    \begin{aligned}
    & 20-20 \\
    & 20-40
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 1 \times 2-1 / 2 \\
    & 1 \times 3
    \end{aligned}
    \] & \(\$ 2.05\)
    2.20 \\
    \hline TYPE VDCW & \[
    \begin{array}{ll}
    \text { PRS-B } & 250 \\
    300 V & \text { Surge }
    \end{array}
    \] & e Peak \\
    \hline Capacity MId. & \[
    \begin{aligned}
    & \text { Can Size } \\
    & \text { Dia. x Hght. }
    \end{aligned}
    \] & List Price \\
    \hline \[
    \begin{array}{r}
    8-16 \\
    16-16
    \end{array}
    \] & \[
    \begin{aligned}
    & 1 \times 2-1 / 2 \\
    & 1 \times 3
    \end{aligned}
    \] & \(\$ 2.10\)
    2.20 \\
    \hline \[
    450 \mathrm{VDC}
    \] & \[
    \begin{gathered}
    \text { PRS.B } \\
    500 \mathrm{~V}
    \end{gathered}
    \] & Peak \\
    \hline Capacity Mid. & \[
    \begin{gathered}
    \text { Can Size } \\
    \text { Dia. x Hght. }
    \end{gathered}
    \] & List Price \\
    \hline \[
    \begin{gathered}
    8-8 \\
    8-16 \\
    16-16
    \end{gathered}
    \] & \[
    \begin{gathered}
    1 \times 3 \\
    1-1 / 8 \times 3-1 / 2 \\
    1-3 / 8 \times 3-1 / 2
    \end{gathered}
    \] & \(\$ 2.15\)
    2.45
    .2 .80 \\
    \hline
    \end{tabular}
    \begin{tabular}{l|c|c|c}
    \hline Capacity Mifd. & VDCW & \multicolumn{1}{|c|}{ Size } & List Price \\
    \hline \(40-20 / 20\) & \(150 / 25\) & \(15 / 16 \times 1-3 / 4\) & 2.20 \\
    \(40-40 / 20\) & \(150 / 25\) & \(1-1 / 16 \times 1-3 / 4\) & 2.25 \\
    \(40-40 / 100\) & \(150 / 25\) & \(1-1 / 16 \times 2 .-1 / 4\) & 2.45 \\
    \(50-30 / 20\) & \(150 / 25\) & \(1-1 / 16 \times 1-3 / 4\) & 2.35 \\
    \(80-20 / 100\) & \(150 / 25\) & \(1-1 / 16 \times 2-1 / 4\) & 2.75 \\
    \(80-40 / 20\) & \(150 / 25\) & \(1-1 / 16 \times 2-1 / 4\) & 2.65 \\
    \(20-20 / 20\) & \(450 / 25\) & \(1-1 / 16 \times 2-3 / 4\) & 2.90
    \end{tabular}
    

    Tiniest of the Aerovox electrolytic capacitors, handles fullsized loads. Especially suitable for cramped and limited space applications in hearing aids, miniature radios and similar applications. Hermetically sealed in aluminum can and furnished with cardboard insulating sleeve. Negative grounded to can. Especially useful in low voltage miniaturized circuits.
    

    \section*{AEROUDR}

    \section*{Distributor Division}
    

    TYPE AEP

    \author{
    Plug-in Electrolytic Capacitors
    }

    Hermetically sealed, dry electrolytic capacitor furnished in round, aluminum can and 4 -pin, octal-base mounting. For quick changes, readily removed and replaced in a standard octal-base tube socket.

    For use where continuous service is important. They are ideally suited for experimental testing, juke boxes and communication receiver uses. These units are the commercial equivalents of Type CE51's, 2's and 3's, as listed in JAN Specification JAN C62.

    Operating temperature to \(+65^{\circ} \mathrm{C}\). Quadruple element units furnished with ground lug for cathode connection.
    

    DUAL ELEMENT UNITS
    \begin{tabular}{l|l|l|l|r} 
    AEP44D & \(20-20\) & 150 & \(1-5 / 32 \times 2-1 / 2\) & \(\$ 4.20\) \\
    AEP88D & \(40-40\) & 150 & \(1-5 / 32 \times 2-1 / 2\) & 4.35 \\
    AEP22J & \(10-10\) & 450 & \(1-5 / 32 \times 2-1 / 2\) & 4.40 \\
    AEP44J & \(20-20\) & 450 & \(1-3 / 8 \times 2-1 / 2\) & 5.05 \\
    AEP88J & \(40-40\) & 450 & \(1-3 / 8 \times 3\) & 5.95
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline \multicolumn{5}{|c|}{TRIPLE ELEMENT UNITS} \\
    \hline AEP444D & 20-20-20 & & 1-5/32 \(\times 2-1 / 2\) & \$4.80 \\
    \hline AEP88D4A & 40-40/20 & 150/25 & 1-5/32 \(\times 2-1 / 2\) & 4.85 \\
    \hline AEP222J & 10-10-10 & & 1-5/32 \(\times 2-1 / 2\) & 5.10 \\
    \hline AEP22J4A & 10-10/20 & 450/25 & 1-5/32 \(\times 2-1 / 2\) & 4.85 \\
    \hline AEP44J4A & 20-20/20 & 450/25 & \(1-3 / 8 \times 2-1 / 2\) & 5.55 \\
    \hline AEP444J & 20-20-20 & 450 & \(1-3 / 8 \times 3\) & 6.10 \\
    \hline AEP822 J & 40-10-10 & 450 & \(1-3 / 8 \times 3\) & 5.85 \\
    \hline \multicolumn{5}{|c|}{QUADRUPLE ELEMENT UNITS} \\
    \hline AEPG444D4A & 20-20-20/20 & 150/25 & \(1-3 / 8 \times 2-1 / 2\) & \$ 5.35 \\
    \hline AEPG2222 J & 10-10-10-10 & 450 * & \(1-3 / 8 \times 2-1 / 2\) & 5.85 \\
    \hline AEPG444J4A & 20-20-20/20 & 450/25 & \(1-3 / 8 \times 3\) & 6.65 \\
    \hline
    \end{tabular}
    *Ground lug provided for cathode connection.

    \section*{AEROUOB}

    \section*{Distributor Division}
    

    \section*{TYPE FF}

    \author{
    Photo-Flash
    }

    Capacitors

    Highest purity materials make this unit possibie. Due to selective choice of materials and quality-control-conscious production methods these units are furnished for the rugged photoflash application calling for lowest leakage requirements.

    Units are furnished in molded black plastic container, highly resistant to moisture and oil. With screw-lug terminals for rapid installation.
    \begin{tabular}{c|c|c|c|c|c|c}
    \hline & \begin{tabular}{c} 
    Cap. \\
    Mid.
    \end{tabular} & \begin{tabular}{c} 
    Working \\
    Voltage
    \end{tabular} & \begin{tabular}{c} 
    Maximum \\
    Surge Voltage
    \end{tabular} & \begin{tabular}{c} 
    Watt \\
    Seconds
    \end{tabular} & Size & List Price \\
    \hline FF-1 & 300 & 450 & 525 & 30 & \(2-1 / 16 \times 4-3 / 8\) & 11.50 \\
    FF-2 & 525 & 450 & 525 & 53 & \(2-1 / 16 \times 4-3 / 8\) & 22.50
    \end{tabular}
    

    \section*{TYPE BT}

    Drawn-Case "Bathtub"

    \section*{Electrolytic} Capacitors

    Hermetically-sealed units designed for rigid mounting in minimum space. Of sturdy construction. these high-quality units minimum space. Of sturdy construction. these high-quality units
    are equivalent to the case style CE63 of JAN Specification C62.
    \begin{tabular}{|c|c|c|}
    \hline Capacity Mid. & LuWx & List Price \\
    \hline \multirow{3}{*}{4
    8} & TYPE BT500 500 VDCW & \\
    \hline & \(\begin{array}{lll}2 & \times 2 \\ 2 & \times 1-1 / 8 \\ \end{array}\) & \$4.70 \\
    \hline & TYPE BT450 450 VDCW & \\
    \hline 8 & \(1-3 / 4 \times 1 \times 1\) & 4.25 \\
    \hline \multirow[t]{3}{*}{12
    16} & \(1-3 / 4 \times 1-1 / 4 \times 1\) & 4.75 \\
    \hline & \(2 \times 1-3 / 4 \times 1\) & 5.00 \\
    \hline & TYPE BT350 350 VDCW & \\
    \hline 8 & \(1-3 / 4 \times 1 \times 7 / 8\) & 3.70 \\
    \hline 12 & \(1-3 / 4 \times 1 \times 7 / 8\) & 4.20 \\
    \hline 16 & \(1-3 / 4 \times 1 \times 1\) & 4.40 \\
    \hline \multirow[t]{2}{*}{20} & \(1-3 / 4 \times 1-1 / 4 \times 1-1 / 8\) & 4.60 \\
    \hline & TYPE BTI50 150 VDCW & \\
    \hline 8 & \(1.3 / 4 \times 1 \times 7 / 8\) & 2.75 \\
    \hline 12 & \(1-3 / 4 \times 1 \times 7 / 8\) & 2.80 \\
    \hline 16 & \(1-3 / 4 \times 1 \times 7 / 8\) & 2.85 \\
    \hline 24 & \(1-3 / 4 \times 1 \times 7 / 8\) & 3.00 \\
    \hline 30 & \(1-3 / 4 \times 1 \times 1\) & 3.10 \\
    \hline \multirow[t]{2}{*}{40} & \(1-3 / 4 \times 1 \times 1\) & 3.20 \\
    \hline & TYPE BT50 50 VDCW & \\
    \hline 10 & \(1-3 / 4 \times 1 \times 7 / 8\) & 2.65 \\
    \hline 25 & \(1-3 / 4 \times 1 \times 7 / 8\) & 2.75 \\
    \hline \multirow[t]{2}{*}{50} & \(1-3 / 4 \times 1 \times 7 / 8\) & 300 \\
    \hline & TYPE BT25 25 VDCW & \\
    \hline 10 & 1-3/4 \(\times 1 \times 4 / 8\) & 2.60 \\
    \hline 25 & \(1-3 / 4 \times 1 \times 7 / 8\) & 2.70 \\
    \hline 50 & \(1-3 / 4 \times 1 \times 7 / 8\) & 2.80 \\
    \hline
    \end{tabular}

    \section*{ELECTROLYTICS}
    

    \section*{TYPE E}

    Hermetically-Sealed, Aluminum, Round, Metal-Cased Capacitors

    Can be mounted with terminals upright or inverted by use of aring-type clamp provided with unit. Can is floating, thus having two terminals on single-section capacitors, three on duals, and four on triples.

    These units are the equivalent of case style CE31, 2 and 3 of JAN Specification C62.
    

    \section*{AEROUOB}

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    \section*{TYPE PI23WG 'HYVOL "W" Wax Impregnated Capacitors}

    Designed for \(-40^{\circ} \mathrm{C}\) to \(85^{\circ} \mathrm{C}\) Operation. Wax Impregnated, Hermetically Sealed, Grounded Case, Glass Terminal End Seal, Tubular Capacitors.
    
    

    \section*{TYPE PI23WXG 'HYVOL "W" \\ Wax Impregnated Capacitors}

    Designed for \(-40^{\circ} \mathrm{C}\) to \(85^{\circ} \mathrm{C}\) Operation. Wax Impregnated, Hermetically Sealed, Grounded Case,
    Glass Terminal Seal, Tubular Capacitors with Extended-Foil Section Construction.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Capacity Mid.} & 100 VDC & \multirow[b]{2}{*}{List Price} & 200 VDC & \multirow[t]{2}{*}{List Price} & 300 VDC & \multirow[t]{2}{*}{List Price} & 400 VDC & \multirow[t]{2}{*}{List Price} \\
    \hline & Dia. \(x\) Lgth. & & Dia. \(x\) Lgth. & & Dia. \(x\) Lgth. & & Dis. \(\times\) Lgth. & \\
    \hline . 001 & . \(175 \times 11 / 16\) & 1.90 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.10 \\
    \hline . 0015 & . \(175 \times 11 / 16\) & 1.90 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.10 \\
    \hline . 0022 & . \(175 \times 11 / 16\) & 1.90 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.10 \\
    \hline . 0033 & . \(175 \times 11 / 16\) & 1.95 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.10 & . \(235 \times 11 / 16\) & 2.15 \\
    \hline . 0047 & . \(175 \times 11 / 16\) & 1.95 & . \(235 \times 11 / 16\) & 2.05 & . \(235 \times 11 / 16\) & 2.10 & . \(235 \times 11 / 16\) & 2.15 \\
    \hline . 0068 & . \(175 \times 11 / 16\) & 1.95 & . \(235 \times 11 / 16\) & 2.05 & \(.235 \times 11 / 16\) & 2.10 & . \(312 \times 13 / 16\) & 2.25
    2.30 \\
    \hline . 01 & . \(195 \times 11 / 16\) & 2.00 & . \(235 \times 11 / 16\) & 2.10 & \(.312 \times 13 / 16\) & 2.25
    2.30 & \(312 \times 13 / 16\)
    \(312 \times 13 / 16\) & 2.30
    2.30 \\
    \hline . 015 & \(.235 \times 11 / 16\) & 2.05 & . \(312 \times 13 / 16\) & 2.20 & \(.312 \times 13 / 16\)
    \(312 \times 13 / 16\) & 2.30
    2.30 & \(.312 \times 13 / 16\)
    \(.312 \times 13 / 16\) & 2.30 \\
    \hline . 022 & . \(235 \times 11 / 16\) & 2.05 & . \(312 \times 13 / 16\) & 2.25
    2.25 & \(.312 \times 13 / 16\)
    \(312 \times 13 / 16\) & 2.30
    2.30 & \(.312 \times 13 / 16\)
    \(.400 \times 13 / 16\) & 2.45 \\
    \hline . 033 & . \(312 \times 13 / 16\) & 2.15 & \(.312 \times 13 / 16\)
    \(312 \times 13 / 16\) & 2.25
    2.30 & \(.312 \times 13 / 16\)
    \(400 \times 13 / 16\) & 2.30 & \(.400 \times 13\) & 2.45 \\
    \hline . 047 & \(.312 \times 13 / 16\) & 2.20 & . \(312 \times 13 / 16\) & 2.30
    2.35 & \(.400 \times 13 / 16\)
    \(400 \times 13 / 16\) & 2.40
    2.40 & . \(400 \times 1.1 / 16\) & 2.50 \\
    \hline . 068 & \(.312 \times 13 / 16\) & 2.20
    2.25 & \(.400 \times 1\)
    \(.400 \times 13 / 16\) & 2.35
    2.40 & . \(400 \times 1.1 / 16\) & 2.55 & . \(400 \times 1-5 / 16\) & 2.60 \\
    \hline .15 & \(.400 \times 13 / 16\) & 2.25
    2.30 & \(.400 \times 13 / 16\)
    \(.400 \times 1-1 / 16\) & 2.40 & . \(400 \times 1-5 / 16\) & 2.60 & . \(562 \times 1-1 / 16\) & 2.65 \\
    \hline . 15 & \(.400 \times 13 / 16\)
    \(.400 \times 1-1 / 16\) & 2.45 & . \(400 \times 1-5 / 16\) & 2.60 & . \(562 \times 1-1 / 16\) & 2.80 & . \(562 \times 1-5 / 16\) & 3.00 \\
    \hline . 33 & \(.400 \times 1-5 / 16\) & 2.50 & . \(562 \times 1-1 / 16\) & 2.80 & . \(562 \times 1-5 / 16\) & 2.95 & \(.562 \times 1-9 / 16\) & 3.25 \\
    \hline . 47 & . \(562 \times 1-1 / 16\) & 2.75 & . \(562 \times 1-5 / 16\) & 2.95 & . \(562 \times 1-9 / 16\) & 3.10 & . \(670 \times 1-9 / 16\) & 3.70 \\
    \hline . 68 & . \(562 \times 1-5 / 16\) & 3.10 & . \(562 \times 1-9 / 16\) & 3.25 & . \(670 \times 1-9 / 16\) & 3.70 & \(.750 \times 2-1 / 16\) & 3.90 \\
    \hline \multirow[t]{2}{*}{1.0} & . \(562 \times 1.9 / 16\) & 3.40 & \(.670 \times 1-9 / 16\) & 3.60 & . \(750 \times 2-1 / 16\) & 3.95 & \(1.000 \times 2.1 / 16\) & 4.45 \\
    \hline & \multicolumn{4}{|l|}{\begin{tabular}{l}
    3. Standard Tolerance: \(\pm 20 \%\) \\
    for \(\pm 10^{\circ} \%\) add \(10 \%\) to list price \\
    for \(\overline{5} 5 \%\) add \(50 \%\) to list price \\
    4. Insulated Construction: add \(\$ 1.15\) to list price \\
    5. Plastic Insulating Sleeve: add \(\$ .20\) to list price
    \end{tabular}} & \multicolumn{3}{|l|}{\begin{tabular}{l}
    6. Mounting Bracket: add \(\$ .40\) to list price \\
    7. Threaded Terminal: add \(\$ .80\) to list price \\
    8. Screw-Stud Mounting: add \(\$ .60\) to list price \\
    9. Also available in 1000 VDCW - ratings and prices upon request
    \end{tabular}} & \\
    \hline
    \end{tabular}
    *Trade Mark

    \section*{DEROUR}

    \section*{Distributor Division}

    \section*{PAPER}

    \section*{TYPES PI23SG and P323SG HYVOL "S" \\ Oil Impregnated Capacitors}

    Aerovox Type P123SG Capacitors for \(-65^{\circ} \mathrm{C}\) to \(+100^{\circ} \mathrm{C}\) Operation, and Aerovox Type P323sG Capacitors
    ior \(-65^{\circ} \mathrm{C}\) to \(+125^{\circ} \mathrm{C}\) Operation. Hermetically Sealed, Grounded Case, Glass Terminal Seal, Tubular Capacitors.
    

    Aerovox Type P123SXG Capacitors for -65 C to +100 C Operation, and Aerovox Type P323SXG Capacitors for \(-65^{\circ} \mathrm{C}\) to \(+125^{\circ} \mathrm{C}\) Operation. Hermetically Sealed, Grounded Case, Glass Terminal Seal, Tubular Capacitors with Extended-Foil Section Construction.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline & \multicolumn{3}{|c|}{100 VDC} & \multicolumn{3}{|c|}{200 VDC} & \multicolumn{3}{|c|}{300 VDC} & \multicolumn{3}{|c|}{400 VDC} & \multicolumn{3}{|c|}{600 VDC} \\
    \hline & & \multicolumn{2}{|r|}{List Price} & & \multicolumn{2}{|r|}{List Price} & & \multicolumn{2}{|r|}{List Price} & & \multicolumn{2}{|r|}{List Prite} & & \multicolumn{2}{|r|}{List Price} \\
    \hline Cepacity Mfe & Dia. I Lgth. & \multicolumn{2}{|l|}{} & Dis. 1 Leth. & \multicolumn{2}{|l|}{P1:30xG H3Z3NxG} & ; Din. \(x\) Loth. & \multicolumn{2}{|l|}{} & c. Dis. 1 Leth. & \multicolumn{2}{|l|}{P1235xG P323SxG;} & Ala. I Leth. & \multicolumn{2}{|l|}{P1235XG P323sxG} \\
    \hline .001 & . \(175 \times 11 / 16\) & 2.30 & 2.85 & . \(235 \times 11 / 16\) & 2.40 & 3.00 & . \(235 \times 11 / 16\) & 2.45 & 3.10 & . \(235 \times 11 / 16\) & 2.50 & 3.15 & . \(235 \times 11 / 16\) & 2.55 & 3.20 \\
    \hline . 0015 & . \(175 \times 11 / 16\) & 2.30 & 2.85 & . \(235 \times 11 / 16\) & 2.40 & 3.00 & . \(235 \times 11 / 16\) & 2.45 & 3.10 & . \(235 \times 11 / 16\) & 2.50 & 3.15 & . \(235 \times 11 / 16\) & 2.55 & 3.20 \\
    \hline . 0022 & . \(175 \times 11 / 16\) & 2.30 & 2.85 & . \(235 \times 11 / 16\) & 2.40 & 3.00 & . \(235 \times 11 / 16\) & 2.45 & 3.10 & . \(235 \times 11 / 16\) & 2.50 & 3.15 & . \(235 \times 11 / 16\) & 2.55 & 3.20 \\
    \hline . 0033 & .175 \(\times 11 / 16\) & 2.30 & 2.90 & . \(235 \times 11 / 16\) & 2.45 & 3.10 & . \(235 \times 11 / 16\) & 2.50 & 3.15 & . \(235 \times 11 / 16\) & 2.55 & 3.20 & . \(312 \times 13 / 16\) & 2.75 & 3.40 \\
    \hline . 0047 & .175 x 11/16 & 2.30 & 2.90 & . \(235 \times 11 / 16\) & 2.45 & 3.10 & . \(235 \times 11 / 16\) & 2.50 & 3.15 & . \(312 \times 13 / 16\) & 2.75 & 3.40 & . \(312 \times 13 / 16\) & 2.75 & 3.45 \\
    \hline . 0068 & . \(195 \times 11 / 16\) & 2.30 & 2.90 & & 2.45 & 3.10 & . \(312 \times 13 / 16\) & 2.70 & 3.35 & . \(312 \times 13 / 16\) & 2.75 & 3.45 & . \(312 \times 13 / 16\) & 2.80 & 3.45 \\
    \hline . 01 & . \(235 \times 11 / 16\) & 2.40 & 3.00 & . \(312 \times 13 / 16\) & 2.65 & 3.30 & . \(312 \times 13 / 16\) & 2.70 & 3.40 & . \(312 \times 13 / 16\) & 2.80 & 3.45 & . \(312 \times 13 / 16\) & 2.80 & 3.50 \\
    \hline . 015 & . \(235 \times 11 / 16\) & 2.45 & 3.05 & . \(312 \times 13 / 16\) & 2.65 & 3.35 & . \(312 \times 13 / 16\) & 2.80 & 3.45 & . \(312 \times 13 / 16\) & 2.80 & 3.50 & . \(400 \times 13 / 16\) & 2.95 & 3.70 \\
    \hline . 022 & . \(312 \times 13 / 16\) & 2.55 & 3.20 & . \(312 \times 13 / 16\) & 2.70 & 3.35 & . \(312 \times 13 / 16\) & 2.80 & 3.50 & . \(400 \times 13 / 16\) & 2.90 & 3.60 & . \(400 \times 13 / 16\) & 3.00 & 3.70 \\
    \hline . 033 & . \(312 \times 13 / 16\) & 2.60 & 3.25 & . \(312 \times 13 / 16\) & 2.70 & 3.40 & . \(400 \times 13 / 16\) & 2.85 & 3.55 & . \(100 \times 13 / 16\) & 2.90 & 3.65 & . \(400 \times 1=1 / 16\) & 3.00 & 3.75 \\
    \hline . 047 & . \(312 \times 13 / 16\) & 2.60 & 3.25 & . \(400 \times 13 / 16\) & 2.80 & 3.50 & . \(400 \times 13 / 16\) & 2.85 & 3.80 & . \(400 \times 1.1 / 16\) & 3.00 & 3.70 & . \(400 \times 1.5 / 16\) & 3.15 & 3.95 \\
    \hline . 068 & . \(400 \times 13 / 16\) & 2.70 & 3.35 & . \(400 \times 13 / 16\) & 2.80 & 3.55 & . \(400 \times 1.1 / 16\) & 2.90 & 3.80 & . \(400 \times 1.5 / 16\) & 3.10 & 3.90 & . \(562 \times 1-1 / 16\) & 3.45 & 4.30 \\
    \hline \({ }^{1} 1\) & \(.400 \times 13 / 16\)
    \(.00 \times 1.1 / 16\) & 2.70 & 3.40
    3.45 & . \(400 \times 1.1 / 16\) & 2.85 & 3.55 & . \(400 \times 1.5 / 16\) & 3.00 & 3.75 & . \(562 \times 1.1 / 16\) & 3.35 & 4.15 & . \(562 \times 1-5 / 16\) & 3.80 & 4.50 \\
    \hline . 15 & . \(400 \times 1.1 / 16\) & 2.80 & 3.45 & . \(400 \times 1.5 / 16\) & 3.05 & 3.85 & . \(562 \times 1.1 / 16\) & 3.35 & 4.15 & . \(582 \times 1.5 / 16\) & 3.60 & 4.50 & . \(502 \times 1-9 / 16\) & 3.90 & 4.90 \\
    \hline . 22 & . \(400 \times 1.5 / 16\) & 2.95 & 3.70 & . \(562 \times 1.1 / 16\) & 3.35 & 4.15 & . \(562 \times 1.5 / 16\) & 3.60 & 4.50 & . \(582 \times 1.9 / 16\) & 3.85 & 4.80 & . \(670 \times 1-9 / 16\) & 4.45 & 5.60 \\
    \hline .33
    .47 & \(.562 \times 1-1 / 16\)
    \(.562 \times 1.5 / 16\) & 3.25
    3.50 & 4.10
    4.40 & \(.562 \times 1.5 / 16\)
    \(.562 \times 1.9 / 16\) & 3.60
    3.90 & 4.50
    4.85 & . \(562 \times 1.9 / 16\) & 3.85 & 4.80
    5.40 & . \(670 \times 1.9 / 16\) & 4.35 & 5.40 & . \(750 \times 2.1 / 16\) & 4.75 & 5.00 \\
    \hline . 47 & \(.562 \times 1.5 / 16\)
    \(.562 \times 1.9 / 16\) & 3.50
    3.60 & 4.40
    4.75 & \(.562 \times 1-9 / 16\)
    \(.670 \times 1-9 / 16\) & 3.90
    4.35 & 4.85
    5.40 & \(.670 \times 1-9 / 16\)
    \(.750 \times 2-1 / 16\) & 4.35 & 5.40
    5.70 & \(.750 \times 2-1 / 16\)
    \(.750 \times 2.5 / 16\) & 4.65
    5.05 & 5.30
    6.30 & \(.750 \times 2-5 / 10\)
    \(1000 \times 2.1 / 16\) & 4.05 & 6.20
    7.15 \\
    \hline 1.0 & . \(670 \times 1.9 / 16\) & 4.35 & 5.40 & . \(750 \times 2-1 / 16\) & 4.60 & 5.75 & \(1.000 \times 2.1 / 16\) & 4.85
    4.80 & 6.05 & \(.550 \times 2.5 / 16\)
    \(1.000 \times 3-9 / 16\) & 7.05
    7.95 & 6.30 & \(1.000 \times 2-1 / 16\)
    \(1.000 \times 2-9 / 16\) & \begin{tabular}{l}
    5.85 \\
    \hline .85
    \end{tabular} & 7.15
    0.50 \\
    \hline
    \end{tabular}
    3. For insulated construction omit " \(G\) " in designation and add \(1 / 16\) inch to lengith.
    3. Standardic insulating sleeve add \({ }^{2}\) to designation and .062 inch to diameter and \(1 / 16\) Inch to length.

    Standard Tolerance: \(120 \%\)
    for \(t 10 \%\) add 10 है to \(115 t\) pr
    for \(25 \%\) add \(50 \%\) to list price
    4. Insulated Construction:

    Type P123sX
    Type P323SX
    - add \(\$ 1.15\) to \(\$ 1\) itst price
    5. Plastic Insulating Sleeve: add \(\$ .20\) to list pric
    Threaded Terminal: add \(\$ 80\) to 1 list price
    8. Screw-Stud Mounting: add \(\$ .60\) to list price
    - Also avallable in 1000 VDCW - ratings and prices upon request

    \footnotetext{
    - Trade Mark
    }

    \section*{PAPER}

    \section*{TYPE P88N 'DURANITE}

    \author{
    Duranite Blue Moulded Tubular Capacitors
    }

    Toughest capacitors ever offered for radio-electronic equipment, DURANITE capacitors are entirely new - in design, impregnant, processing, and casing. New technique glove fitting contact and seal throughout. DURANITE provides a permanent, non-varying, rock-hard caslng, does not dry out, does not develop cracks or fissures. Pig-tail leads firmly imbedded, won't pul out, won't work loose. Moisture-proof; operate from sub-zero to over 2120 F Exposure to temperatures of \(250^{\circ} \mathrm{F}\). will not impair life or performance, no deterioration on the shelf.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Capacity Mfill} & \multicolumn{2}{|r|}{200 V} & \multicolumn{2}{|r|}{400 V} & \multicolumn{2}{|r|}{600 V} & & \multicolumn{2}{|r|}{1000 V} & \multicolumn{3}{|r|}{1600 V} \\
    \hline & Size & List Price & Site & List Price & Size & List Price & & Site & List Price & & l & List Price \\
    \hline . 00025 & & & & & A & . 25 & & & & & & \\
    \hline . 0001 & & & & & A & . 25 & & & & & & \\
    \hline . 0004 & & & & & A & . 25 & & & & & & \\
    \hline . 0005 & & & & & A & . 25 & & & & & & \\
    \hline . 001 & A & . 25 & A & . 25 & A & . 25 & & A & . 50 & & & . 60 \\
    \hline . 0015 & A & . 25 & A & . 25 & A & . 25 & & A & . 50 & & & . 60 \\
    \hline . 002 & A & . 25 & A & . 25 & A & . 25 & & A & . 50 & & & . 60 \\
    \hline . 0022 & A & . 25 & A & . 25 & A & . 25 & & A & . 50 & & & . 60 \\
    \hline . 003 & A & . 25 & A & . 25 & A & . 25 & & B & . 50 & & & . 60 \\
    \hline . 0033 & A & . 25 & A & . 25 & A & . 25 & & B & . 50 & & & . 60 \\
    \hline . 004 & A & . 25 & A & . 25 & A & . 25 & & B & . 50 & & & . 60 \\
    \hline . 0047 & A & . 25 & A & . 25 & A & . 25 & & B & . 50 & & & . 60 \\
    \hline . 005 & A & . 25 & A & . 25 & A & . 25 & & B & . 50 & & & . 60 \\
    \hline . 006 & A & . 25 & A & . 25 & B & . 25 & & B & . 50 & & & . 60 \\
    \hline . 0068 & A & . 25 & A & . 25 & B & . 25 & & B & . 50 & & & . 65 \\
    \hline . 007 & A & . 25 & A & . 25 & B & . 25 & & B & . 50 & & & . 65 \\
    \hline . 0075 & A & . 25 & A & . 25 & B & . 30 & & B & . 50 & & & . 65 \\
    \hline . 008 & A & . 25 & A & . 25 & B & . 30 & & B & . 50 & & & . 65 \\
    \hline . 01 & A & . 25 & A & . 25 & B & . 30 & & B & . 50 & & & . 65 \\
    \hline . 015 & A & . 25 & B & . 25 & B & . 30 & & D & . 50 & & & . 65 \\
    \hline . 02 & B & . 25 & B & . 25 & D & . 30 & & E & . 50 & & & . 65 \\
    \hline . 022 & B & . 25 & B & . 30 & D & . 30 & & E & . 50 & & & . 65 \\
    \hline . 025 & B & . 25 & B & . 30 & D & . 35 & & E & . 50 & & & . 65 \\
    \hline . 03 & B & . 25 & B & . 30 & D & . 35 & & E & . 50 & & & . 65 \\
    \hline . 033 & B & . 25 & B & . 30 & E & . 35 & & E & . 60 & & & . 70 \\
    \hline . 04 & B & . 25 & D & . 30 & E & . 35 & & F & . 60 & & & \\
    \hline . 047 & B & . 25 & D & . 30 & E & . 35 & & F & . 60 & & & \\
    \hline . 05 & B & . 25 & D & . 30 & E & . 40 & & F & . 60 & & & \\
    \hline . 06 & D & . 30 & E & . 30 & F & . 40 & & F & . 60 & & & \\
    \hline . 068 & D & . 30 & E & . 35 & F & . 40 & & F & . 70 & & & \\
    \hline . 075 & D & . 30 & E & . 35 & F & . 45 & & & & & & \\
    \hline .15 & D & . 35 & \(\underset{\text { E }}{\text { E }}\) & . 35 & \(\underset{F}{F}\) & . 45 & Size & & Length \(\times\) Dia. & Size & & Ength \(\times\) Dia. \\
    \hline . 15 & \(\underset{F}{\text { E }}\) & . 35 & \(\underset{F}{\text { F }}\) & . 40 & F
    G & . 50 & Sile & & Lengin \(x\) Did. & Size & & ght \(\times\) Dia. \\
    \hline . 25 & F & . 40 & F & . 40 & G & . 55 & & & & & & \\
    \hline . 27 & F & . 45 & G & . 50 & H & . 60 & & & & & & \\
    \hline . 33 & F & . 50 & G & . 50 & H & . 65 & A & & \(1-1 / 8 \times 11 / 32\) & E & & x 17/32 \\
    \hline . 47 & F & . 60 & G & . 60 & H & . 75 & B & & \(1-3 / 8 \times 13 / 32\) & F & & x 21/32 \\
    \hline . 5 & F & . 60 & G & . 60 & H & . 80 & & & & G & & x 2-1/4 \\
    \hline 1.0 & H & . 90 & H & . 90 & & & D & & \(1-3 / 8 \times 15 / 32\) & H & & 1 \(\times 2-1 / 2\) \\
    \hline
    \end{tabular}
    * Trade Mark

    \section*{AEROUOB}

    \section*{Distributor Division}

    \section*{PAPER}

    \section*{TYPE P84CM DURAMIC}

    \author{
    Ceramic-Cased \\ Tubular Capacitors
    }

    New ceramic (densesteatite) encased paper tubular for performance above that of conventional paper tubulars. New thermosetting end-seals for exceptional humidity protection -250 hour humidity test as per REC-118. Firmly imbedded terminals will not work loose or pull out. Operating temps are -550 C to \(+85^{\circ} \mathrm{C}\). Meets all requirements of RETMA Spec. REC-118, hi-temp range, class M.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline & \multicolumn{2}{|l|}{200 VDCW} & \multicolumn{2}{|l|}{400 VDCW} & \multicolumn{2}{|l|}{600 VDCW} & \multicolumn{2}{|l|}{1600 VDCW} & \multicolumn{2}{|l|}{2500 VDCW} & \multicolumn{2}{|l|}{6000 VDCW} \\
    \hline Cap. Mid. & Diameter I length & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & \[
    \begin{gathered}
    \text { Size } \\
    \text { Diameter : Length }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Size
    Diameter \(~\) length & List & Size
    Diameter \& length & List Price & \(\underset{\substack{\text { Site } \\ \text { Diameter } x \text { length }}}{\text { and }}\) & List
    Price & \[
    \begin{gathered}
    \text { Size } \\
    \text { Dizmeter } \times \text { length }
    \end{gathered}
    \] & \[
    \begin{array}{|l|}
    \hline \text { List } \\
    \text { Price }
    \end{array}
    \] \\
    \hline . 0001 & & & & & & & & & 3/8 \(\times 1-1 / 2\) & . 95 & 3/8 \(\times 1-3 / 4\) & 1.10 \\
    \hline . 00025 & & & & & & & & & \(3 / 8 \times 1-1 / 2\) & . 95 & \(3 / 8 \times 1-3 / 4\) & 1.10 \\
    \hline . 0005 & & & & & \(516 \times 1\) & 25 & \(5 / 16 \times 1\) & . 65 & \(3 / 8 \times 1.1 / 2\) & . 95 & \(7 / 16 \times 1-3 / 4\) & 1.10 \\
    \hline .001
    .0015 & & & & & \(5 / 16 \times 1\)
    \(5 / 16 \times 1\) & . 25 & \(3 / 8 \times 1-1 / 4\) & . 65 & \(3 / 8 \times 1-1 / 2\) & . 95 & \(17 / 32 \times 1-3 / 4\) & 1.10 \\
    \hline . 002 & & & & & \(5 / 16 \times 1\)
    \(5 / 16 \times 1\) & . 25 & \(\begin{array}{ll}3 / 8 & \times 1-1 / 4 \\ 3 / 8 & \times 1-1 / 4\end{array}\) & . 65 & & & & \\
    \hline . 0022 & & & & & \(5 / 16 \times 1\) & . 25 & \(3 / 8 \times 1-1 / 4\) & . 65 & & & & \\
    \hline . 003 & & & & & \(5 / 16 \times 1\) & . 25 & 7/16 \(\times 1-1 / 4\) & . 65 & 7/16 \(\times 1-1 / 2\) & . 95 & \(5 / 8 \times 2.1 / 8\) & 1.15 \\
    \hline . 0033 & & & & & \(5 / 16 \times 1\) & . 25 & 7/16 \(161-1 / 4\) & . 65 & & & & \\
    \hline . 004 & & & & & \(5 / 16 \times 1\) & . 25 & 7/16 \(\times 1-1 / 4\) & . 65 & & & & \\
    \hline . 0047 & & & & & \(5 / 16 \times 1\) & . 25 & 7/16 \(\times 1-1 / 4\) & . 65 & & & & \\
    \hline . 005 & & & & & \(5 / 16 \times 1\) & . 25 & 7/16 \(\times 1-1 / 2\) & . 65 & 17/32 \(\times 1.8 / 16\) & 1.00 & \(3 / 4 \times 2-1 / 8\) & 1.15 \\
    \hline . 00668 & & & & & 5/16 \(\times 1\) & . 25 & \(17 / 32 \times 1-9 / 16\) & . 65 & & & & \\
    \hline . 0061 & 5/16 \(\times 1\) & . 25 & \(5 / 16 \times 1\)
    \(5 / 16 \times 1\) & .25
    .25 & \(3 / 8\)
    \(3 / 8\)
    \(3 / 1-1 / 4\)
    3 & . 30 & \(17 / 32 \times 1-9 / 16\)
    \(17 / 32 \times 1-9 / 16\) & . 65 & & & & \\
    \hline . 015 & \(3 / 8 \times 1-1 / 4\) & . 25 & \(3 / 8 \times 1-1 / 4\) & . 25 & \(3 / 8\)
    \(3 / 8\) & . 30 & \(17 / 32 \times 1-9 / 16\)
    \(5 / 8 \times 1-7 / 8\) & . 70 & 5/8 \(\times 1.7 / 8\) & 1.05 & 15/16 \(\times 2-1 / 8\) & 1.40 \\
    \hline . 02 & \(3 / 8 \times 1-1 / 4\) & . 25 & \(3 / 8 \times 1-14\) & . 25 & T/16 \(\times 1-1 / 4\) & . 30 & \(5 / 8 \times 1-7 / 8\) & . 70 & & & & \\
    \hline . 022 & \(3 / 8 \times 1-1 / 4\) & . 25 & \(3 / 8 \times 1-14\) & . 25 & 7/16 \(\times 1-1 / 4\) & . 30 & \(3 / 4 \times 2\) & . 70 & & & & \\
    \hline . 03 & 3/8 \(\times 1-1 / 4\) & . 25 & \(7 / 16 \times 1-1 / 4\) & . 30 & 17/32 \(\times 1-9 / 16\) & . 35 & \(3 / 4 \times 2\) & . 70 & \(13 / 16 \times 2\) & 1.10 & -1-3/16 \(\times 2-5 / 8\) & 1.50 \\
    \hline . 033 & \(3 / 8 \times 1-1 / 4\) & . 25 & 7/16 \(\times 1-1 / 4\) & . 30 & 17/32 \(\times 1-9 / 16\) & . 35 & \(3 / 4 \times 2\) & . 70 & & & & \\
    \hline . 047 & 7/16 \(\times 1-1 / 4\) & . 25 & 7/16 \(\times 1-1 / 2\) & . 30 & 17/32 \(\times 1-9 / 16\) & . 40 & \(13 / 16 \times 2-1 / 4\) & . 70 & & & & \\
    \hline . 05 & 7/16 \(\times 1-1 / 4\) & . 25 & 7/16 \(\times 1-1 / 2\) & . 30 & \(17 / 32 \times 1-9 / 16\) & . 40 & \(13 / 16 \times 2-1 / 4\) & . 70 & 25/32 \(\times 2-5 / 8\) & 1.20 & -1-3/16 \(\times 3-1 / 8\) & 1.60 \\
    \hline . 068 & 17/32 \(\times 1-9 / 16\) & . 30 & \(17 / 32 \times 1-9 / 16\) & . 35 & \(9 / 16 \times 1-7 / 8\) & . 40 & \(1 \times 2-1 / 4\) & . 70 & & & & \\
    \hline . 15 & 17/32 \(\times 1-9 / 16\) & . 35 & 17/32 \(\times 1.9 / 16\) & . 35 & \(5 / 8 \times 1-7 / 8\) & . 45 & \(1 \times 2-7 / 8\) & . 70 & * \(1 \times 2-5 / 8\) & 1.50 & & \\
    \hline .15 & \(17 / 32 \times 1-3 / 4\) & . 35 & 5/8 \(\times 1.81-7 / 8\) & . 35 & \(3 / 4 \times 2\) & . 45 & & & - \(1 \times 3-1 / 8\) & 1.65 & & \\
    \hline . 22 & \(5 / 8 \times 1-7 / 8\)
    \(5 / 8\)
    x
    1-7/8 & . 35 & \begin{tabular}{l}
    \(5 / 8\) \\
    \(5 / 8\) \\
    \(5 / 1.7 / 8\) \\
    ¢ \\
    \hline \(1.7 / 8\)
    \end{tabular} & . 35 & \(13 / 16 \times 2-1 / 4\)
    \(13 / 16 \times 21 / 4\) & . 45 & & & & & & \\
    \hline . 25 & \(5 / 8 \times 1-7 / 8\) & . 40 & \(3 / 4 \times 2\) & . 50 & 13/16 \(1 \times 2-1 / 4\) & . 55 & & & & & & \\
    \hline . 33 & \(3 / 4 \times 2\) & . 50 & \(3 / 4 \times 2\) & . 55 & \(1 \times 2-1 / 4\) & . 65 & & & & & & \\
    \hline . 47 & \(13 / 16 \times 2-1 / 4\) & . 60 & 1-3/16 \(\times 2-1 / 4\) & . 55 & \(1 \times 2-7 / 8\) & . 70 & & & & & & \\
    \hline . 5 & \(13 / 16 \times 2-1 / 4\) & . 60 & 1-3/16 \(\times 2-1 / 4\) & . 60 & \(1 \times 2-7 / 8\) & . 80 & & & & & & \\
    \hline . 68 & \(15 / 16 \times 2\) & . 75 & \(1 \times 2-1 / 4\) & . 80 & & & & & & & & \\
    \hline 1.0 & \(1 \times 2-1 / 4\) & . 90 & \(1 \times 2-7 / 8\) & . 90 & & & & & & & & \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline & \multicolumn{2}{|l|}{10,000 VDCW} & \multicolumn{2}{|l|}{12,500 VDCW} & \multicolumn{2}{|l|}{15,000 VDCW} \\
    \hline Cap. Mid. & Size
    Diameter \(x\) Length & List Price & Site Diameter a Length & List Price & Diameter \(x\) length & List Price \\
    \hline . 0001 & 7/16 \(\times 2-1 / 4\) & 1.15 & & & 17/32 \(\times 2-1 / 2\) & 1.75 \\
    \hline . 00025 & \(11 / 16 \times 2-1 / 4\) & 1.15 & 11/16 \(\times 2-1 / 4\) & 1.45 & \(3 / 4 \times 2-1 / 2\) & 1.75 \\
    \hline . 0005 & \(11 / 16 \times 2-1 / 4\) & 1.15 & & & \(7 / 8 \times 2-1 / 2\) & 1.75 \\
    \hline . 001 & 15/16 \(\times 2-1 / 4\) & 1.15 & & & \% \(1 \times 2-1 / 2\) & 1.75 \\
    \hline . 003 & \(1 \times 2.3 / 4\) & 1.20 & & & -1.1/4 \(\times 3\) & 1.85 \\
    \hline \(\stackrel{.005}{.01}\) & 4
    \(\cdot 1.3 / 8 \times 3\) & 1.35
    1.60 & & & * \(1-3 / 8 \times 3-1 / 4\) & 2.00 \\
    \hline
    \end{tabular}

    \footnotetext{
    \({ }^{\dagger}\) Trade Mark
    }
    - Will be furnished in cardboard tube type P84M

    \section*{AEROUOH}

    \section*{Distributor Division}

    \section*{PAPER}

    \section*{TYPE P85N \\ Miniaturized Aerolene Capacitors}
    

    Miniturized Aerolene (Hyvol N) impregnated tubular units. Duranite endill excludes moisture. Designedfor personal radios, hearing aids and miniature assemblies requiring maximum performance in minimum size. Operating tempera. ture range \(-30^{\circ} \mathrm{C}\). to \(+100^{\circ} \mathrm{C}\).

    Standard Tolerance
    Up to . \(0099 \mathrm{MFD} \neq 30 \%-20 \%\)
    .01 MFD and up, \(20 \%\)
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Cap. Mid.} & \multicolumn{6}{|c|}{TUBULAR SIZES - P85 (inches)} \\
    \hline & 200 V & List Price & 400 V & List Price & 600 V & List Price \\
    \hline . 00025 & \(1364 \times 1932\) & . 35 & 13/64 \(\times 2132\) & . 35 & \(13 / 64 \times 21 / 32\) & . 35 \\
    \hline . 0005 & 13/64 \(\times 19\) /32 & . 35 & \(1364 \times 23 / 32\) & . 35 & 13/64 \(\times 23 / 32\) & . 35 \\
    \hline . 001 & 13/64 \(\times 19 / 32\) & . 35 & \(1364 \times 23 / 32\) & . 35 & 15/64 \(\times 23 / 32\) & . 35 \\
    \hline . 0015 & 13/64 \(\times 19 / 32\) & . 35 & \(13^{\prime} 64 \times 23 / 32\) & . 35 & 15/64 \(\times 23 / 32\) & . 35 \\
    \hline . 002 & 13/64 \(\times 19^{\prime \prime} 32\) & . 35 & \(1364 \times 23 / 32\) & . 35 & 17/64 \(\times 23 / 32\) & . 35 \\
    \hline . 0022 & 13/64×19/32 & . 35 & \(1364 \times 2332\) & . 35 & 17/64 \(\times 23 / 32\) & . 35 \\
    \hline . 003 & 13/64 \(\times 19\) /32 & . 35 & \(1564 \times 23 / 32\) & . 35 & 19/64 \(\times 23 / 32\) & . 35 \\
    \hline . 0033 & 13/64 \(\times 19 / 32\) & . 35 & \(15,64 \times 2332\) & . 35 & \(1964 \times 23 / 32\) & . 35 \\
    \hline . 004 & 13/64 \(\times 19 / 32\) & . 35 & 15/64 \(\times 23 / 32\) & . 35 & \(1964 \times 25 / 32\) & . 40 \\
    \hline . 0047 & \(1564 \times 1932\) & . 35 & \(1564 \times 2532\) & . 35 & \(1964 \times 25 / 32\) & . 40 \\
    \hline . 005 & 15/64 \(\times 19 / 32\) & . 35 & \(1564 \times 2532\) & . 35 & \(1964 \times 25 / 32\) & .40 \\
    \hline . 0060 & \(1564 \times 19 / 32\) & . 35 & 17/64 \(\times 25 / 32\) & . 35 & \(2164 \times 25 / 32\) & . 45 \\
    \hline . 0068 & \(1764 \times 19 / 32\) & . 40 & 17/64 \(\times 25 / 32\) & . 40 & \(21 / 64 \times 27,32\) & . 45 \\
    \hline . 010 & 17/64 \(\times 21 / 32\) & . 40 & 17.64× 27.32 & . 45 & \(21^{64} \times 29 / 32\) & . 45 \\
    \hline . 015 & \(19.64 \times 21.32\) & . 45 & \(1964 \times 2932\) & . 45 & \(23 / 64 \times 1-1 / 32\) & . 50 \\
    \hline . 020 & 19,64× 2332 & . 45 & \(2164 \times 2932\) & . 45 & \(25^{\prime} 64 \times 1-3.32\) & . 50 \\
    \hline . 022 & 19/64× 25/32 & 45 & \(2164 \times 2932\) & . 45 & \(25 / 64 \times 1-5,32\) & . 50 \\
    \hline . 03 & 19/64 \(\times 27 / 32\) & . 45 & \(23 / 64 \times 31 / 32\) & . 45 & \(2964 \times 1.5 / 32\) & . 55 \\
    \hline . 033 & \(21.64 \times 27 / 32\) & . 50 & \(23.64 \times 1-1 / 32\) & . 50 & \(29 / 64 \times 1.7 / 32\) & . 55 \\
    \hline . 04 & \(2164 \times 31 / 32\) & . 50 & \(2764 \times 1-1 / 32\) & . 50 & \(3164 \times 1-7 / 32\) & . 55 \\
    \hline . 047 & \(2164 \times 31 / 32\) & . 50 & \(2764 \times 1-132\) & . 50 & \(3164 \times 1-9 / 32\) & . 55 \\
    \hline . 05 & \(21^{\prime} 64 \times 31 / 32\) & . 50 & \(27 / 64 \times 1-1.32\) & . 50 & \(33 / 64 \times 1.9 / 32\) & . 60 \\
    \hline . 068 & \(2564 \times 1-1 / 32\) & . 55 & \(2964 \times 1-732\) & . 55 & \(3764 \times 1.9 / 32\) & . 60 \\
    \hline . 1 & \(2764 \times 1-1 / 32\) & . 60 & \(3164 \times 1-732\) & . 65 & \(4364 \times 1.932\) & . 70 \\
    \hline
    \end{tabular}

    Note: Other capacities and voltage ranges avaslable on spectal order.

    Immersion-proof, oil-impregnated. oil-tilled units in handy, space-

    TYPE P89

    \section*{Oil Filled}

    Tubular Capacitors
     saving tubes. Ideal for vibrator applications, coupling and by-pass unctions in transmitters, high-voltare and in test equipment. Fully sealed against oil leakare or moisture penetration. Case is insulated not connected to the capacit or section. Supplied with mounting strap and outer insulating tube

    For size over insulating tube add \(1 / 16^{n}\) to dianeter and \(3 / 16^{n}\) to length. These units are sinilar to CP25-29 series of MILC25A, for exact CP rumbers see catalog DJ-541

    All sizes shown are can sizes.
    Can Size
    \begin{tabular}{|c|c|c|}
    \hline Capacity Mid. & 400 V & \begin{tabular}{l}
    tis! \\
    Price
    \end{tabular} \\
    \hline . 001 & \(516 \times 1-316\) & \$ 1.00 \\
    \hline . 002 & \(516 \times 1-316\) & 1.00 \\
    \hline . 003 & \(516 \times 1-316\) & 1.00 \\
    \hline . 004 & \(5 / 16 \times 1-316\) & 1.00 \\
    \hline . 005 & 5 \(16 \times 1-3 / 16\) & 1.00 \\
    \hline . 006 & \(38 \times 1-3 / 16\) & 1.00 \\
    \hline . 007 & & \\
    \hline . 0075 & \(38 \times 1-316\) & 1.00 \\
    \hline . 01 & 3/8 \(\times 1-316\) & 1.00 \\
    \hline . 015 & \(716 \times 1-516\) & 1.10 \\
    \hline . 02 & \(12 \times 1-510\) & 1.10 \\
    \hline . 03 & \(12 \times 1.516\) & 1.15 \\
    \hline . 04 & \(12 \times 1-7 / 16\) & 1.15 \\
    \hline . 05 & \(12 \times 1.716\) & 1.15 \\
    \hline . 075 & \(9 / 16 \times 1.9 / 16\) & 1.20 \\
    \hline . 1 & \(58 \times 1.11 / 16\) & 1.30 \\
    \hline . 25 & \(1316 \times 2.116\) & 1.60 \\
    \hline . 5 & 1 \(\times 2-1.16\) & 1.90 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline 600 V & Lis: Price \\
    \hline \(38 \times 1-316\) & \$ 1.05 \\
    \hline \(38 \times 1-316\) & 1.05 \\
    \hline \(38 \times 1-316\) & 1.05 \\
    \hline \(38 \times 1-316\) & 1.05 \\
    \hline \(3.8 \times 1-316\) & 1.05 \\
    \hline 3 '8 \(\times 1-316\) & 1.05 \\
    \hline \(3 / 8 \times 1-5 / 16\) & 1.05 \\
    \hline \(38 \times 1-516\) & 1.05 \\
    \hline \(716 \times 1-516\) & 1.10 \\
    \hline \(12 \times 1=516\) & 1.15 \\
    \hline \(1{ }^{\prime} 2 \times 1-716\) & 1.20 \\
    \hline \(9^{\prime} 16 \times 1=9^{\prime} 16\) & 1.20 \\
    \hline \(916 \times 1-716\) & 1.20 \\
    \hline \(916 \times 1-11 / 16\) & 1.30 \\
    \hline 5 '8 \(\times 1-15 / 16\) & 1.40 \\
    \hline \(13^{\prime} 16 \times 2-3 / 16\) & 1.85 \\
    \hline \(1 \times 2-7 / 10\) & 2.40 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline 1000 V & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline \(716 \times 1-316\) & \$1.20 \\
    \hline \(716 \times 1-3 / 16\) & 1.20 \\
    \hline 7/16 \(\times 1.3 / 16\) & 1.20 \\
    \hline \(7^{\prime} 16 \times 1.310\) & 1.20 \\
    \hline 7'16 \(\times 1-3 / 16\) & J. 20 \\
    \hline \(716 \times 1-516\) & 1.20 \\
    \hline \(716 \times 1.7 / 16\) & 1.30 \\
    \hline \(1 / 2 \times 1.7 / 16\) & 1.30 \\
    \hline \(9 / 16 \times 1.916\) & 1.30 \\
    \hline \(916 \times 1=916\) & 1.30 \\
    \hline \(916 \times 1.916\) & 1.45 \\
    \hline \(5 / 8 \times 1-1516\) & 1.55 \\
    \hline \(1116 \times 1.15 / 16\) & 1.65 \\
    \hline \(7 / 8 \times 2-5.16\) & 2.20 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline 1600 V & List Price \\
    \hline \(58 \times 1-38\) & \$1.40 \\
    \hline 5 '日 \(\times 1-3 / 8\) & 1.40 \\
    \hline \(58 \times 1-38\) & 1.40 \\
    \hline \(11^{\prime} 16 \times 1.7 / 8\) & 1.60 \\
    \hline
    \end{tabular}

    Can Size
    \begin{tabular}{|c|c|c|}
    \hline Capacity Mid. & 2000 V & List Price \\
    \hline . 0005 & & \\
    \hline .001 & 3/4×1.5/8 & \$1.40 \\
    \hline . 002 & \(3 / 4 \times 1.58\) & 1.40 \\
    \hline . 003 & \(3 / 4 \times 1.5 / 8\) & 1.40 \\
    \hline . 004 & \(3 / 4 \times 1-5 / 8\) & 1.40 \\
    \hline . 005 & \(3 / 4 \times 1-5 / 8\) & 1.40 \\
    \hline . 006 & \(3 / 4 \times 1-5 / 8\) & 1.40 \\
    \hline . 0075 & \(3 / 4 \times 1.5 / 8\) & 1.40 \\
    \hline . 01 & \(34 \times 1-5 / 8\) & 1.40 \\
    \hline . 015 & \(3 / 4 \times 1.5 / 8\) & 1.45 \\
    \hline . 02 & \(3 / 4 \times 1-7 / 8\) & 1.50 \\
    \hline . 03 & \(3 / 4 \times 1-7 / 8\) & 1.55 \\
    \hline . 04 & \(3 / 4 \times 2-1 / 4\) & 1.55 \\
    \hline . 05 & \(7 / 8 \times 2-1 / 4\) & 1.60 \\
    \hline . 075 & \(1 \times 2-1 / 2\) & 1.95 \\
    \hline . 1 & \(1 \times 2-1 / 2\) & 2.20 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline 2500 V & \begin{tabular}{l}
    List \\
    Price
    \end{tabular} & 3000 V & List Price \\
    \hline \(3 / 4 \times 1-5 / 8\) & \$1.50 & 7/8×1-5/8 & \$1.65 \\
    \hline \(3 / 4 \times 1-5 / 8\) & 1.50 & \(7 / 8 \times 1-5 / 8\) & 1.65 \\
    \hline \(3 / 4 \times 1-5 / 8\) & 1.50 & \(7 / 8 \times 1.5 / 8\) & 1.65 \\
    \hline \(3+1.3 / 4\) & 1.50 & \(7 / 8 \times 1.3 / 4\) & 1.65 \\
    \hline \(3 / 4 \times 2\) & 1.65 & \(7 / 8 \times 2\) & 1.80 \\
    \hline \(3 / 4 \times 2.1 / 8\) & 1.75 & \(1 \times 2-1 / 4\) & 1.95 \\
    \hline 7/8 \(\times 2.1 / 4\) & 1.95 & \(1 \times 2-12\) & 2.10 \\
    \hline 1×3 & 2.65 & \(1-3 / 8 \times 2-3 / 4\) & 2.90 \\
    \hline
    \end{tabular}
    
    \(\qquad\)
    \(\qquad\)
    \begin{tabular}{|c|c|c|c|}
    \hline 5000 V & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & 6000 V & List Price \\
    \hline \(1 \times 1-58\) & \$2.50 & 1 \(\times 1\) 1-7/8 & S2.75 \\
    \hline \(1 \times 1.58\) & 2.50 & \(1 \times 2\) & \({ }^{2.75} \begin{aligned} & 2.75 \\ & 2.75\end{aligned}\) \\
    \hline \(1 \times 2.1\) /8 & 2.50 & \(1 \times 2.12\) & 2.75 \\
    \hline 1×2-58 & 2.50 & \(1 \times 3.14\) & 2.7 \\
    \hline 1-38×2-1/2 & 2.65 & 1-3/8 \(\times 3\) & 2.90 \\
    \hline \(1.38 \times 3\) & 2.75 & \(1-38 \times 3.3\) & 3.05 \\
    \hline \(1-3,8 \times 4\) & 2.90 & \(1-3 / 8 \times 5\) & 3.20 \\
    \hline
    \end{tabular}

    \section*{DEROUOR}

    \section*{Distributor Division}
    

    \section*{PAPER}

    \section*{TYPE JP09 'HYVOL}

    Immersion-proof in sturdy rectangular metal can. Highvoltage screw type pillar terminals fitted with soldering lugs. Use of "HYVOL" allows exceptionally compact size for capacity, working voltage, and safety factor. Intended for heavy-duty continuous service in transmitters, amplifiers, etc. Type MB bracket is supplied unless otherwise specified, except on units with base sizes 3-3/4" \(\times 3-3 / 16^{\circ}\) and \(3-3 / 4^{\circ} \times 4-9 / 16^{\circ}\) where Type MS bracket is supplied. MSB is available for all types upon request.
    

    \section*{AERDOD}

    \section*{PAPER}
    

    JP16MCT

    JP16M
    

    \section*{TYPE JPI6 'HYVOL Compact Capacitors}

    Compact, immersion-proof unit, of minimum size and weight. Cor-rosion-proof metal container. Special immersion-proof terminals for severe atmospheric and climatic conditions. Type JP16MCT is standard, but Type JP16MCB (terminals on bottom) units also available.
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|}
    \hline \multirow{2}{*}{Cap. Mid.} & \multicolumn{3}{|c|}{400 VDCW} & \multicolumn{3}{|c|}{600 VDCW} & \multicolumn{3}{|r|}{1000 VDCW} \\
    \hline & Height & JP16 M & JP16 MCT & Height & IP16 M & IP16 MCT & Height & IP16 \({ }^{\text {\% }}\) & IP16 MCT \\
    \hline . 01 & & & & & & & 1-1/16 & 2.95 & -3.10 \\
    \hline . 02 & & & & & & & 1-1/16 & 3.00 & \[
    \cdot 3.15
    \] \\
    \hline . 05 & & & & 1-1/16 & 2.95 & - 3.10 & 1-3/8 & 3.00 & - 3.15 \\
    \hline . 1 & 1-1/16 & 3.00 & -3.15 & 1-3/8 & 3.05 & -3.20 & 1-3/8 & & 3.25 \\
    \hline . 25 & 1-3/8 & 3.05 & 3.20 & 1-5/8 & 3.10 & - 3.25 & 2 & & 3.35 \\
    \hline . 5 & 1-5/8 & †3.10 & +3.25 & 2 & 3.20 & -3.35 & 2-1/2 & & \(\pm 3.65\) \\
    \hline 1.0 & 2 & & \(\pm 3.65\) & \(2 \cdot 3 / 4\) & 3.60 & * 3.75 & & & \\
    \hline \(2 \times .01\) & & & & & & & 1-1/16 & 3.80 & \\
    \hline \[
    2 \times .02
    \] & & & &  & &  & 1-3/8 & 3.90 & \\
    \hline \(2 \times .05\) & & & & 1-3/8 & 4.00 & -4.15 & 1-3/8 & 4.10 & \\
    \hline \(2 \times .1\) & & & & \(1-5 / 8\) & 4.50 & -4.65 & & & \\
    \hline \[
    2 \times .25
    \] & & & & \[
    2
    \] & 4.65 & +4.80 & & & \\
    \hline \(2 \times .5\) & & & & 2-3/4 & 5.50 & - 5.65 & & & \\
    \hline
    \end{tabular}

    All size: listed are the sizes as listed in Specification MILC25A characteristic E except as noted ( \(\dagger \ddagger\) ) Operaling temperature -55 to \(+85^{\circ} \mathrm{C}\)
    Standard tolerance \(+20-10 \%\)
    Dual unirs have two terminals case grounded
    JP16M equivalent to CP61 - Char. E of MIL-C-25A JP16MCT equivalent to CP63 - Char. E of MIL-C-25A JP16MCB equivalent to CP65 - Char. E of MIL-C-25A
    \(\ddagger\) Size per characteristic D of M1LC25A
    * Also available in MC B

    CP06S and CP06F Brackets are available for mounting JP16M - CP61 at . 70 list

    \section*{TYPE JPI8 'HYVOL compact Capacitors}

    Compact, immersion-proof unit. Different base sizes make units adaptable for duals and triples. Even on single sections, different base sizes make units fit in particular applicattons where Type JP16's do not flt. Type JP18MCB is standard, but Type JP18MCT (terminals on top) also a vailable.
    

    JP18MCB

    JP18MCT equivalent to CP67 - Char. E of MIL-C -25A JP18MCB equivalent to CP69 - Char. E of MIL-C - \(25 A\) JP18DCB is a commertcal unit with Hyvol 3 impregnation.

    Trade Mark

    All sizes listed are the sizes as listed in Specification MIL-C25A Char E except as noted ' \(\dagger\) )
    Operating temperature -55 to \(+85^{\circ} \mathrm{C}\)
    Standard tolerance \(+20-10 \%\)
    *Also available in MCT
    t-Commercial sizes

    \section*{AERDODB}

    \section*{Distributor Division}

    TYPE JP2O
    High Voltage Transmitter Capacitors

    \section*{PAPER}
    

    High quality oil capacitors for communications, electronic and general DC applications in industrial equipment. Single or parallel grouped from 6000 to 50,000 VDCW. Heavy duty, highest quality precision construction thruout. Aerovox Hyvol impregnated. Hermetically sealed for long life under exacting operating conditions. Single units rated at 30 KV or less normally supplied with capacitor element insulated from ground. Units bult to order. Submit full application information when ordering.

    Size: Height \(\times\) Width \(\times\) Depth
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Capacity MId. & 6000 VDCW & List Price & 7500 VDCW & List Price & 10,000 VDCW & List Price & 12,500 VDCW & List Price \\
    \hline . 5 & & & \(11 \times 8 \times 4\) & \$ 83.00 & & & \(11 \times 8 \times 4\) & \$184.00 \\
    \hline 1.0 & & & \(11 \times 8 \times 4\) & 108.00 & \(11 \times 8 \times 4\) & \$217.00 & \(11 \times 12 \times 4\) & 233.00 \\
    \hline 2.0 & \(11 \times 8 \times 4\) & \$150.00 & \(11 \times 8 \times 4\) & 166.00 & \(11 \times 12 \times 4\) & 275.00 & \(13 \times 12 \times 6\) & 292.00 \\
    \hline 4.0 & \(11 \times 12 \times 4\) & 184.00 & \(13 \times 12 \times 4\) & 250.00 & \(13 \times 12 \times 6\) & 336.00 & & \\
    \hline 4.0 & \(11 \times 12 \times 4\) & 208.00 & & & \(13 \times 12 \times 6\) & 388.00 & \(15 \times 12 \times 9-1 / 2\) & 551.00 \\
    \hline 6.0 & \(13 \times 12 \times 4\) & 233.00 & \(13 \times 12 \times 6\) & 300.00 & & & & \\
    \hline 10.0 & \(13 \times 12 \times 6\) & 290.00 & & & & & & \\
    \hline \multicolumn{3}{|c|}{15,000 VDCW} & \multicolumn{2}{|l|}{20,000 VDCW} & \multicolumn{2}{|l|}{25,000 VDCW} & \multicolumn{2}{|l|}{\multirow[t]{2}{*}{37,500 VDCW 50,000 VDCW}} \\
    \hline \(\cdot 1\) & \multirow[b]{3}{*}{\(11 \times 8 \times 4\)} & \multirow[b]{3}{*}{\$175.00} & \multirow[t]{3}{*}{} & \multirow[b]{3}{*}{\$ 208.00} & \multirow[t]{5}{*}{\[
    \begin{aligned}
    & 11 \times 12 \times 4 \\
    & 11 \times 12 \times 4 \\
    & 11 \times 12 \times 6 \\
    & 15 \times 12 \times 9-1 / 2
    \end{aligned}
    \]} & \multirow[b]{5}{*}{\begin{tabular}{l}
    \(\$ 217.00\) \\
    292.00 \\
    317.00 \\
    475.00
    \end{tabular}} & & \\
    \hline . 2 & & & & & & & \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 13 \times 13-1 / 2 \times 4 \\
    & 13 \times 13-1 / 2 \times 6 \\
    & 15 \times 13-1 / 2 \times 8-1 / 2 \\
    & 15 \times 13-1 / 2 \times 15
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 13 \times 13-1 / 2 \times 4 \\
    & 15 \times 13-1 / 2 \times 8-1 / 2 \\
    & 15 \times 15-1 / 2 \times 15
    \end{aligned}
    \]} \\
    \hline . 25 & & & & & & & & \\
    \hline . 5 & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 11 \times 12 \times 4 \\
    & 13 \times 12 \times 4
    \end{aligned}
    \]} & 208.00 & \(11 \times 12 \times 4\). & 267.00 & & & &  \\
    \hline 1.0 & & \multirow[t]{9}{*}{\[
    \begin{aligned}
    & 292.00 \\
    & 384.00 \\
    & 526.00
    \end{aligned}
    \]} & \(13 \times 12 \times 6{ }^{\circ}\) & 359.00 & & & TYPE 12 & \[
    1520 \text { VD }
    \] \\
    \hline 1.5
    2.0 & \multirow{8}{*}{\[
    \begin{aligned}
    & 15 \times 12 \times 9-1 / 2 \\
    & 15 \times 12 \times 9-1 / 2
    \end{aligned}
    \]} & & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 15 \times 12 \times 9-1 / 2 \\
    & 15 \times 12 \times 9-1 / 2
    \end{aligned}
    \]} & \multirow[t]{2}{*}{\[
    \begin{aligned}
    & 484.00 \\
    & 576.00
    \end{aligned}
    \]} & \[
    15 \times 12 \times 9-1 / 2
    \] & \[
    475.00
    \] & TYPE & 520 VD \\
    \hline 2.0
    3.0 & & & & & & & 25,000 Vo & Its Output \\
    \hline 4.0 & & & \multirow[t]{6}{*}{\(15 \times 14 \times 16\)} & \multirow[t]{6}{*}{1011.00} & & & Dual & Units \\
    \hline 5.0 & & & & & & & (For Vollag & - -Doubler, \\
    \hline 6.0 & & & & & & & Circ & \\
    \hline 10.0 & & & & & & & & \\
    \hline 0.25-0.25 & & & & & & & \(11 \times 8 \times 4\) & \(11 \times 12 \times 4\) \\
    \hline 0.5-0.5 & & & & & & & PRJCES O & REQUEST \\
    \hline
    \end{tabular}

    TYPE JP30
    Bathtub Case Hyval Capacitors
    

    High-quality bypass capacitors furnished in drawn metal bathtub cases, hermetically-sealed with neoprene bakelite terminals. These units are Hyvgl M impregnated for operation at temperatures from \(-55^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\). They are especially recommended for applications where high reliability and superior performance is required. Typical applications for these rugged units would include marine, aircraft and tropical climates.
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Capacity Mid.} & \multicolumn{2}{|l|}{400 VDCW} & \multicolumn{2}{|l|}{600 VDCW} & \multicolumn{2}{|c|}{1000 VDCW} \\
    \hline & Size & IP30 M & Size & JP30 M & Size & IP30 M \\
    \hline . 05 & \(+1-3 / 4 \times 1 \times 3 / 4\) & 1.95 & -1-3/4 \(\times 1 \times 3 / 4\) & 2.85 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.05 \\
    \hline . 1 & \(+1-3 / 4 \times 1 \times 3 / 4\) & 2.20 & -1-3/4×1×3/4 & 2.90 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.15 \\
    \hline . 25 & \(+1-3 / 4 \times 1 \times 3 / 4\) & 2.50 & -1-3/4×1×13/16 & 3.10 & \(1-3 / 4 \times 1 \times 7 / 8\) & 3.25 \\
    \hline . 5 & \(+1-3 / 4 \times 1 \times 7 / 8\) & 2.65 & -1-3/4×1×1 & 3.30 & \(2 \times 1-3 / 4 \times 7 / 8\) & 3.50 \\
    \hline . 75 & \(+2-1 / 6 \times 1.1 / 4 \times 3 / 4\) & 2.95 & +2-1/16 \(\times 1-1 / 4 \times 7 / 8\) & 3.50 & + \(2 \times 1-3 / 4 \times 7 / 8\) & 4.20 \\
    \hline 1.0 & \(+2 \times 1-3 / 4 \times 7 / 8\) & 3.15 & \[
    2 \times 1-3 \times 1 \times 1
    \] & \[
    3.75
    \] & \(2 \times 2 \times 1-1 / 8\) & 4.40 \\
    \hline 2.0 & \(+2 \times 2 \times 1-1 / 8\) & 3.95 & . \(2 \times 2 \times 1.3 / 16\) & 5.00 & & \\
    \hline \(2 \times .05\) & \(+1-3 / 4 \times 1 \times 3 / 4\) & 3.05 & - \(1-3 / 4 \times 1 \times 13 / 16\) & 3.65 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.85 \\
    \hline \(2 \times 11\) & -1-3/4 \(\times 1 \times 3 / 4\) & 3.30 & - \(1-3 / 4 \times 1 \times 7 / 8\) & 3.70 & \(1-3 / 4 \times 1 \times 7 / 8\) & 3.95 \\
    \hline \(2 \times .25\) & \(+1-3 / 4 \times 1 \times 15 / 16\) & 3.60 & -1-3/4×1×1 & 3.75 & \(2 \times 1-3 / 4 \times 7 / 8\) & 4.20 \\
    \hline \(2 \times \quad .5\) & \(+2 \times 1-3 / 4 \times 7 / 8\) & 4.15 & - \(2 \times 1-3 / 4 \times 7 / 8\) & 4.30 & \(2 \times 2 \times 1 \cdot 3 / 16\) & 5.45 \\
    \hline \(2 \times 1.0\) & \(+2 \times 2 \times 1-1 / 8\) & 4.95 & - \(2 \times 2 \times 1-3 / 16\) & 5.30 & & \\
    \hline \(3 \times .05\) & \(+1=3 / 4 \times 1 \times 3 / 4\) & 3.85 & - \(1-3 / 4 \times 1 \times 13 / 16\) & 4.05 & \(1-3 / 4 \times 1 \times 13 / 16\) & 4.25 \\
    \hline \(3 \times 1.15\) & \(+1-3 / 4 \times 1 \times 13 / 16\) & 4.00 & \(\cdot 1-3 / 4 \times 1 \times 15 / 16\) & 4.20 & \[
    2 \times 1-3 / 4 \times 7 / 8
    \] & \[
    4.55
    \] \\
    \hline \(\begin{array}{lll}3 \times & .25 \\ 3 \times & .5\end{array}\) & \(+2 \times 1-3 / 4 \times 7 / 8\)
    \(2 \times 2 \times 1\) & 4.40
    5.25 & . \(2 \times 1-3 / 4 \times 7 / 8\) & 4.75 & \(2 \times 2 \times 1-1 / 8\) & \[
    5.50
    \] \\
    \hline \(3 \times .5\) & \(2 \times 2 \times 1\) & 5.25 & . \(2 \times 2 \times 1-3 / 16\) & 5.35 & \(2 \times 2 \times 118\) & \\
    \hline \multicolumn{3}{|c|}{100 VDCW} & \multicolumn{2}{|l|}{200 VDCW} & \multicolumn{2}{|l|}{\multirow[t]{4}{*}{\begin{tabular}{l}
    JP30M is equivalent to CP53 of MIL-C -25A JP30MT is equivalent to CP54 of MIL-C-25A JP30MB is equivalent to CP55 of MIL-C-25A \\
    Standard Tolerance \(\mathbf{~} 20 \%-10 \%\) \\
    Other Tolerances available on request.
    \end{tabular}}} \\
    \hline \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 1.0 \\
    & 2.0 \\
    & 4.0
    \end{aligned}
    \]} & \multirow[b]{3}{*}{\[
    \begin{aligned}
    & 2 \times 1-3 / 4 \times 7 / 8 \\
    & 2 \times 2 \times 1-3 / 16
    \end{aligned}
    \]} & \multirow[b]{3}{*}{\[
    \begin{aligned}
    & 3.95 \\
    & 6.40
    \end{aligned}
    \]} & \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 2 \times 1-3 / 4 \times 7 / 8 \\
    & 2 \times 2 \times 1
    \end{aligned}
    \]} & \multirow[t]{3}{*}{\[
    \begin{aligned}
    & 3.15 \\
    & 3.95
    \end{aligned}
    \]} & & \\
    \hline & & & & & & \\
    \hline & & & & & & \\
    \hline
    \end{tabular}

    All sizes listed are the sizes as listed for characteristic \(E\) of Specification MIL-C-25A except as noted
    *Also available in JP30MT and JP30MB +Commercial units

    \section*{GEROUDR}

    \section*{Distributor Division}

    \section*{METALLIZED-PAPER}
    

    Ultra-small, new metallized-paper dielectric capacitor particularly applicable in the electronic field to replace the low capacity paper units now being used. Hyvol \(K\) impregnated in humidity resistant molded thermo-plastic cases.
    \begin{tabular}{|c|c|c|c|}
    \hline Capacity Mfd. & Voltage & \[
    \begin{aligned}
    & \text { Cxst } \\
    & \text { Size (inctss) } \\
    & \text { Din. } 1 \text { Lith. }
    \end{aligned}
    \] & List Price \\
    \hline . 004 & 200 VDC & \(3 / 16 \times 7 / 16\) & \$. 45 \\
    \hline . 005 & 200 VDC & \(3 / 16 \times 7 / 16\) & . 45 \\
    \hline . 01 & 200 VDC & \(3 / 16 \times 7 / 16\) & . 45 \\
    \hline . 02 & 200 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 04 & 200 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 002 & 400 VDC & \(3 / 16 \times 7 / 16\) & . 45 \\
    \hline . 003 & 400 VDC & \(3 / 16 \times 7 / 16\) & .45 \\
    \hline . 008 & 400 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 01 & 400 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 0005 & 600 VDC & \(3 / 16 \times 7 / 16\) & . 45 \\
    \hline . 0008 & 600 VDC & \(3 / 16 \times 7 / 16\) & . 45 \\
    \hline . 001 & 600 VDC & \(3 / 16 \times 7 / 16\) & . 45 \\
    \hline . 002 & 600 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 0022 & 600 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 0047 & 600 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 005 & 600 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline . 0068 & 600 VDC & \(1 / 4 \times 9 / 16\) & . 55 \\
    \hline
    \end{tabular}

    \section*{TYPE P89ZXY Hermetically Sealed Capacitors}
    \begin{tabular}{l|c|c}
    \hline Cap. & Size & list \\
    Mid. & 200 VDC & Price \\
    \hline .01 & & \\
    .02 & & \\
    .03 & & \\
    .05 & \(3 / 8 \times 1\) & \(\$ 1.40\) \\
    .1 & \(7 / 16 \times 1\) & 1.45 \\
    .25 & \(1 / 2 \times 1\). & 1.60 \\
    .5 & \(1 / 2 \times 1-5 / 16\) & 1.70 \\
    1.0 & \(5 / 8 \times 1-1 / 2\) & 2.10 \\
    2.0 & \(5 / 8 \times 2\) & 2.60 \\
    & \multicolumn{4}{|c}{\(150 \times D C\)} \\
    3.0 & \(3 / 4 \times 2\) & \(\$ 3.40\) \\
    4.0 & \(13 / 16 \times 2\) & 4.35 \\
    6.0 & \(1 \times 2\) & 5.30
    \end{tabular}
    \begin{tabular}{l|l}
    \hline \multicolumn{2}{c|}{\begin{tabular}{l} 
    Size \\
    400 VDC
    \end{tabular}} \\
    \hline & \begin{tabular}{c} 
    list \\
    Price
    \end{tabular} \\
    \hline & \\
    \(3 / 8 \times 1\) & \(\$ 1.40\) \\
    \(7 / 16 \times 1\) & 1.45 \\
    \(7 / 16 \times 1-5 / 16\) & 1.60 \\
    \(5 / 8 \times 1-5 / 16\) & 1.80 \\
    \(5 / 8 \times 2\) & 2.00 \\
    \(3 / 4 \times 2-1 / 2\) & 2.50 \\
    \(1 \times 2-1 / 2\) & 3.60
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline \[
    \begin{gathered}
    \text { Size } \\
    600 \text { VDC }
    \end{gathered}
    \] & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] \\
    \hline \(3 / 8 \times 1\) & \$1.40 \\
    \hline \(3 / 8 \times 1\) & 1.45 \\
    \hline 7/16 \(\times 1\) & 1.50 \\
    \hline \(1 / 2 \times 1\) & 1.55 \\
    \hline \(1 / 2 \times 1-1 / 2\) & 1.70 \\
    \hline \(5 / 8 \times 1-5 / 8\) & 2.00 \\
    \hline \(3 / 4 \times 2\) & 2.40 \\
    \hline \(13 / 16 \times 2-1 / 2\) & 3.00 \\
    \hline 1-1/4 \(\times 2-1 / 2\) & 4.00 \\
    \hline
    \end{tabular}
    

    Hermetically sealed metallized paper apacitors. Sealed in metal cases with rubber bakelite end seals. Impregnated with Hyvol \(k\) or Hyvol \(M\), these units are manufactured for operating temperature of \(-55^{\circ} \mathrm{C}\). to \(-70^{\circ} \mathrm{C}\). without voltage derating and operation up to \(95^{\circ} \mathrm{C}\). a mbient with derating.

    Standard units are furnished without in-

    X denotes cardboard insulating sleeve, but no bracket-Add \$0.15 to list
    Y denotes bracket but not insulating sleeveAdd \(\$ 0.20\) to list
    XP denotes plastic insulating sleeve, but no bracket-Add \(\$ 0.15\) to list

    \section*{Standard tolerance \(: 20 \%\)}

    For \(\pm 10 \%\) tolerance, add \(50 \%\) to tist price For \(\pm 5 \%\) tolerance, add \(100 \%\) to list price
    sulating tube or bracket (XY). If cardboard insulating sleeve and radial mounting bracket are desired specify type P892 and add \(\$ 0.35\) to list price.

    TYPE P82Z Wax Impregnated Cardboard Sleeve Capacitors
    

    Metallized-paper capacitor in wax impregnated cardboard sleeve. These units are manufactured with metal end caps and extended toll construction for low inspedance. Operating temperature, \(-40^{\circ} \mathrm{C}\) to \(+70^{\circ} \mathrm{C}\).
    \begin{tabular}{c|ccc|c}
    \hline \begin{tabular}{c} 
    Capacity \\
    Widd.
    \end{tabular} & 200 V & \multicolumn{1}{l}{\begin{tabular}{l} 
    list \\
    Price
    \end{tabular}} \\
    \hline .01 & \(3 / 8\) & \(x\) & \(5 / 8\) & \(\$ .60\) \\
    .02 & \(3 / 8\) & \(x\) & \(5 / 8\) & .60 \\
    .03 & \(3 / 8\) & \(x\) & \(5 / 8\) & .60 \\
    .05 & \(3 / 8\) & \(x\) & \(5 / 8\) & .65 \\
    .1 & \(3 / 8\) & \(x\) & \(5 / 8\) & .70 \\
    .25 & \(15 / 32 \times\) & \(5 / 8\) & .90 \\
    .5 & \(15 / 32 \times\) & \(\times 1-1 / 8\) & 1.05 \\
    1.0 & \(9 / 16 \times\) & \(1-1 / 8\) & 1.30 \\
    2.0 & \(5 / 8\) & \(\times\) & \(1.5 / 8\) & 1.80
    \end{tabular}
    \begin{tabular}{|c|c|}
    \hline 400 V & List Price \\
    \hline \(3 / 8 \times 5 / 8\) & \$ . 65 \\
    \hline \(3 / 8 \times 5 / 8\) & . 65 \\
    \hline \(3 / 8 \times 5 / 8\) & . 65 \\
    \hline 15/32 \(\times 5 / 8\) & . 70 \\
    \hline \(15 / 32 \times 1-1 / 8\) & . 80 \\
    \hline 9/16 \(\times 1-1 / 8\) & 1.00 \\
    \hline 5/8 \(\times 1-5 / 8\) & 1.15 \\
    \hline \(23 / 32 \times 2-1 / 8\) & 1.60 \\
    \hline
    \end{tabular}
    \begin{tabular}{rrr|r}
    \hline \(\mathbf{6 0 0}\) & V & \multicolumn{1}{l}{\begin{tabular}{l} 
    List \\
    Price
    \end{tabular}} \\
    \hline \(3 / 8\) & \(\times\) & \(5 / 8\) & .70 \\
    \(3 / 8\) & \(\times\) & \(5 / 8\) & .70 \\
    \(15 / 32 \times\) & \(5 / 8\) & .80 \\
    \(15 / 32\) & \(\times\) & \(5 / 8\) & .80 \\
    \(15 / 32 \times\) & \(1-1 / 8\) & .90 \\
    \(5 / 8\) & \(\times\) & \(1-1 / 8\) & 1.10 \\
    \(23 / 32\) & \(\times\) & \(1-5 / 8\) & 1.45 \\
    \(23 / 32\) & \(\times\) & \(2-5 / 8\) & 1.80
    \end{tabular}

    Standard tolerance \(\pm 20 \%\)
    For \(\pm 10 \%\) tolerance, add \(25 \%\) to list price. For \(\$ 5 \%\) tolerance, add \(50 \%\) to list price.

    \section*{GERDUOR}

    \section*{Distributor Division}

    \section*{METALLIZED - PAPER}
    
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Capacity & 200 V & List Price & 400 V & List Price & 600 V & List Price \\
    \hline . 01 & 3/16 \(\times 9 / 16\) & . 60 & 1/4×11/16 & . 65 & 9/32 \(\times 11 / 16\) & . 70 \\
    \hline . 02 & \(1 / 4 \times 11 / 16\) & . 60 & \(5 / 16 \times 11 / 16\) & . 65 & \(3 / 8 \times 11 / 16\) & . 70 \\
    \hline . 03 & \(1 / 4 \times 11 / 16\) & . 60 & \(3 / 8 \times 11 / 16\) & . 65 & 13/32 \(\times 11 / 16\) & . 80 \\
    \hline . 05 & 1/4 \(\times 27 / 32\) & . 65 & \(3 / 8 \times 27 / 32\) & . 70 & \(13 / 32 \times 27 / 32\) & . 80 \\
    \hline . 1 & 9/32 \(\times 27 / 32\) & . 70 & \(3 / 8 \times 1-5 / 32\) & . 80 & \(13 / 32 \times 5 / 32\) & . 90 \\
    \hline . 25 & \(3 / 8 \times 27 / 32\) & . 90 & 9/16 \(\times 1-5 / 32\) & 1.00 & \(5 / 8 \times 1-5 / 32\) & 1.10 \\
    \hline . 5 & 13/32 \(\times 1-5 / 32\) & 1.05 & \(5 / 8 \times 1-3 / 8\) & 1.15 & 11/16 \(\times 1-1 / 2\) & 1.45 \\
    \hline 1.0 & 9/16 \(\times 1-5 / 32\) & 1.30 & 11/16 \(\times 1-7 / 8\) & 1.60 & \(13 / 16 \times 1-7 / 8\) & 1.80 \\
    \hline 2.0 & \(5 / 8 \times 1-1 / 2\) & 1.80 & 13/16 \(\times 2-3 / 8\) & 2.20 & 15/16 \(\times 2-3 / 8\) & 2.50 \\
    \hline
    \end{tabular}
    \begin{tabular}{c|c|c|r}
    \hline Cip. Mfd. & Volts & Size & List Price \\
    \hline .5 & 200 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.30 \\
    1.0 & 200 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.55 \\
    2.0 & 200 & \(1-3 / 4 \times 1 \times 3 / 4\) & 4.45 \\
    4.0 & 150 & \(1-3 / 4 \times 1 \times 7 / 8\) & 5.75 \\
    6.0 & 150 & \(2 \times 1-3 / 4 \times 7 / 8\) & 6.10 \\
    8.0 & 150 & \(2 \times 2 \times 1 \times 1 / 8\) & 8.40 \\
    10.0 & 150 & \(2 \times 2 \times 1=70\) \\
    12.0 & 150 & \(2 \times 2 \times 1-1 / 8\) & 1.00 \\
    .25 & 400 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.35 \\
    .5 & 400 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.55 \\
    1.0 & 400 & \(2 \times 1-3 / 4 \times 7 / 8\) & 3.95 \\
    2.0 & 400 & \(1 \times 2 \times 1-1 / 8\) & 4.90 \\
    4.0 & 400 & \(1-3 / 4 \times 1 \times 3 / 4 \times 1 \times 3 / 4\) & 7.85 \\
    .1 & 600 & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.50 \\
    .25 & 600 & \(1-3 / 4 \times 1-1 / 4 \times 7 / 8\) & 3.55 \\
    .5 & 600 & \(2 \times 2 \times 1\) & 4.25 \\
    1.0 & 600 & & 4.90 \\
    2.0 & & & 6.25
    \end{tabular}

    \section*{TYPE P30Z \\ Bathtub Capacitors}

    Aerolite Metal -lized-Paper capacitors. Hyvol K or M impregnated in bathtub, her-metically-sealed metal cases. Meets rigid JAN requirements for mois ture immersion and vibration testing.
    

    \section*{TYPE P30ZN}

    Glass Terminal Seal
    High Temperature Hermetically Sealed Capacitors

    AEROVOX type P30ZN Aerolene impregnated metallized-paper capacitors vitrifiedceramic or glass terminal seals yitrifiedceramic or glass terminal seals.
    Operating temperature range \(-55^{\circ} \mathrm{C}\) to Operating temperature range \(-55^{\circ} \mathrm{C}\) to \(+100^{\circ} \mathrm{C}\) at full rating with operation to \(+125^{\circ} \mathrm{C}\) at 75 percent of voltage rating.
    
    \begin{tabular}{l|c|c}
    \hline \multicolumn{1}{c|}{\begin{tabular}{c} 
    Container \\
    Base
    \end{tabular}} & \multicolumn{1}{c|}{0} & \multicolumn{1}{c}{ E } \\
    \hline \(1-3 / 4 \times 1\) & \(2-1 / 8\) & \(2-1 / 2\) \\
    \(1-3 / 4 \times 1-1 / 4\) & \(2-1 / 8\) & \(2-1 / 2\) \\
    \(2 \times 1-3 / 4\) & \(2-3 / 8\) & \(2-13 / 16\) \\
    \(2 \times 2\) & \(2-3 / 8\) & \(2-13 / 16\)
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Capacity & 150 V & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & 200 V & List Price & 400 V & List Price & 600 \\
    \hline . 1 & & & \(1-3 / 4 \times 1 \times 3 / 4\) & 3.95 & \(1-3 / 4 \times 1 \times 3 / 4\) & 4.85 & 1-3/4 \(\times 1\) \\
    \hline . 25 & & & \(1-3 / 4 \times 1 \times 3 / 4\) & 4.25 & \(1-3 / 4 \times 1 \times 3 / 4\) & 5.05 & 1-3/4 \(\times 1\) \\
    \hline . 5 & & & \(1-3 / 4 \times 1 \times 3 / 4\) & 4.95 & \(1-3 / 4 \times 1 \times 3 / 4\) & 5.35 & 1-3/4 \(\times 1\) \\
    \hline 1.0 & & & \(1-3 / 4 \times 1 \times 3 / 4\) & 5.35 & \(1-3 / 4 \times 1 \times 7 / 8\) & 5.95 & 1-3/4 \(\times 1\) \\
    \hline 2.0 & & & \(1-3 / 4 \times 1 \times 3 / 4\) & 6.70 & \(2 \times 1-3 / 4 \times 13 / 16\) & 7.35 & \(2 \times 2 \times 7 / 8\) \\
    \hline 3.0 & \(1-3 / 4 \times 1 \times 7 / 8\) & 8.10 & & & \(2 \times 1-3 / 4 \times 15 / 16\) & 9.75 & \(2 \times 2 \times 1-\) \\
    \hline 4.0 & \(1-3 / 4 \times 1 \times 3 / 4\) & 8.65 & & & \(2 \times 2 \times 1\) & 11.80 & \(2 \times 2 \times 1\) - \\
    \hline 5.0 & \(1-3 / 4 \times 1 \times 3 / 4\) & 8.95 & & & \(2 \times 2 \times 1-1 / 4\) & 13.20 & \\
    \hline 6.0 & \(1-3 / 4 \times 1-1 / 4 \times 7 / 8\) & 9.15 & \multicolumn{5}{|r|}{\multirow{3}{*}{(Sizes listed are dimensions A-B-C in diagram above)}} \\
    \hline 8.0 & \(2 \times 1-3 / 4 \times 3 / 4\) & 12.60 & & & & & \\
    \hline 10.0 & \(2 \times 1-3 / 4 \times 3 / 4\) & 14.55 & & & & & \\
    \hline 12.0 & \(2 \times 2 \times 7 / 8\) & 16.50 & \multicolumn{5}{|r|}{\multirow[t]{2}{*}{Standard Tolerance for all units on this page is \(\pm 20 \%\)}} \\
    \hline 15.0 & 2×2×1 & 19.85 & & & & & \\
    \hline
    \end{tabular}

    \section*{QEROUDR}

    \section*{METALLIZED-PAPER}

    \section*{TYPES PI23ZG and PI23ZNG Metal-Cased Capacitors}

    Metallized paper tubulars hermetically sealed in metal tubes with glass end seals soldered for positive moisture seal.

    These units are designed to meet critical cperating temperatures and meet the need for increased reliability in the electronic field.

    The P123ZG is manufactured to meet operating temperature range of \(-55^{\circ} \mathrm{C}\). to \(+70^{\circ} \mathrm{C}\). without derating and up to \(100^{\circ} \mathrm{C}\). with derating of \(75 \%\).

    The P123ZNG - Aerolene impregnated - is similar to the P123ZG, with the additional feature that it will operate up to tem:eratures of \(100^{\circ} \mathrm{C}\)., at full voltage rating and \(125^{\circ} \mathrm{C}\). with voltage derating of \(75 \%\).

    Standard units ( P 123 ZG or \(\mathrm{P}_{123 \mathrm{ZNG} \text { ) are of case-grounded }}\) type. For case insulated, specify P123Z or P123ZN and add \(\$ 0.50\) to list price (add \(1 / 1^{\text {n }}\) to length).
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline & Cap. Mfd. & 200 V & List Price & 400 V & List Price & 600 V & List Price \\
    \hline & . 0005 & . \(175 \times 7 / 16\) & \$2.05 & . \(235 \times \quad 7 / 16\) & \$2.10 & . \(235 \times \quad 7 / 16\) & \$2.15 \\
    \hline P1237 & . 001 & . \(175 \times \quad 7 / 16\) & 2.05 & . \(235 \times \quad 7 / 16\) & 2.10 & . \(235 \times 7 / 16\) & 2.15 \\
    \hline 23-8 & . 002 & . \(175 \times \quad 7 / 16\) & 2.05 & . \(235 \times \quad 7 / 16\) & 2.10 & . \(235 \times 9 / 16\) & 2.15 \\
    \hline & . 003 & . \(175 \times \quad 7 / 16\) & 2.05 & . \(235 \times \quad 9 / 16\) & 2.10 & . \(235 \times 9 / 16\) & 2.15 \\
    \hline & . 005 & . \(175 \times \quad 7 / 16\) & 2.05 & . \(235 \times 9 / 16\) & 2.10 & . \(235 \times 9 / 16\) & 2.15 \\
    \hline & . 01 & . \(175 \times \quad 7 / 16\) & 2.05 & . \(235 \times \quad 9 / 16\) & 2.15 & . \(312 \times 23 / 32\) & 2.15 \\
    \hline & . 015 & . \(195 \times \quad 1 / 2\) & 2.10 & . \(235 \times 23 / 32\) & 2.15 & . \(312 \times 23.32\) & 2.20 \\
    \hline & . 02 & . \(195 \times \quad 1 / 2\) & 2.10 & . \(235 \times 23 / 32\) & 2.15 & . \(312 \times 23 / 32\) & 2.20 \\
    \hline & . 022 & . \(195 \times \quad 1 / 2\) & 2.10 & . \(312 \times 23 / 32\) & 2.15 & . \(312 \times 23 / 32\) & 2.20 \\
    \hline & . 033 & . \(235 \times \quad 9 / 16\) & 2.10 & . \(312 \times 23 / 32\) & 2.20 & . \(400 \times 23 / 32\) & 2.20 \\
    \hline & . 040 & . \(235 \times \quad 9 / 16\) & 2.10 & . \(312 \times 23 / 32\) & 2.20 & . \(400 \times 23 / 32\) & 2.25 \\
    \hline & . 047 & . \(235 \times 23 / 32\) & 2.10 & . \(400 \times 23 / 32\) & 2.20 & . \(400 \times 23 / 32\) & 2.25 \\
    \hline & . 050 & . \(235 \times 23 / 32\) & 2.10 & . \(400 \times 23 / 32\) & 2.25 & \(.400 \times 23 / 32\) & 2.25 \\
    \hline - & . 068 & . \(312 \times 23 / 32\) & 2.15 & . \(400 \times 1-1 / 32\) & 2.25 & . \(400 \times 1-1 / 32\) & 2.30 \\
    \hline & . 10 & . \(312 \times 23 / 32\) & 2.15 & . \(400 \times 1-1 / 32\) & 2.45 & \(.500 \times 1-1 / 32\) & 2.30 \\
    \hline & . 15 & . \(312 \times 1+1 / 32\) & 2.35 & . \(500 \times 1-1 / 32\) & 2.45 & . \(500 \times 1-1 / 32\) & 2.70 \\
    \hline \[
    1 \pi
    \] & . 2 & . \(312 \times 1-1 / 32\) & 2.35 & . \(500 \times 1-1 / 32\) & 2.45 & . \(562 \times 1-7 / 32\) & 2.70 \\
    \hline & . 22 & . \(312 \times 1-1 / 32\) & 2.35 & . \(562 \times 1-1 / 32\) & 2.45 & \(.562 \times 1-7 / 32\) & 2.70 \\
    \hline For threaded neck, add "T" to & . 25 & \(.312 \times 1-1 / 32\) & 2.35 & . \(562 \times 1-1 / 32\) & 2.75 & . \(562 \times 1-11 / 32\) & 2.70 \\
    \hline designation and \$0.50 to list & . 33 & . \(400 \times 1.1 / 32\) & 2.40 & . \(562 \times 1-7 / 32\) & 2.75 & . \(562 \times 1-23 / 32\) & 3.00 \\
    \hline price. & . 47 & . \(400 \times 1-1 / 32\) & 2.40 & . \(562 \times 1-23 / 32\) & 2.75 & . \(670 \times 1-23 / 32\) & 3.00 \\
    \hline For mounting bracket add "B" & . 50 & . \(400 \times 1-1 / 32\) & 2.40 & \(.562 \times 1-23 / 32\) & 3.05 & \(.670 \times 1-23 / 32\) & 3.00 \\
    \hline to designation and \$0.15 to list & . 68 & . \(562 \times 1-1 / 32\) & 2.65 & . \(670 \times 1-23 / 32\) & 3.05 & \(.670 \times 2-7 / 32\) & 3.65 \\
    \hline price. (Not available when & 1.00 & . \(562 \times 1-7 / 32\) & 2.65 & . \(670 \times 2-7 / 32\) & 3.05 & \(.750 \times 2=7 / 32\) & 3.65 \\
    \hline plastic tube used) & 1.5 & . \(562 \times 1-23 / 32\) & \[
    2.85
    \] & & & & \\
    \hline For plastic insulating tube, add " \(p\) " to designation and \(\$ 0.15\) to list price. & 2.0 & . \(562 \times 1-23 / 32\) & & & & & \\
    \hline Standard tolerance & & & & & & & \\
    \hline .01 mfd . and lower, \(\pm 25 \%\) .015 mfd . and up, \(\pm^{+20 \%}\) & Capacity Mfd. & 200 V & List Price & 400 V & List Price & 600 V & List Pace \\
    \hline For \(\pm 10 \%\) tolerance, add \(50 \%\) & . 0005 & .175 \(\times 7 / 16\) & 2.95 & . \(235 \times 7 / 16\) & 3.10 & & \[
    3.15
    \] \\
    \hline to list price. & . 001 & . \(175 \times 7 / 16\) & 2.95 & . \(235 \times \quad 7 / 16\) & 3.10 & . \(235 \times \quad 7 / 16\) & \[
    3.15
    \] \\
    \hline For \(\pm 5 \%\) tolerance, add \(100 \%\) & . 002 & . \(175 \times \quad 7 / 16\) & 2.95 & . \(235 \times \quad 7 / 16\) & 3.10 & . \(235 \times 9 / 16\) & 3.15 \\
    \hline to list price. & . 003 & . \(175 \times 7 / 16\) & 3.00 & . \(235 \times \quad 9 / 16\) & 3.15 & . \(235 \times 9 / 16\) & 3.25 \\
    \hline & . 005 & \(.175 \times 7 / 16\) & 3.10 & . \(235 \times \quad 9 / 16\) & 3.15 & . \(235 \times 9 / 16\) & 3.25 \\
    \hline & . 01 & \(.175 \times \quad 7 / 16\) & 3.15 & . \(235 \times \quad 9 / 16\) & 3.15 & . \(312 \times 3 / 4\) & 3.25 \\
    \hline TYE & .015 & \(.195 \times 1 / 2\) & 3.15 & . \(235 \times 9 / 16\) & 3.25 & \(.312 \times 34\) & 3.30 \\
    \hline - & . 02 & . \(195 \times 1 / 2\) & 3.15 & . \(235 \times 3 / 4\) & 3.25 & \(.312 \times 34\) & 3.30 \\
    \hline D1237NS & . 022 & \[
    .195 \times 1 / 2
    \] & 3.15 & \[
    .235 \times 3 / 4
    \] & 3.25 & \(.312 \times 3 / 4\) & 3.30 \\
    \hline P123<NS & . 033 & \[
    .235 \times \quad 9 / 16
    \] & 3.15 & \[
    .312 \times 3 / 4
    \] & 3.25 & \(.400 \times 34\) & 3.30 \\
    \hline  & . 040 & \[
    .235 \times 9 / 16
    \] & 3.15 & \[
    .312 \times 3 / 4
    \] & 3.30 & \(.400 \times 3 / 4\) & 3.40 \\
    \hline & . 047 & \(.235 \times \quad 9 / 16\)
    \(235 \times 9 / 16\) & 3.15 & . \(312 \times 3 / 4\) & 3.30 & . \(400 \times 3 / 4\) & 3.40
    3.40 \\
    \hline & . 050 & \(\begin{array}{ll}.235 \times & 9 / 16 \\ .312 \times 3 / 4\end{array}\) & 3.15
    3.25 & \(.312 \times c\)
    \(.312 \times 1.4\)
    . & 3.30
    3.40 & \(.400 \times 1 / 4\)
    \(.400 \times 1-1 / 16\) & 3.40
    3.45 \\
    \hline & . 10 & . \(312 \times 3 / 4\) & 3.25 & . \(400 \times 1-1 / 16\) & 3.40 & \(.400 \times 1-1 / 16\) & 3.45 \\
    \hline & . 15 & . \(312 \times 1-1 / 16\) & 3.55 & . \(500 \times 1-1 / 16\) & 3.70 & . \(500 \times 1-1 / 16\) & 4.05 \\
    \hline & . 2 & . \(312 \times 1-1 / 16\) & 3.55 & . \(500 \times 1-1 / 16\) & 3.70 & . \(562 \times 1-1 / 16\) & 4.05 \\
    \hline If & . 22 & . \(312 \times 1-1 / 16\) & 3.55 & . \(500 \times 1-1 / 16\) & 3.70 & . \(562 \times 1-1 / 16\) & 4.05 \\
    \hline  & . 25 & . \(312 \times 1-1 / 16\) & 3.55 & . \(500 \times 1-1 / 16\) & 3.70 & . \(562 \times 1-1 / 4\) & 4.05 \\
    \hline  & . 33 & . \(400 \times 1-1 / 16\) & 3.60 & . \(562 \times 1-1 / 4\) & 4.15 & . \(562 \times 1-3 / 4\) & 4.50 \\
    \hline (1) & . 47 & . \(400 \times 1-1 / 16\) & 3.60 & . \(562 \times 1-3 / 4\) & 4.15 & . \(670 \times 1-3 / 4\) & 4.50 \\
    \hline \((5):\) & . 50 & . \(400 \times 1-1 / 16\) & 3.60 & . \(562 \times 1.3 / 4\) & 4.15 & . \(670 \times 1-3 / 4\) & 4.50 \\
    \hline Y. & . 68 & . \(500 \times 1-1 / 16\) & 4.00 & . \(670 \times 1.3 / 4\) & 4.60 & \(.670 \times 1-3 / 4\) & 5.50 \\
    \hline \(\sim\) & 1.00 & . \(562 \times 1.1 / 16\) & 4.00 & \(.670 \times 2-1 / 4\) & 4.60 & . \(750 \times 2-1 / 4\) & 5.50 \\
    \hline & 1.5
    2.0 & \(.562 \times 1-1 / 4\)
    \(.562 \times 1-3 / 4\) & 5.95
    5.95 & & & & \\
    \hline
    \end{tabular}

    \section*{DERDUDR}

    \section*{Distributor Division}

    FILTERS

    \section*{UHF-INTERFERENCE FILTERS}

    \section*{HEAVY DUTY \\ INDUSTRIAL FILTERS}
    

    PRICES ON REQUEST
    

    Available in seven standard types meeting a wide variety of applications. For extraordinary requirements, special filers can be developed and built to your order.
    \begin{tabular}{|c|c|c|c|c|}
    \hline Type & Amps & VIC & I 1 W W & List Price \\
    \hline IN 148 & 2.0 & 150 & \(1-3 / 4^{\prime \prime} \times 1^{* *} \times 7 / 8^{\prime \prime}\) & \$11.00 \\
    \hline IN 150 & 3.0 & 150 & \(1-13 / 16^{\circ \prime} \times 1^{\prime \prime} \times 1^{\prime \prime}\) & 12.50 \\
    \hline IN 151 & 5.0 & 150 & \(1-13 / 16^{\circ} \times 1-1 / 4^{*} \times 1{ }^{\prime \prime}\) & 14.00 \\
    \hline IN 152 & 10.0 & 150 & \(2-1 / 16^{\circ} \times 1-1 / 4^{\prime \prime} \times 1{ }^{\prime \prime}\) & 16.25 \\
    \hline IN 153 & 25.0 & 150 & \(2^{\prime \prime} \times 2^{\prime \prime} \times 1-3 / 16^{\prime \prime}\) & 23.00 \\
    \hline IN 156 & 40.0 & 150 & \(5-1 / 16^{\prime \prime} \times 1-13 / 32^{\prime \prime} \times 1-1 / 16^{\prime \prime}\) & 29.50 \\
    \hline IN 154 & 100.0 & 150 & \(3-1 / 16^{\prime \prime} \times 2-1 / 8^{\prime \prime} \times 2-7 / 8^{\prime \prime}\) & 39.00 \\
    \hline
    \end{tabular}

    \section*{R-F NOISE CAPACITANCE SUPPRESSORS}

    \section*{TYPE INA.II6}

    These radio-notse suppression capacitors have been especially designed for use in millary or commercial, aircraft and vehicular applications. Primary application is as an \(r\)-f bypass capacitor from line to rround in low voltage de supply lines Units are es pertilly ireated to assure extremely long, nossefree file.

    Operating temperature rante is minus 55 degrees \(C\) to plus 35 degrees \(C\). For full 150 volt rating the operating temperature range is nimmus 55 degrees C to plus 50 degrees \(C\). Units may be used at operating voltages up to 120 vde over a temperature range of minus 55 degrees \(C\) to plus 71 degrees \(C\); and 60 vede
     C.
    \begin{tabular}{c|c|c|c|c|c|c}
    \hline Iype & \begin{tabular}{c} 
    Maxumum \\
    Voltage
    \end{tabular} & \begin{tabular}{c} 
    Max. Imped \\
    at I50 KC (Ohms)
    \end{tabular} & \begin{tabular}{c} 
    Nom. Cap \\
    Rating (MId)
    \end{tabular} & Case Size & \begin{tabular}{c} 
    Mounting \\
    Centers
    \end{tabular} & List Price \\
    \hline INA-117 & 150 VDC & .6 & 2. & \(1-3 / 4 \times 1 \times 3 / 4\) & \(2-1 / 8\) & \(\$ 6.00\) \\
    INA-116 & 150 VDC & .3 & 4. & \(1-3 / 4 \times 1 \times 7 / 8\) & \(2-1 / 8\) & 7.50 \\
    INA-118 & I50 VDC & .12 & 10. & \(2 \times 2 \times 7 / 8\) & \(2-3 / 8\) & 10.00
    \end{tabular}

    \section*{BUILT.IN FILTERS}

    High allenuation type, hermptically meatrdunlis top whe where acvepe interiference is rncountered and deperedabiliy is required forpetmianenuly meunted apph--alums
    Apraber gpecial "Pr tope" runatruction ansures
    - Hu - ill. vimituabe. and telebision tunds suatatile for Armin Nas ore arreall "qquilnerni where inimershen and
    severe humidity iesis musit be mel
    For simple wire unbalanced applicatione. For two wire filicring use one bilier in each line. Filter case musl te securtly tonded to the filter appliance and prownd for maximum ellicipncy. Threetler when use on high whaje AC should the ated only on permanently grounded equipment.
    \begin{tabular}{|c|c|c|c|c|}
    \hline 1, pe & Maノ閏um Vollage & Maumyman Amperes & 1:14 & Lest Pute \\
    \hline \[
    \begin{aligned}
    & \text { IN } 110 \\
    & \text { IN. } 111 \\
    & \text { IN. }: 112
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 25 \mathrm{VaC} \\
    & 3 \times \mathrm{VaC} \\
    & 350 \mathrm{Vac}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3 \\
    & 10 \\
    & 30
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 2 \times 2 \times 1 \\
    & 2 \times 2 \times 1.1 / 4 \\
    & 3.1 / 16 \times 2.18 \times 2.7 / 8
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 8750 \\
    & 12.50 \\
    & 2200
    \end{aligned}
    \] \\
    \hline
    \end{tabular}

    \section*{QEROUDR}

    \section*{Distributor Division}

    \title{
    TYPES 1468 and 1469 \\ (Similar to CM20)
    }
    

    Compact, precision made mica dielectric capacitors made in accordance with MIL specification C-5. All capacitors are molded in low-loss bakelite, impregnated and color-coded. They are tested to meet MIL requirements for dielectric strength, insulation resistance, lemperature coefficient, capacitance drift, humidity and life test.

    ASESA approvals have been obtained and certificates of compliance can be furnished upon request.

    Type 1468 units are of the stacked mica and foil types and are made to meet the requirements of MIL characteristics A and B. Type 1469 units are silvered-mica and are available in characteristics C, D, and \(\Sigma\) of the MIL specification.
    \begin{tabular}{|c|c|c|c|c|}
    \hline & \multicolumn{2}{|c|}{TYPE 1468} & \multicolumn{2}{|l|}{TYPE 1469} \\
    \hline Capacity & Characteristic \(A\) and \(B\) & List Prict & Characteristic C. 0 and \(E\) & tist Price \\
    \hline 5 & - CM20-050 & \$ . 30 & -CM20-200 & \$ . 40 \\
    \hline 10 & - CM20-100 & . 30 & -CM20-220 & . 40 \\
    \hline 12 & - CM20-120 & . 30 & -CM20-240 & . 40 \\
    \hline 15 & - CM20-150 & . 30 & -CM20-270 & . 40 \\
    \hline 18 & - CM20-180 & . 30 & -CM20-300 & . 40 \\
    \hline 20 & CM20-200 & . 30 & *CM20-330 & . 40 \\
    \hline 22 & - CM20-220 & . 30 & -CM20-360 & . 40 \\
    \hline 24 & CM20-240 & . 30 & -CM20-390 & . 40 \\
    \hline 27 & - CM20-270 & . 30 & -CM20-430 & . 40 \\
    \hline 30 & CM20-300 & . 30 & -CM20-470 & . 40 \\
    \hline 33 & - CM20-330 & . 30 & -CM20-500 & . 40 \\
    \hline 36 & CM20-360 & . 20 & -CM20-510 & . 40 \\
    \hline 39 & - CM20-390 & . 20 & *CM20-560 & . 40 \\
    \hline 43 & CM20-430 & . 20 & - CM20-620 & . 40 \\
    \hline 47 & -CM20-470 & . 20 & -CM20-680 & . 40 \\
    \hline 50 & CM20-500 & . 20 & *CM20-750 & . 40 \\
    \hline 51 & CM20-510 & . 20 & *CM20-820 & . 40 \\
    \hline 56 & - CM20-560 & . 20 & * CM20-910 & . 40 \\
    \hline 62 & CM20-620 & . 20 & *CM20-101 & . 40 \\
    \hline 68 & -CM20-680 & . 20 & *CM20-111 & . 45 \\
    \hline 75 & CM20-750 & . 20 & - CM20-121 & . 45 \\
    \hline 82 & - CM20-820 & . 20 & *CM20-131 & . 45 \\
    \hline 91 & CM20-910 & . 20 & - CM20-151 & . 45 \\
    \hline 100 & * CM20-101 & . 20 & -CM20-161 & . 45 \\
    \hline 110 & CM20-111 & . 20 & * CM20-181 & . 45 \\
    \hline 120 & - CM20-121 & . 20 & * CM20-201 & . 45 \\
    \hline 130 & CM20-131 & . 25 & * CM20-221 & . 45 \\
    \hline 150 & - CM20-151 & . 25 & * CM20-241 & . 55 \\
    \hline 160 & CM20-161 & . 25 & * CM20-251 & . 55 \\
    \hline 180 & - CM20-181 & . 25 & * CM20-271 & . 55 \\
    \hline 200 & CM20-201 & . 25 & - CM20-301 & . 55 \\
    \hline 220 & - CM20-221 & . 25 & - \(\mathrm{CM} 20-331\) & . 55 \\
    \hline 240 & CM20-241 & . 30 & -CM20-361 & . 55 \\
    \hline 250 & CM20-251 & . 30 & *CM20-391 & . 65 \\
    \hline 270 & - CM20-271 & . 30 & * CM20-431 & . 65 \\
    \hline 300 & CM20-301 & . 30 & *CM20-471 & . 70 \\
    \hline 330 & * CM20-331 & . 30 & * CM20-501 & . 70 \\
    \hline 360 & CM20-361 & . 30 & *CM20-511 & . 70 \\
    \hline
    \end{tabular}

    Standard Tolerances
    1467 \& \(1468- \pm 20 \%\) (A \& B Characteristics) For \(\pm 10 \%\) lolerance add \(10 \%\) to list price For \(\pm 5 \%\) tolerance add \(25 \%\) to list price

    \section*{TYPES I464 and 1467}
    (Similar to CM30 and CM35)
    

    TYPES 1464 and 1467
    These capacitors are the third smallest case size available in the MIL C-5 specification, and are molded in low-loss bakelite. Characteristics \(A\) and \(B\) refer to the mica and foll type conctriction Characteristics C D and E mefer to silvered-mica struction. Characteristics C, D and E refer to silvered-mica onstruction. These units are color-coded accordine MIO M-5 ASESA approval has been obtained and certificates of compliance will be furnished upon request.
    \begin{tabular}{|c|c|c|c|c|}
    \hline & \multicolumn{2}{|l|}{TYPE 1467} & \multicolumn{2}{|l|}{TYPE 1464} \\
    \hline Capacity & Characteristic \(A\) and 8 & List Price & Characteristic C. D and E & List Price \\
    \hline 470 & *CM30-471 & \$ . 30 & - CM30-471 & \$. 70 \\
    \hline 510 & CM30-511 & . 30 & * CM30-511 & . 70 \\
    \hline 560 & * CM30-561 & . 30 & *CM30-561 & . 75 \\
    \hline 620 & CM30-621 & . 30 & \({ }^{\circ} \mathrm{CM} 30-621\) & . 80 \\
    \hline 680 & - CM30-681 & . 30 & * CM30-681 & . 85 \\
    \hline 750 & CM30-751 & . 30 & - CM30-751 & . 90 \\
    \hline 820 & *CM30-821 & . 30 & \({ }^{*} \mathrm{CM} 30-821\) & . 95 \\
    \hline 910 & CM30-911 & . 30 & *CM30-911 & 1.00 \\
    \hline 1000 & *CM30-102 & . 35 & * CM30-102 & 1.10 \\
    \hline 1100 & CM30-112 & . 35 & -CM30-112 & 1.10 \\
    \hline 1200 & *CM30-122 & . 35 & * CM30-122 & 1.25 \\
    \hline 1300 & CM30-132 & . 35 & *CM30-132 & 1.25 \\
    \hline 1500 & * CM30-152 & . 40 & *CM30-152 & 1.35 \\
    \hline 1600 & CM30-162 & . 40 & - CM30-162 & 1.35 \\
    \hline 1800 & -CM30-182 & . 45 & *CM30-182 & 1.35 \\
    \hline 2000 & * CM30-202 & . 45 & - CM30-202 & 1.50 \\
    \hline 2200 & * CM30-222 & . 45 & * CM30-222 & 1.50 \\
    \hline 2400 & CM30-242 & . 50 & * CM30-242 & 1.80 \\
    \hline 2500 & CM30-252 & . 50 & * CM30-252 & 1.80 \\
    \hline 2700 & * CM30-272 & . 50 & - CM30-272 & 1.90 \\
    \hline 3000 & -CM30-302 & . 60 & *CM30-302 & 2.05 \\
    \hline 3300 & * CM30-332 & . 60 & - CM30-332 & 2.05 \\
    \hline 3600 & CM35-362 & . 60 & \({ }^{\text {c CM35-362 }}\) & 2.10 \\
    \hline 3900 & *CM35-392 & . 65 & *CM35-392 & 2.15 \\
    \hline 4300 & CM35-432 & . 65 & *CM35-432 & 2.15 \\
    \hline 4700 & \({ }^{\text {C CM }} 35-472\) & . 65 & - CM35-472 & 2.15 \\
    \hline 5000 & CM35-502 & . 70 & - CM35-502 & 2.25 \\
    \hline 5100 & CM35-512 & . 70 & - CM35-512 & 2.25 \\
    \hline 5600 & * CM35-562 & . 70 & - CM35-562 & 2.50 \\
    \hline 6200 & CM35-622 & . 90 & - CM35-622 & 2.90 \\
    \hline 6800 & * CM35-682 & . 95 & * CM35-682 & 3.00 \\
    \hline 7500 & CM35-752 & 1.00 & - CM35-752 & 3.25 \\
    \hline 8200 & *CM35-822 & 1.15 & - CM35-822 & 3.50 \\
    \hline 9100 & CM35-912 & 1.15 & *CM35-912 & 4.00 \\
    \hline 10000 & - CM35-103 & 1.40 & *CM35-103 & 4.00 \\
    \hline
    \end{tabular}
    * Denotes those units as specifically listed in Specification MIL-C-5A

    Working Voltage for 1467 \& 1464
    500 VDCW up to and including 6200 nmf
    300 VDCW - above 6200 mmf
    Nominal Size - \(45 / 64 \times 29 / 64 \times 3 / 16\) for 1468 and 1469
    Nominal Size All CM30 Units \(-53 / 64 \times 53 / 64 \times 9 / 32\)
    Nominal Size All CM35 Units \(-53 / 64 \times 53 / 64 \times 21 / 64\)
    -
    CM20-391
    -CM20-471
    CM20-501
    - CM20-511

    \section*{Standard Tolerances}

    1464 \& \(1469- \pm 5 \%\) (C,D \& E Characteristics) For \(\pm 2 \%\) tolerance add \(15 \%\) to list price For \(\pm 1 \%\) tolerance add \(25 \%\) to list price

    \section*{AEROUDH}

    \section*{Distributor Division}

    \section*{MICAS}

    \section*{TYPES I44IW, I44IWX, I468LS, I467LS, I467X and 1478}

    Wide choice of designs, sizes, mountings, terminals offer the correct Aerovox unit for every application, as listed. Units built of selected mica and foil; molded bakelite casing impervious to moisture, heat, mechanical damage. Micrometer test for mica thickness maintains capacity values for long life. Capacity values indicated on units.

    TYPE 1441W (Similar to CM-40)
    500 VDCW 1000 VDCT
    \begin{tabular}{l|c|c|c}
    \hline Cap. Mid. & \begin{tabular}{c} 
    list \\
    Price
    \end{tabular} & Cap. Mid. & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} \\
    \hline .0005 & \(\$ .25\) & .003 & \(\$ .50\) \\
    .00075 & .25 & \(.004^{*}\) & .55 \\
    .001 & .30 & \(.005^{*}\) & .60 \\
    .0015 & .30 & \(.006^{*}\) & .75 \\
    .002 & .40 & \(.007^{*}\) & .90 \\
    .0025 & .45 & \(.008^{*}\) & 1.00
    \end{tabular}

    Size: \(1^{\prime \prime} \times 5 / 8^{\prime \prime} \times 3 / 16^{\prime \prime}\) Compact with wire leads.
    *Thirkness 5/16"

    TYPE I467LS ISimilar to CM30 and CM35)
    500 VDCW 1000 VDCT
    \begin{tabular}{|c|c|c|c|}
    \hline Cap. Mid. & List Price & Cap. Mid. & List Price \\
    \hline . 00047 & \$ 25 & . 0027 & \$.50 \\
    \hline . 0005 & . 25 & . 003 & . 50 \\
    \hline . 00051 & . 25 & . 0033 & . 50 \\
    \hline . 00056 & . 25 & . 0036 & . 55 \\
    \hline . 00062 & . 25 & . 0039 & . 55 \\
    \hline . 00068 & . 25 & . 004 & . 55 \\
    \hline . 00075 & . 25 & . 0043 & . 60 \\
    \hline . 00082 & . 25 & . 0047 & . 60 \\
    \hline . 00091 & . 25 & . 005 & . 60 \\
    \hline . 001 & . 30 & . 0051 & . 60 \\
    \hline . 0011 & . 30 & . 0056 & . 75 \\
    \hline . 0012 & . 30 & . 006 & . 75 \\
    \hline . 0013 & . 30 & . 0062 & . 75 \\
    \hline . 0015 & . 30 & . 0068 & . 90 \\
    \hline . 0016 & . 30 & -. 007 & . 90 \\
    \hline . 0018 & . 40 & -. 0075 & 1.00 \\
    \hline . 002 & . 40 & . 008 & 1.00 \\
    \hline . 0022 & . 45 & -. 0082 & 1.00 \\
    \hline . 0024 & . 45 & *. 009 & 1.10 \\
    \hline . 0025 & . 45 & -. 0091 & 1.10 \\
    \hline & & * 01 & 1.20 \\
    \hline
    \end{tabular}

    Std. Size: \(53 / 64^{\prime \prime} \times 53 / 64^{\prime \prime} \times 9 / 32^{\prime \prime}\) Compact with wire leads.
    *Thickness 21/64"
    TYPE I467XLS (Similar to CM35)
    \begin{tabular}{c|c|c|c}
    \hline \multicolumn{4}{c}{\(\mathbf{3 0 0}\) VDCW } \\
    \(\mathbf{6 0 0}\) VDCT \\
    \hline Cap. Mifd. & list & Cap. Mid. & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} \\
    \hline .007 & \(\$ .80\) & \(* .013\) & \(\$ 1.35\) \\
    .008 & .90 & .014 & 1.45 \\
    .01 & 1.10 & \(* .015\) & 1.55 \\
    \hline .012 & 1.25 & &
    \end{tabular}

    Std. Size: \(53 / 64^{\prime \prime} \times 53 / 64^{\text {" }} \times 9 / 32^{\prime \prime}\) Compact with wire leads.
    *Thickness 21/64"

    \section*{QEROUOB}

    \section*{MICAS}

    \title{
    TYPES 1464, I464X, 1469 and 1479
    }

    \author{
    Silvered Mica Capacitors
    }
    

    TYPE 1469 (Similar to CM20)
    \begin{tabular}{|c|c|c|c|}
    \hline & VDCW & 1000 VDCT & \\
    \hline Cap. Mid. & List Price & Cap. MId. & List Price \\
    \hline . 000005 & \$. 45 & . 000091 & \$ . 40 \\
    \hline . 00001 & . 40 & . 0001 & . 40 \\
    \hline . 00002 & . 40 & . 00011 & . 45 \\
    \hline . 000022 & . 40 & . 00012 & . 45 \\
    \hline . 000024 & . 40 & . 00013 & . 45 \\
    \hline . 000025 & . 40 & . 00015 & .45 \\
    \hline . 000027 & . 40 & . 00016 & . 45 \\
    \hline . 00003 & . 40 & . 00018 & . 45 \\
    \hline . 000033 & . 40 & . 0002 & . 45 \\
    \hline . 000036 & . 40 & . 00022 & . 45 \\
    \hline . 000039 & . 40 & . 00024 & . 45 \\
    \hline . 000040 & . 40 & . 00025 & . 45 \\
    \hline . 000043 & . 40 & . 00027 & . 55 \\
    \hline . 000047 & . 40 & . 0003 & . 55 \\
    \hline . 00005 & . 40 & . 00033 & . 55 \\
    \hline . 000051 & . 40 & . 00035 & . 60 \\
    \hline . 000056 & . 40 & . 00036 & . 60 \\
    \hline . 000062 & . 40 & . 00039 & . 65 \\
    \hline . 000068 & . 40 & . 0004 & . 65 \\
    \hline . 00007 & . 40 & . 00043 & . 65 \\
    \hline . 000075 & . 40 & . 00047 & . 70 \\
    \hline . 000082 & . 40 & . 0005 & . 70 \\
    \hline
    \end{tabular}

    Size: \(45 / 64^{\prime \prime} \times 29 / 64^{\prime \prime} \times 3 / 16^{n}\) provided with wire leads.

    TYPE 1464X
    

    Size: \(53 / 64^{\prime \prime} \times 53 / 64^{\prime \prime} \times 9 / 32^{\prime \prime}\) provided with wire leads.
    *Thickness 21/64"

    AEROVOX sulvered mica units for most critical applications where precise capacity values are required. Encased in red lowloss bakelite. Símilar in external appearance to standard bakelite molded mica units.

    Available with temperature coefficient and retrace characteristics as defined by characteristics A to \(\mathbf{F}\) inclusive of REC-115 and MIL-C-5 specifications for molded capacitors. Exceptionally high "Q". Mechanically protected against physical danage and changes in electrical characteristics due to varying atmospheric conditions. Wax impregnated externally. Ideal for circuits where inductance and capacity product must remain constant under all operating conditions.

    TYPE 1464 (Similar to CM30 and CM35)
    \begin{tabular}{|c|c|c|c|}
    \hline 500 & VDCW & \multicolumn{2}{|l|}{1000 VDCT} \\
    \hline Cap. Mid. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Cap. Mid. & List Price \\
    \hline . 00047 & \$.70 & . 002 & 31.35 \\
    \hline . 00051 & . 70 & . 0022 & 1.50 \\
    \hline . 00056 & . 75 & . 0024 & 1.80 \\
    \hline . 00062 & . 80 & . 0025 & 1.80 \\
    \hline . 00068 & . 85 & . 0027 & 1.90 \\
    \hline . 00075 & . 90 & . 003 & 2.05 \\
    \hline . 0008 & . 95 & . 0033 & 2.05 \\
    \hline . 00082 & . 95 & . 0036 & 2.10 \\
    \hline . 0009 & 1.00 & . 0039 & 2.15 \\
    \hline . 00091 & 1.00 & . 004 * & 2.15 \\
    \hline . 001 & 1.10 & . 0043 - & 2.15 \\
    \hline . 0011 & 1.10 & . 0047 * & 2.15 \\
    \hline . 0012 & 1.25 & . 005 . & 2.25 \\
    \hline . 0013 & 1.25 & . 0051 * & 2.25 \\
    \hline . 0015 & 1.35 & . 0056 * & 2.25 \\
    \hline . 0016 & 1.35 & . 006 * & 2.25 \\
    \hline . 0018 & 1.35 & & \\
    \hline
    \end{tabular}

    Size: \(53 / 64^{\prime \prime} \times 53 / 64^{\prime \prime} \times 9 / 32^{\prime \prime}\) provided with wire leads.
    *Thickness 21/64*

    TYPE 1479 (Similar to CM25)
    \begin{tabular}{l|l|c|c}
    \hline \multicolumn{4}{c}{500} \\
    \multicolumn{2}{c}{ VDCW } & \multicolumn{2}{c}{1000 VDCT } \\
    \hline \multicolumn{1}{c}{ Cap. Mid. } & \begin{tabular}{l} 
    list \\
    Price
    \end{tabular} & Cap. Mid. & \begin{tabular}{l} 
    list \\
    Price
    \end{tabular} \\
    \hline .0001 & \(\$ .40\) & .0005 & \(\$ .70\) \\
    .00015 & .45 & .0007 & .85 \\
    .0002 & .45 & .00075 & .90 \\
    .00025 & .45 & .0008 & .95 \\
    .0003 & .55 & .0009 & 1.00 \\
    .00035 & .60 & .001 & 1.10 \\
    .0004 & .65 & &
    \end{tabular}

    Size: \(1-1 / 16^{\prime \prime} \times 7 / 16^{\prime \prime} \times 3 / 16^{\prime \prime}\) provided with wire leads. Maximum characteristic available \(F\).

    For \(\pm 2 \%\) Tolerance add \(15 \%\) to List Price
    For \(\pm 1 \%\) Tolerance add \(25 \%\) to List Price
    Standard Tolerance \(\pm 5 \%\).

    \section*{AEROUOK}

    \section*{Distributor Division}
    

    Size: \(1-18^{\prime \prime} \times 1-5 / 8^{\prime \prime} \times 11 / 32^{\prime \prime}\)
    -Thickness 7/16
    Standard Tolerance \(\pm 10 \%\)
    For \(\pm 5 \%\) Tolerance add \(15 \%\) to List Price For \(=2\) Tolerance add 40 to List Price

    TYPE 1445

    \section*{600 VDCW 1000 VDCT}
    \begin{tabular}{l|c}
    \hline \multicolumn{1}{c}{ Cap. Mid. } & \begin{tabular}{c} 
    list \\
    Price
    \end{tabular} \\
    \hline .00005 & \(\$ 1.20\) \\
    .0001 & 1.20 \\
    .00015 & 1.20 \\
    .0002 & 1.20 \\
    .00025 & 1.20 \\
    .0003 & 1.20 \\
    .00035 & 1.20 \\
    .0004 & 1.20 \\
    .0005 & 1.20 \\
    .001 & 1.20 \\
    .0015 & 1.20 \\
    .002 & 1.30 \\
    .0025 & 1.30 \\
    .003 & 1.45 \\
    .004 & 1.50 \\
    .005 & 1.55 \\
    .006 & 1.80 \\
    .008 & 1.90 \\
    .01 & 2.15 \\
    .015 & 2.65 \\
    .02 & 3.05 \\
    \(.025^{\circ}\) & 3.60 \\
    .03 & 4.45 \\
    \(.04^{*}\) & 5.65 \\
    &
    \end{tabular}
    1200 VDCW 2500 VDCT 2500 VDCW 5000 VDCT

    \section*{TYPE 1650}
    \begin{tabular}{l|l}
    \multicolumn{2}{c}{ TYPE 1650} \\
    \hline 600 VOCW -1000 VOCT \\
    350 YACW & 700 VACT \\
    \hline .00005 & \(\$ 1.45\) \\
    .0001 & 1.45 \\
    .00025 & 1.45 \\
    .0003 & 1.45 \\
    .00035 & 1.45 \\
    .0004 & 1.45 \\
    .0005 & 1.45 \\
    .001 & 1.45 \\
    .0015 & 1.45 \\
    .002 & 1.65 \\
    .0025 & 1.70 \\
    .003 & 1.85 \\
    .004 & 2.00 \\
    .005 & 2.10 \\
    .006 & 2.20 \\
    .008 & 2.45 \\
    .01 & 2.80 \\
    .015 & 3.05 \\
    .02 & 3.55 \\
    .025 & 4.35 \\
    .03 & 4.55 \\
    .04 & 5.85 \\
    .05 & 7.10 \\
    .06 & 8.05 \\
    & \\
    \hline
    \end{tabular}

    TYPE 1651
    1200 YOCW - 2500 YOCI \begin{tabular}{l}
    875 VACW - 1750 VA \\
    \hline
    \end{tabular}
    \begin{tabular}{c|c}
    \multicolumn{2}{c}{-00005} \\
    \hline .01 .60
    \end{tabular}
    \begin{tabular}{l|r}
    .00005 & \(\$ 1.60\) \\
    .0001 & 1.60 \\
    .00025 & 1.60 \\
    \hline 0003 & 1.60
    \end{tabular}
    \begin{tabular}{l|l}
    .0003 & 1.60 \\
    .00035 & 1.60
    \end{tabular}
    0004
    \(.0005 \quad 1\)
    0015
    \begin{tabular}{l|l}
    .0015 & 1.90 \\
    .002 & 2.25 \\
    \hline
    \end{tabular}
    \begin{tabular}{l|c}
    \multicolumn{2}{c}{ TYPE 1052} \\
    \hline \multicolumn{2}{l}{2500 VOCW -5000 VOCT } \\
    I750 VACW & -3500 VACT \\
    \hline .00005 & \(\$ 1.90\) \\
    .000075 & 1.90 \\
    .0001 & 1.90 \\
    .00015 & 2.00 \\
    .0002 & 2.10 \\
    .00025 & 2.15 \\
    .0003 & 2.20 \\
    .00035 & 2.25 \\
    .0004 & 2.50 \\
    .0005 & 2.55 \\
    .001 & 2.90 \\
    .0015 & 3.90 \\
    .002 & 4.25 \\
    .0025 & 4.60 \\
    .003 & 5.10 \\
    .004 & 5.65 \\
    .005 & 6.20 \\
    .006 & 6.35 \\
    .008 & 6.85 \\
    .01 & 7.30
    \end{tabular}

    \section*{MICAS}
    \begin{tabular}{c|ccc|c} 
    Cap. Mid. & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} & \begin{tabular}{l} 
    List \\
    Price
    \end{tabular} \\
    \hline .00005 & \(\$ 1.60\) & & .00005 & \(\$ 1.90\)
    \end{tabular}
    For Meter Mounting Bracket:
    A - add \(35 c^{\prime}\) to List Price
    E - add \(20 c\) to List Price
    These units are equivalent to case styles These units are equivalent to case styles
    CM45 and CM50 of specification MIL-C5A
    TYPES 1650, 1651, 1652, 1653L and 1654L
    

    Heaviest-duty molded in bakelite mica capacitors of the AEROVOX line. Threadedmountine holes for Threaded mountint holes for roundhead screw terminals or plain holes available. Add suffix " \(A\) ' for plain holes

    These units are equivalent to case styles CM55, CM56, CM60, and CM61 of specification MIL-C-5A.

    TYPE 16531
    3750 YOCW - 7500 YOCT 2625 VACW - 5250 VACI \begin{tabular}{l|l}
    \hline .00005 & \(\$ 3.30\)
    \end{tabular} \begin{tabular}{l|l}
    .000075 & 3.65 \\
    .0001 & 3.80
    \end{tabular} \begin{tabular}{l|l}
    .0001 & 3.80 \\
    .00015 & 4.15
    \end{tabular} \begin{tabular}{l|l}
    .00015 & 4.15 \\
    .0002 & 4.30 \\
    .00025 & 4.75
    \end{tabular} \begin{tabular}{l|l}
    .0003 & 4.75 \\
    \hline .90
    \end{tabular} \begin{tabular}{l|l}
    00035 & \(\mathbf{4 . 7 5}\)
    \end{tabular} .0004 .0004 \begin{tabular}{l|l}
    .0005 & 6.50 \\
    .001 & 7.70
    \end{tabular} .0015 .002 .002 0025 \(.003 *\)

    TYPE 1654L
    5000 YOCW - 10000 YOCI 3500 VaCW - 10000 YOCT
    \begin{tabular}{l|r}
    \hline .00005 & \(\$ 3.75\) \\
    .000075 & 4.15 \\
    .0001 & 4.65 \\
    .00015 & 5.05 \\
    .0002 & 6.25 \\
    .00025 & 6.80 \\
    .0003 & 7.15 \\
    .00035 & 7.50 \\
    .0004 & 7.70 \\
    .0005 & 9.90 \\
    .001 & 12.50
    \end{tabular}

    Ceramic mounting insulators (specify " M ") add 50 e to List Price
    1650-54 series furnished with 6-32 tapped holes for screw mount. ing of if plain hole desired specify " \(A\) " - no extra charge.

    Std. Tolerance \(\pm 10 \%\)
    For \(55 \%\) Tolerance add 15 t to List Price For \(\pm 2 \%\) Tolerance add 40 to List Price Nominal Size \(-1-3 / 4^{\prime \prime} \times 1.5^{\prime} 16^{\prime \prime} \times 7 / 16^{\prime \prime}\) *Thickness 3/4"

    \section*{AEROUD}

    \section*{Distributor Division}

    \section*{MICAS}
    

    Ideal sor hirt-frequency application. Glazed porcelain zase, high temperature wax sealed. Heavy duty power terminals. Minimum power ioss due to dielectric absorption. No heating at full load.

    SIZE: \(4^{\prime \prime}\) overall by \(3^{\prime \prime}\) high;
    3-1/2" between mounting
    holes.

    \section*{TYPES I550L, 1570L and 1590L}

    \section*{Potted Transmitting Capacitors}

    These polted transmitting capacitors in thermo-setting case materials have. greater load-car"ying capacity than mold-ed-in-thermo-setting case maturial capacitors. Types :550 to 1590, iaclusive, not only have high woltage rating but afford highercurrent ratings than equivalent capacitances in thermo-setting case material units. Because of their construction they are made with higher capacitance stability. Furnished only in low-loss thermo-setting case material as standard. Bakelite cased mica stack capacitors. These units have highest quality mica sections stacked for greater load carrying capacity. The sections are potted in low. loss bakelite rases and permanently clamped with non-magnetic material.
    

    TYPE 15501
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Cap. Mid.} & \multirow[b]{2}{*}{\[
    \begin{aligned}
    & \text { DC } \\
    & \text { Voltage } \\
    & \text { Rating }
    \end{aligned}
    \]} & \multirow[b]{2}{*}{Type} & \multicolumn{4}{|c|}{Maximum Curent Capacity-Amperes} & \multirow[b]{2}{*}{List Price} \\
    \hline & & & \[
    \begin{aligned}
    & 15 \\
    & m \mathrm{~m}
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 15 \\
    & 0 . c
    \end{aligned}
    \] & \[
    \begin{aligned}
    & 3150 \\
    & \text { Kc }
    \end{aligned}
    \] & \[
    \begin{gathered}
    1875 \\
    \mathrm{Kc}
    \end{gathered}
    \] & \\
    \hline . 00005 & 12,500 & 1996 & 3 & 2.5 & 1.5 & 1 & \$18.00 \\
    \hline . 0001 & 12,500 & 1996 & 5 & 4 & 3 & 2 & 18.00 \\
    \hline . 00025 & 12,500 & 1996 & 7 & 8 & 6 & 4 & 18.00 \\
    \hline \multirow[t]{2}{*}{. 0005} & 12,500 & 1996 & 8 & 9 & 8 & 7 & 18.00 \\
    \hline & 7,000 & 1994 & 7 & 8 & 6 & 4 & 14.85 \\
    \hline \multirow[t]{3}{*}{. 001} & 12,500 & 1996 & 9 & 10 & 11 & 12 & 18.00 \\
    \hline & 7,000 & 1994 & 8 & 9 & 10 & 8 & 16.10 \\
    \hline & 3,500 & 1992 & 8 & 9 & 8 & 5 & 15.85 \\
    \hline \multirow[t]{5}{*}{. 0015} & 12,500 & 1996 & 9 & 10 & 11 & 12 & 21.10 \\
    \hline & 7,000 & 1994 & 9 & 9 & 10 & 8 & 17.65 \\
    \hline & 5,000 & 1993 & 8 & 9 & 9 & 7 & 17.65 \\
    \hline & 3,500 & 1992 & 8 & 9 & 8 & 5 & 15.85 \\
    \hline & 2,000 & 1991 & 7 & 8 & 8 & 5 & 15.85 \\
    \hline \multirow[t]{5}{*}{. 002} & 12,500 & 1996 & 9 & 12 & 13 & 15 & 25.00 \\
    \hline & 7,000 & 1994 & 9 & 9 & 10 & 10 & 21.10 \\
    \hline & 5,000 & 1993 & 8 & 9 & 9 & 8 & 19.80 \\
    \hline & 3,500 & 1992 & 8 & 8 & 9 & 7 & 18.60 \\
    \hline & 2,000 & 1991 & 7 & 8 & 8 & 6 & 18.60 \\
    \hline \multirow[t]{5}{*}{. 003} & 12,500 & 1996 & 9 & 12 & 13 & 15 & 31.00 \\
    \hline & 7,000 & 1994 & 9 & 10 & 10 & 10 & 23.00 \\
    \hline & 5,000 & 1993 & 8 & 9 & 9 & 9 & 21.30 \\
    \hline & 3,500 & 1992 & 8 & 9 & 9 & 8 & 19.80 \\
    \hline & 2,000 & 1991 & 7 & 8 & 8 & 7 & 19.80 \\
    \hline \multirow[t]{5}{*}{. 005} & 10,000 & 1995 & 10 & 13 & 14 & 15 & 32.45 \\
    \hline & 7,000 & 1994 & 9 & 11 & 12 & 11 & 30.65 \\
    \hline & 5,000 & 1993 & 9 & 11 & 12 & 10 & 21.55 \\
    \hline & 3,500 & 1992 & 9 & 10 & 11 & 9 & 21.30 \\
    \hline & 2,000 & 1991 & 8 & 9 & 10 & 8 & 21.30 \\
    \hline \multirow[t]{4}{*}{. 01} & 7,000 & 1994 & 10 & 13 & 15 & 15 & 33.95 \\
    \hline & 5,000 & 1993 & 10 & 13 & 15 & 15 & 33.15 \\
    \hline & 3,500 & 1992 & 10 & 13 & 14 & 14 & 32.45 \\
    \hline & 2,000 & 1991 & 10 & 13 & 14 & 14 & 32.45 \\
    \hline \multirow[t]{2}{*}{. 02} & 3,500 & 1992 & 10 & 14 & 16 & 17 & 32.45 \\
    \hline & 2,000 & 1991 & 10 & 13 & 15 & 15 & 30.20 \\
    \hline \multirow[t]{2}{*}{. 05} & 3,500 & 1992 & 10 & 14 & 17 & 18 & 37.60 \\
    \hline & 2,000 & 1991 & 10 & 14 & 16 & 17 & 32.45 \\
    \hline . 1 & 2,000 & 1991 & 10 & 14 & 17 & 18 & 37.60 \\
    \hline
    \end{tabular}

    \section*{TYPES 1940, 1950, 1960, 1970 and 1980}

    \section*{Stack-mounting Transmitting Capacitors}
    

    These stack-mounting transmitting mica capacitors are espectally intended for various transmitting applications such as grid, plate blocking, coupling, tank, and by-passing functions for higher-powered installation. They are made with a special cylindricallow-loss, glazed ceramic case providing a long creepage path betweenterminals. They aredesigned to eliminate coronar losses, inside and outside alike, and also provide uniform voltage gradient. The cast-aluminum terminal ends provide low contact resistance between units. These units are conservatively taci resistance been ung have extremely low power factor so that they can handle large KVA have extremely low power fa
    loads without overheating.

    \section*{General Purpose CERAMICS}

    \section*{Hi-Q TUBULAR CAPACITORS}

    Stock Items 500 vDCw
    Tolerance \(\pm 20 \%\)
    \begin{tabular}{r|r|r}
    \hline Cap. Mfd. & Sire & List Price \\
    \hline 5 & SI-1 & .20 \\
    10 & SI-1 & .20 \\
    12 & SI-1 & .20 \\
    15 & SI-1 & .20 \\
    18 & SI-1 & .20 \\
    20 & SI-1 & .20 \\
    22 & SI-1 & .20 \\
    24 & SI-1 & .20 \\
    25 & SI-1 & .20 \\
    27 & SI-1 & .20 \\
    30 & SI-1 & .20 \\
    33 & SI-1 & .20 \\
    39 & SI-1 & .20 \\
    47 & SI-1 & .20 \\
    50 & SI-1 & .20 \\
    51 & SI-1 & .20 \\
    56 & SI-1 & .20 \\
    68 & SI-1 & .20 \\
    75 & SI-1 & .20 \\
    82 & SI-1 & .20 \\
    91 & SI-1 & .20 \\
    100 & SI-1 & .20 \\
    110 & SI-1 & .20 \\
    120 & SI-1 & .20 \\
    150 & SI-1 & .20 \\
    180 & SI-1 & .20 \\
    200 & SI-1 & .20 \\
    220 & SI-1 & .20 \\
    240 & SI-1 & .20 \\
    250 & SI-1 & .20 \\
    270 & SI-1 & .20 \\
    300 & SI-1 & .20 \\
    & & \\
    & & \\
    \hline & & \\
    \hline 10
    \end{tabular}
    \begin{tabular}{c|c|c}
    \hline Cap. Mfd. & Sizt & List Prict \\
    \hline 5 & \(\mathrm{CI}-1\) & .20 \\
    10 & \(\mathrm{CI}-1\) & .20 \\
    12 & \(\mathrm{CI}-1\) & .20 \\
    15 & \(\mathrm{CI}-1\) & .20 \\
    18 & \(\mathrm{CI}-1\) & .20 \\
    20 & \(\mathrm{CI}-1\) & .20 \\
    22 & \(\mathrm{CI}-1\) & .20 \\
    24 & \(\mathrm{CI}-1\) & .20 \\
    25 & \(\mathrm{CI}-1\) & .20 \\
    27 & \(\mathrm{CI}-1\) & .20 \\
    30 & \(\mathrm{CI}-1\) & .20 \\
    33 & \(\mathrm{CI}-1\) & .20 \\
    39 & \(\mathrm{CI}-1\) & .20 \\
    47 & \(\mathrm{CI}-1\) & .20 \\
    50 & \(\mathrm{CI}-1\) & .20 \\
    51 & \(\mathrm{CI}-1\) & .20 \\
    56 & \(\mathrm{CI}-1\) & .20 \\
    68 & \(\mathrm{CI}-1\) & .20 \\
    75 & \(\mathrm{CI}-1\) & .20 \\
    82 & \(\mathrm{CI}-1\) & .20 \\
    91 & \(\mathrm{CI}-1\) & .20 \\
    100 & \(\mathrm{CI}-1\) & .20 \\
    110 & \(\mathrm{CI}-1\) & .20 \\
    120 & \(\mathrm{CI}-1\) & .20 \\
    150 & \(\mathrm{CI}-1\) & .20 \\
    180 & \(\mathrm{CI}-1\) & .20 \\
    200 & \(\mathrm{CI}-1\) & .20 \\
    220 & \(\mathrm{CI}-1\) & .20 \\
    240 & \(\mathrm{CI}-1\) & .20 \\
    250 & \(\mathrm{CI}-1\) & .20 \\
    270 & \(\mathrm{CI}-1\) & .20 \\
    300 & \(\mathrm{CI}-1\) & .20 \\
    & & \\
    \hline & & \\
    \hline 1 & & \\
    \hline 1 & & \\
    \hline 1 & & \\
    \hline
    \end{tabular}
    \begin{tabular}{c|c|c}
    \hline Cap. Mfd. & Sizt & List Price \\
    \hline 330 & SI-1 & .20 \\
    360 & SI-1 & .20 \\
    390 & SI-1 & .20 \\
    470 & SI-1 & .20 \\
    500 & SI-1 & .20 \\
    510 & SI-1 & .20 \\
    560 & SI-1 & .20 \\
    680 & SI-1 & .20 \\
    750 & SI-1 & .20 \\
    820 & SI-1 & .20 \\
    910 & SI-1 & .20 \\
    1000 & SI-1 & .20 \\
    1200 & SI-2 & .20 \\
    1500 & SI-2 & .20 \\
    1800 & SI-2 & .20 \\
    2000 & SI-2 & .20 \\
    2200 & SI-7 & .20 \\
    2400 & SI-7 & .20 \\
    2500 & SI-7 & .20 \\
    2700 & SI-7 & .20 \\
    3000 & SI-19 & .20 \\
    3300 & SI-19 & .20 \\
    4000 & SI-19 & .20 \\
    4700 & SI-3 & .20 \\
    5000 & SI-3 & .20 \\
    5100 & SI-3 & .20 \\
    5600 & SI-3 & .20 \\
    6000 & SI-3 & .20 \\
    6800 & SI-4 & .20 \\
    7500 & SI-4 & .20 \\
    10,000 & SI-5 & .20 \\
    15,000 & SI-6 & .30 \\
    17,500 & SI-6 & .30 \\
    \hline 10
    \end{tabular}
    \begin{tabular}{r|c|c}
    \hline Cip. Mfd. & Size & List Price \\
    \hline 20,000 & SI-5 GMV & .30 \\
    25,000 & SI-5 GMV & .50 \\
    30,000 & SI-6 GMV & .50 \\
    33,000 & SI-6 GMV & .50 \\
    330 & CI-1 & .20 \\
    360 & CI-1 & .20 \\
    390 & CI-1 & .20 \\
    470 & CI-1 & .20 \\
    500 & CI-1 & .20 \\
    510 & CI-1 & .20 \\
    560 & CI-1 & .20 \\
    680 & CI-1 & .20 \\
    750 & CI-1 & .20 \\
    820 & CI-2 & .20 \\
    910 & CI-2 & .20 \\
    1000 & CI-2 & .20 \\
    1200 & CI-2 & .20 \\
    1500 & CI-2 & .20 \\
    1800 & CI-2 & .20 \\
    2000 & CI-2 & .20 \\
    2200 & CI-3 & .20 \\
    2400 & CI-3 & .20 \\
    2500 & CI-3 & .20 \\
    2700 & CI-3 & .20 \\
    3000 & CI-3 & .20 \\
    3300 & CI-3 & .20 \\
    4000 & CI-3 & .20 \\
    4700 & CI-3 & .20 \\
    5000 & CI-3 & .20 \\
    5100 & CI-3 & .20 \\
    5600 & CI-3 & .20 \\
    6000 & CI-3 & .20 \\
    & & \\
    & & \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline & &  & em & \begin{tabular}{l}
    MIS \\
    V CAPACI 600 VDCW
    \end{tabular} &  &  & DA & 10
    Sta
    ck & T & ran & \(\pm 20 \%\)
    \(V 0\) & & \begin{tabular}{l}
    \(\mathrm{H}_{1} \mathrm{O}\) \\
    O1. 5
    \end{tabular} & \\
    \hline Type & Cap. Mfd. & Dia. & \begin{tabular}{l}
    List \\
    Price
    \end{tabular} & Type Cap. Mfd. & Dia. & List Price & Type & Cap. Mid. & Dia. & \[
    \begin{aligned}
    & \text { List } \\
    & \text { Price }
    \end{aligned}
    \] & Typt & Cep. Mid. & Dia. & List Price \\
    \hline & & & & & & & DI-1 & 5 & 5/16 & . 25 & DI-2 & 270 & 3/8 & . 25 \\
    \hline BPD & . 00001 & 5/16 & . 25 & BPD . 0033 & 17/16 & . 25 & DI-1 & 10 & 5/16 & . 25 & DI-2 & 300 & 3/8 & . 25 \\
    \hline BPD & . 000015 & 5/16 & . 25 & BPD . 004 & 19/32 & . 25 & DI-1 & . 12 & 5/16 & . 25 & DI-2 & 330 & 3/8 & . 25 \\
    \hline BPD & . 000022 & 5/16 & . 25 & BPD . 0047 & 19/32 & . 25 & DI-1 & -15 & 5/16 & . 25 & DI-2 & 390 & 3/8 & . 25 \\
    \hline BPD & . 000025 & 5/16 & . 25 & BPD . 005 & 19/32 & . 25 & DI-1 & 18 & 5/16 & . 25 & DI-2 & 470 & 3/8 & . 25 \\
    \hline BPD & . 000033 & 5/16 & . 25 & BPD . 0068 & 11/16 & . 25 & DI-1 & 20 & 5/16 & . 25 & DI-2 & 500 & 3/8 & . 25 \\
    \hline BPD & . 000047 & 5/16 & . 25 & BPD . 01 & 3/4 & . 30 & DI-1 & 22 & 5/16 & . 25 & DI-2 & 560 & 3/8 & . 25 \\
    \hline BPD & . 000005 & 5/16 & . 25 & \begin{tabular}{l|l} 
    BPD & .015
    \end{tabular} & 29/32 & .40 & DI-1 & 25 & 5/16 & . 25 & DI-2 & 680 & 3/8 & . 25 \\
    \hline BPD
    BPD & . 000068 & \(5 / 16\)
    \(5 / 16\) & .25
    .25 & \begin{tabular}{l|l} 
    BPD & .02 \\
    BPD & .05
    \end{tabular} & 29/32 & . 60 & DI-1 & 27 & 5/16 & . 25 & DI-2 & 750 & \(3 / 8\) & . 25 \\
    \hline BPD
    BPD & . 000012 & \(5 / 16\)
    \(5 / 16\) & . 25 & BPD . 05 & 29/32 & . 85 & DI-1 & 30 & 5/16 & . 25 & DI-4 & 1000 & 19/32 & . 25 \\
    \hline BPD & . 00015 & 5/16 & . 25 & \multicolumn{3}{|l|}{\multirow[t]{2}{*}{DUALS and TRIPLES}} & DI-1 & 33 & 5/16 & .25 & DI-4 & 1200 & 19/32 & . 25 \\
    \hline BPD & . 0002 & 5/16 & . 25 & & & & DI-1 & 39
    47 & 5/16 & . 25 & DI-4 & 1500 & 19/32 & . 25 \\
    \hline BPD & . 00027 & 5/16 & . 25 & BPD2-2 \(\times\). 001 & 19/32 & . 40 & DI-1 & 50 & 5/16 & . 25 & DI-4 & 1800 & 19/32 & . 25 \\
    \hline BPD & . 00033 & 5/16 & . 25 & BPD2-2 \(\times .0015\) & 19/32 & . 40 & DI-1 & 56 & \(5 / 16\) & . 25 & DI-4 & 2000 & \(19 / 32\)
    \(19 / 32\) & . 25 \\
    \hline BPD & . 00047 & 5/16 & . 25 & BPD2-2 \(\times .002\) & 19/32 & . 40 & DI-2 & 68 & \(3 / 8\) & . 25 & DI-5 & 2500 & 11/16 & . 25 \\
    \hline BPD & . 0005 & 5/16 & . 25 & BPD2-2 \(\times .0022\) & 19/32 & . 40 & DI-2 & 82 & \(3 / 8\) & . 25 & DI-5 & 2700 & 11/16 & . 25 \\
    \hline BPD & . 00068 & 5/16 & . 25 & BPD2-2 \(\times .003\) & \(3 / 4\) & . 45 & DI-2 & 100 & \(3 / 8\) & . 25 & DI-5 & 3000 & 11/16 & . 25 \\
    \hline BPD & . 0008 & 5/16 & . 25 & BPD2 -2 \(\times .004\) & \(3 / 4\) & . 45 & DI-2 & 120 & 3/8 & . 25 & DI-5 & 3300 & 11/16 & . 25 \\
    \hline BPD & . 001 & 5/16 & . 25 & BPD2 -2 \(\times .0047\) & \(3 / 4\) & . 45 & DI-2 & 150 & \(3 / 8\) & . 25 & DI-7 & 4700 & 29/32 & . 25 \\
    \hline BPD & . 0015 & 5/16 & . 25 & BPD2 \(2 \times .01\) & \(3 / 4\) & . 50 & DI-2 & 180 & 3/8 & . 25 & DI-7 & 5000 & 29/32 & . 25 \\
    \hline BPD & . 002 & \(3 / 8\) & . 25 & BPD2-2 \(\times .02\) & 29/32 & . 70 & DI-2 & 200 & 3/8 & . 25 & DI-7 & 5600 & 29/32 & . 30 \\
    \hline BPD & . 0022 & \(3 / 8\)
    \(7 / 16\) & . 25 & BPD3-3 \(\times .0015\) & \(3 / 4\) & . 50 & DI-2 & 220 & 3/8 & . 25 & DI-5 & 6800 & 11/16 & . 30 \\
    \hline BPD & .0025* & 7/16 & . 25 & BPD \(3-3 \times .002\) & \(3 / 4\) & . 50 & DI-2 & 250 & 3/8 & . 25 & DI-5 & 7500 & 11/16 & . 30 \\
    \hline & & & & & & & & & & & DI-6 & 10000 & \(3 / 4\) & . 30 \\
    \hline
    \end{tabular}

    \section*{REROUDR}

    \section*{Distributor Division}

    \section*{CERAMICS}

    \section*{Hi-Q TEMPERATURE COMPENSATING DISK CAPACITORS \\ Stock Items - 500 VDCW}
    \begin{tabular}{c|c|c|c}
    \hline Iype & Cap. Mfd. & Dia. & \begin{tabular}{c} 
    list \\
    Price
    \end{tabular} \\
    \hline NPO-DI & \(3.0^{*}\) & \(5 / 16\) & .50 \\
    NPO-DI & \(3.3^{*}\) & \(5 / 16\) & .50 \\
    NPO-DI & \(4.7^{*}\) & \(5 / 16\) & .50 \\
    NPO-DI & \(5.0^{*}\) & \(5 / 16\) & .50 \\
    NPO-DI & \(6.8^{*}\) & \(5 / 16\) & .50 \\
    NPO-DI & \(8.2^{*}\) & \(5 / 16\) & .50 \\
    NPO-DI & \(10^{*}\) & \(5 / 16\) & .50 \\
    NPO-DI & \(15^{*}\) & \(3 / 8\) & .50 \\
    NPO-DI & \(20^{*}\) & \(3 / 8\) & .50 \\
    NPO-DI & \(22^{*}\) & \(7 / 16\) & .50 \\
    *-New & Standard Tolerance
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline Type & Cap. Mfd. & Dia. & List Price \\
    \hline NPO-DI & 25* & 7/16 & . 50 \\
    \hline NPO-DI & 33* & 19/32 & . 50 \\
    \hline NPO-DI & 39* & 19/32 & . 55 \\
    \hline NPO-DI & 47* & 19/32 & . 55 \\
    \hline NPO-DI & 50* & 19/32 & . 55 \\
    \hline NPO-DI & 68* & 11/16 & . 55 \\
    \hline NPO-DI & 75* & 11/16 & . 55 \\
    \hline NPO-DI & 100* & 3/4 & . 55 \\
    \hline NPO-D1 & 120* & 29/32 & . 60 \\
    \hline NPO-DI & 150* & 29/32 & . 60 \\
    \hline to 10 m & \(\pm .5\) & mf. ab & 10 \\
    \hline
    \end{tabular}
    \begin{tabular}{c|c|c|c}
    \hline Type & Cas. Mild. & Dis. & \begin{tabular}{c} 
    List \\
    Prict
    \end{tabular} \\
    \hline N750-DI & \(10^{*}\) & \(5 / 16\) & .50 \\
    N750-DI & \(15^{*}\) & \(5 / 16\) & .50 \\
    N750-DI & \(20^{*}\) & \(5 / 16\) & .50 \\
    N750-DI & \(22^{*}\) & \(5 / 16\) & .50 \\
    N750-DI & \(25^{*}\) & \(5 / 16\) & .50 \\
    N750-DI & \(33^{*}\) & \(5 / 16\) & .50 \\
    N750-DI & \(47^{*}\) & \(3 / 8\) & .50 \\
    N750-DI & \(68^{*}\) & \(7 / 16\) & .50 \\
    & & &
    \end{tabular}
    \begin{tabular}{|c|c|c|c|}
    \hline Ino & Ca. Whil & Dia. & List Price \\
    \hline N750-DI & 75* & 7/16 & . 50 \\
    \hline N750-DI & 100* & 19/32 & . 50 \\
    \hline N750-DI & \(150{ }^{*}\) & 19/32 & . 50 \\
    \hline N750-DI & 200* & 11/16 & . 50 \\
    \hline N750-DI & 220* & 11/16 & . 50 \\
    \hline N750-DI & \(330{ }^{\circ}\) & 29/32 & . 50 \\
    \hline N750-DI & \(360{ }^{\text {3 }}\) & 29/32 & . 50 \\
    \hline N750-DI & \(390{ }^{*}\) & 29/32 & . 50 \\
    \hline N750-DI & \(430{ }^{\circ}\) & 29/32 & . 50 \\
    \hline
    \end{tabular}

    Hi-Q TEMPERATURE COMPENSATING TUBULAR CAPACITORS
    Stock Items-N750-500 VDCW
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type & Capacity Mid. & Size & List Price & Irpe & Capacity Mid. & Size & List Price \\
    \hline N750-SI & 5 & SI-1 & . 50 & N750-SI & 150* & SI-7 & . 50 \\
    \hline N750-SI & 10 & SI-1 & . 50 & N750-SI & 200* & SI-7 & . 50 \\
    \hline N750-SI & 15* & SI-1 & . 50 & N750-SI & \(220 *\) & SI-7 & . 50 \\
    \hline N750-SI & 20* & SI-1 & . 50 & N750-SI & 270* & SI-7 & . 50 \\
    \hline N750-SI & 22* & SI-1 & . 50 & N750-SI & \(330 *\) & SI-3 & . 50 \\
    \hline N750-SI & \(25^{*}\) & SI-1 & . 50 & N750-SI & \(360 *\) & SI-3 & . 50 \\
    \hline N750-SI & 33* & SI-1 & . 50 & N750-SI & \(390 *\) & SI-3 & . 50 \\
    \hline N750-SI & 39* & SI-1 & . 50 & N750-SI & 430* & SI-4 & . 50 \\
    \hline N750-SI & 47 & SI-1 & . 50 & N750-SI & 470* & SI-4 & . 50 \\
    \hline N750-SI & \(56^{*}\) & SI-1 & . 50 & N750-SI & \(510^{*}\) & SI-4 & . 50 \\
    \hline N750-SI & 68* & SI-1 & . 50 & N750-SI & \(560 *\) & SI-5 & . 50 \\
    \hline N750-SI & 75* & SI-13 & . 50 & N750-SI & 620* & SI-5 & . 50 \\
    \hline N750-SI & 100* & SI-2 & . 50 & N750-SI & 680* & SI-5 & . 50 \\
    \hline N750-SI & 120* & SI-7 & . 50 & N750-SI & 750* & SI-5 & . 50 \\
    \hline
    \end{tabular}

    NO80
    Stock Items-500 VDCW
    N 330 + 500 ppm
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Type & Cap. Mfd. & Size & List Price & Type & -Cap. Mid. & lype & Size & List Price \\
    \hline N080-SI & 10 & SI-1 & . 60 & N330-SI & 47士 10\% & 1500 VDCW & SI-2 & . 50 \\
    \hline N 080 -SI & 22 & SI-1 & . 60 & N330-SI & 56 \(-10 \%\) & 1500 VDCW & SI-2 & . 50 \\
    \hline N080-SI & 33 & SI-13 & . 60 & & & & & \\
    \hline N080-SI & 47 & SI-27 & . 60 & \multicolumn{5}{|l|}{\multirow[t]{2}{*}{N330 - Deflection Yoke Capacitor for silvered mica capacitor replacement.}} \\
    \hline N080-SI & 62 & SI-27 & . 60 & & & & & \\
    \hline
    \end{tabular}

    Stock Items-NPO-SI-500 VDCW
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline Type & Cap. Mid. & Size & List Price & Type & Cap. Mfd. & Sint & List Price \\
    \hline NPO-SI & 1.0 * & SI-1 & . 50 & NPO-SI & 39** & SI-2 & . 50 \\
    \hline NPO-SI & 1.5* & SI-1 & . 50 & NPO-SI & 47* & SI-2 & . 50 \\
    \hline NPO-SI & 2.2* & SI-1 & . 50 & NPO-SI & 50 & SI-2 & . 50 \\
    \hline NPO-SI & 3.0 & SI-1 & . 50 & NPO-SI & 56* & SI-7 & . 50 \\
    \hline NPO-SI & 3.3 & SI-1 & . 50 & NPO-SI & 68* & SI-7 & . 50 \\
    \hline NPO-SI & 4.7 & SI-1 & . 50 & NPO-SI & 75 & SI-7 & . 50 \\
    \hline NPO-SI & 5.0 & SI-1 & . 50 & NPO-SI & 100 & SI-7 & . 50 \\
    \hline NPO-SI & 6.8 & SI-1 & . 50 & NPO-SI & \(120{ }^{*}\) & SI-10 & . 50 \\
    \hline NPO-SI & 8.2 & SI-1 & . 50 & NPO-SI & 150 & SI-3 & . 50 \\
    \hline NPO-SI & 10 & SI-1 & . 50 & NPO-SI & 175 & SI-4 & . 50 \\
    \hline NPO-SI & 15* & SI-1 & . 50 & NPO-SI & 180* & SI-4 & . 50 \\
    \hline NPO-SI & 20 & SI-1 & . 50 & NPO-SI & 220* & SI-5 & . 50 \\
    \hline NPO-SI & 22* & SI-1 & . 50 & NPO-SI & 270* & SI-5 & . 50 \\
    \hline NPO-SI & 25 & SI-13 & . 50 & & & & \\
    \hline NPO-SI & 33 & SI-13 & . 50 & & & & \\
    \hline
    \end{tabular}
    - New Standard Tolerance - up to 10 mmf . \(\pm .5 \mathrm{mmf}\). above \(10 \mathrm{mmf} . \pm 10 \%\)

    When ordering the above units, designate type and MMFD fully. For example: NPO - SI-1.5 MMFD. The zero temperature coefficient capacitor is the most stable ceramic commercial capacitor avallable.

    \section*{DEROUOR}

    \section*{Distributor Division}

    \section*{CERAMICS}

    \section*{Hi-Q TUBULAR FEED-THRU CAPACITORS}
    

    Hi-Q Feed-Thru Capacitors provide means to transmit thru shields or ground potentials and simultaneously by-pass unwanted frequencies. A good mechanical connection is provided by the silver-plated bushing. These are excellent dependable units even under severe mechanical vibrations as in aircraft, missiles and automotive re-

    \section*{Stock Items \\ Feed-Thru 500 VDCW}
    \begin{tabular}{c|c|c|c}
    \hline Type & Capacity Mid. & Thread & \begin{tabular}{c} 
    list \\
    Price
    \end{tabular} \\
    \hline CFC-1 & 500 mmf. & \(12-28\) & 1.00 \\
    & 1000 mmf & \(12-28\) & 1.00 \\
    & 1500 mmf & \(12-28\) & 1.00 \\
    CF-1 & 1500 mmf & \(1 / 4-28\) & 1.00 \\
    CF-2 & 1800 mmf & \(5 / 16-24\) & 1.00 \\
    & 2300 mmf. & \(5 / 16-24\) & 1.00 \\
    & 3000 mmf. & \(5 / 16-24\) & 1.00 \\
    CF-3 & 4000 mmf. & \(5 / 16-24\) & 1.00 \\
    CF-4 & 7000 mmf. & \(5 / 16-24\) & 1.00
    \end{tabular}
    quirements. All units are flash tested at 1250 volts D.C.

    Hi-Q Eyelet Feed-Thru Ceramic Capacitors provide the ultimate in miniaturization. They can be soldered directly to the chassis and provide excellent by-pass performance where space is critical. Especially recommended for use in UHF.

    \section*{Stock Items Feed-Thru \\ Eyelet Type-Miniature}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Capacity Mifd. & Size & Type & Tolerance & List Price \\
    \hline 50* & CN-1** & EF & \(\pm 10 \%\) & . 50 \\
    \hline 100* & CN-1** & EF & \(\pm 10 \%\) & . 50 \\
    \hline 500* & CN-1** & EF & \(\pm 20 \%\) & . 50 \\
    \hline 1000* & CN-1** & EF & GMV & . 50 \\
    \hline
    \end{tabular}

    \section*{Hi-Q TUBULAR STAND-OFF CAPACITORS}
    

    TYPE MCS
    

    Hi-Q stand-off capacitors are basically tubular, having as an integral part of their construction, a screw fixture for mounting to the chassis or common ground. Close coupling and their unique construction make them an excellent choice for by-passing high frequencies.

    All units are coated with a high temperature enamel, stamped for capacity and supplied with mounting nut, if desired.
    \begin{tabular}{l|c|r}
    \multicolumn{3}{c}{ Stock Items } \\
    \hline \multicolumn{1}{c}{ Iype } & Capacity Mid. & List Price \\
    \hline CS-1A & 50 & .60 \\
    CS-1A & 100 & .60 \\
    CS-1B & 500 & .60 \\
    CS-1B & 1000 & .60 \\
    CS-1B & 1500 & .60 \\
    CS-2 & 3000 & .60
    \end{tabular}

    The MCS is a quick mounting type which permits high speed mechanical installation. The ceramic tube is enclosed in a cadnium-plated metal case with a specially developed end seal for protection against humidity and temperature changes.

    All units are flash tested at 1250 volts D.C. The power factor is under \(3^{\circ} \mathrm{c}\) and the installation The power factor is under 3 and the installation resistance is above 7500 megohms.

    \section*{500 VDCW}
    \begin{tabular}{l|c|r}
    \hline \multicolumn{1}{c|}{ Iype } & Capacity Mid. & List Price \\
    \hline CS-3 & 4000 & .60 \\
    CS-4 & 7500 & .60 \\
    CIS-1 & 50 & .60 \\
    CIS-1 & 100 & .60 \\
    CIS-1 & 500 & .60 \\
    CIS-1 & 1000 & .60 \\
    CIS-2 & 1500 & .60 \\
    MCS & 1500 & .70
    \end{tabular}

    Tolerance \(\pm 10 \%\) up to and including 500 mmf . \(\$ 20 \%\) above 500 mml .

    TUBULAR and DISK CAPACITORS - PHYSICAL SIZES
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Designation & SI TUBULAR & Size & & & DI DISK & \\
    \hline SI-1 & T & . \(234 \times .437\) & , & & & \\
    \hline SI-2 & & . \(234 \times .687\) &  & & & \\
    \hline SI-3
    SI-4 & \(=\) & \(.312 \times 1.250\)
    \(.375 \times 1.093\) &  & Designatipn &  & Diameter \\
    \hline SI-5 & & . \(375 \times 1.600\) & & DI-1 & DI & \(\underline{\text { chamer }}\) \\
    \hline SI-6 & \(\bar{\sim}\) & . \(375 \times 1.968\) & C) TUBULAR & DI-1
    DI-2 & - \({ }^{-}\) & \(5 / 16\)
    \(3 / 8\) \\
    \hline SI-7
    SI-13 & & \(.275 \times .875\)
    \(.234 \times\) & Designation Size & D1-3 & -314030 & 7/16 \\
    \hline SI-19 & & \(\begin{array}{r}.234 \times \\ .312 \times 868 \\ \hline .937\end{array}\) & \(\bigcirc{ }^{\text {CI-1 }}\) - & D1-4 & 4 & 19/32 \\
    \hline SI-22 & \(\cdots=\) & . \(280 \times\) x .750 & \(\begin{array}{ll}\mathrm{Cl}-1 & .250 \times \\ \mathrm{Cl}-2 & .250 \times 82 \\ & .812\end{array}\) & DI-5 & & 11/16 \\
    \hline SI-27 & & \(.280 \times\)
    \(.275 \times .500\) & \(\begin{array}{ll}\mathrm{Cl}-2 & .250 \times .812 \\ \mathrm{Cl}-3 & .340 \times 1.320\end{array}\) & \[
    \begin{aligned}
    & \mathrm{DI}-6 \\
    & \mathrm{DI}-7
    \end{aligned}
    \] & & \(3 / 4\)
    \(29 / 32\) \\
    \hline
    \end{tabular}

    \section*{QEROUOB}

    \section*{Distributor Division}

    \section*{REPLACEMENT CAPACITORS}

    Aerovox AC Capacitors are replacements for use in oilburners, refrigerators, room air conditioners and any motor driven equipment. Units listed below are only a sample of the most complete motor capacitor line in the industry. Request Catalogue MS 55-10 for complete listing.
    A complete line of hardware is available for all units.
    

    \section*{TYPE MSRT}

    AC-Motor Start Electrolytic Capacitor in Carboard Insulating Tube. over round aluminum can.

    110 VAC 50.60 Cycles
    \begin{tabular}{c|c|c|c}
    \hline Cat. Mo. & Cap. Mid. & Size & \begin{tabular}{c} 
    List \\
    Price
    \end{tabular} \\
    \hline MSRT-180 & \(86-96\) & \(1-3 / 8 \times 3-1 / 8\) & 2.65 \\
    MSRT-194 & \(97-107\) & \(1-3 / 8 \times 3-1 / 8\) & 2.80 \\
    MSRT-162 & \(108-120\) & \(1-3 / 8 \times 3-1 / 8\) & 2.85 \\
    MSRT-160 & \(124-138\) & \(1-3 / 8 \times 3-1 / 8\) & 2.95 \\
    MSRT-171 & \(145-162\) & \(1-3 / 8 \times 3-1,8\) & 3.20 \\
    MSRT-198 & \(161-180\) & \(1-3 / 8 \times 3-1 / 8\) & 3.25 \\
    MSRT-257 & \(189-210\) & \(1-3 / 8 \times 3-1 / 8\) & 3.75 \\
    MSRT-192 & \(216-240\) & \(1-3 / 8 \times 3-1 / 8\) & 4.05 \\
    MSRT-213 & \(243-270\) & \(1-3 / 4 \times 3-1 / 8\) & 4.70 \\
    MSRT-207 & \(270-300\) & \(1-3 / 4 \times 3 .-1 / 8\) & 4.75 \\
    MSRT-210 & \(324-360\) & \(1-3 / 4 \times 33-1 / 8\) & 5.40 \\
    MSRT-206 & \(378-420\) & \(1-3 / 4 \times 3-1 / 8\) & 6.00 \\
    \hline
    \end{tabular}
    

    TYPE MSRP
    Bakelite Cased AC Motor Start Electrolytic Capacitors.
    \begin{tabular}{|c|c|c|}
    \hline \multicolumn{3}{|c|}{110 VAC 50.60 Cycles} \\
    \hline 88.108 & 1-7/16 \(\times 3.3 / 8\) & 2.60 \\
    \hline 108-130 & 1-7/16 \(\times 3.3 / 8\) & 2.85 \\
    \hline 124-149 & 1-7/16 \(\times 3-3 / 8\) & 2.95 \\
    \hline 161-193 & 1-7/16 \(\times 3-3 / 8\) & 3.25 \\
    \hline 200-220 & 1-7/16 \(\times 3.3 / 8\) & 3.90 \\
    \hline 216-259 & 1-7/16 \(\times 3.3 / 8\) & 4.05 \\
    \hline 243-270 & 1-13/16 \(\times 3-3 / 8\) & 4.70 \\
    \hline 270-324 & \(1.13 / 16 \times 3.3 / 8\) & 4.75 \\
    \hline 320-360 & 1-13/16 \(\times 3.3 / 8\) & 5.40 \\
    \hline 400-450 & 1-13/16 \(\times 3.3 / 8\) & 6.05 \\
    \hline 485-540 & \(1-13 / 16 \times 4.3 / 8\) & 7.60 \\
    \hline
    \end{tabular}
    

    \section*{TYPE MSTT}

    Special Rectangular AC Electrolytic Motor Start Capacitors.

    110 MSIT - 110 VAC 50.60 tiycles
    MSTT-241
    MSTT-242
    MSTT-243
    MSTT-116
    MSTT-101

    \title{
    A. C. MOTOR CAPACITORS
    }
    

    \section*{TYPE MSFT}

    Special Rectangular AC Electrolytic Motor Start Capacitors.

    110 MSFT - 110 VAC 50.60 Cycles 330 VACW
    \begin{tabular}{c|r|c|c}
    1 & \multicolumn{1}{|c|}{ Cat. Mo. } & \multicolumn{1}{|c|}{ Cap. Mid. } & Lize \\
    Price \\
    \hline MSFT-312 & \(97-107\) & \(3-1 / 8 \times 4-7 / 8 \times 11 / 16\) & 3.50 \\
    MSFT-293 & \(108-120\) & \(3-1 / 8 \times 4-7 / 8 \times 11 / 16\) & 3.25 \\
    MSFT-294 & \(124-138\) & \(3-1 / 8 \times 4-7 / 8 \times 11 / 16\) & 3.60 \\
    MSFT-295 & \(145-162\) & \(3-1 / 8 \times 4-7 / 8 \times 11 / 16\) & 3.90
    \end{tabular}
    

    \section*{TYPE RR}

    AC Motor-Run Capacitor in Round Steel Container with Rivet Terminal.

    \section*{330 Vacw}
    

    \section*{TYPE RY}

    AC Motor-Run Capacitor in Rectangular Steel or Terneplate Container with Rivet Terminals.

    \section*{330 VIC}
    \(1-13 / 16 \times 1-1 / 16 \times 3-7 / 8\)
    6.80
    \(2-1 / 2 \times 1-3 / 16 \times 3-1 / 4\)
    \begin{tabular}{ll|l}
    \(2-1 / 2 \times 1-3 / 16 \times 3-7 / 8\) & 8.00
    \end{tabular}
    7.60
    \(2-1 / 2 \times 1-3 / 16 \times 4-1 / 8\)
    9.10
    11.00
    

    TYPE RGO
    Continuous Duty AC-Oil Impregnated Motor-Run Capacitors.

    236 vac
    RGO. \(902|20| 2-27 / 32 \times 2-5 / 32 \times 4-5 / 32 \mid 17.80\) 250 VAC
    RGO-999 | 17.5 | \(2-27 / 32 \times 2-5 / 32 \times 4-5 / 32 \mid 15.80\)
    330 VIC
    \begin{tabular}{l|l|l|r} 
    RGO-900 & 10 & \(2-27 / 32 \times 2-5 / 32 \times 3-1 / 32\) & 9.50
    \end{tabular}
    RGO-901
    14.5
    \(|2-27 / 32 \times 2-5 / 32 \times 4-5 / 32|\)
    13.60

    440 VAC
    RGO-950 \(|10 \quad| 2-27 / 32 \times 2-5 / 32 \times 4-5 / 32 \mid 10.50\)
    

    \section*{FILM CAPACITORS，INC．}

    \section*{F－C－I POLYSTYRENE CAPACITORS}

    F－C－I Polystrure capacitors are characterized by a unique combination of low puwer factor，himb insulation resistance and low dielectric allesorntion （＂seakitre＂）which camot he duplicated lys any other twe of capacitor exerpt Teflon units．Further more，the eaparitatice stability is excellent．and the temperature corflicient of eapacitance is very small values of electrical characteristies are griven in

    Table I．F－（＇－I Polystyrene capacitors are furnisherd as standard units in le－rmetically sealed flass tulus with metal end caps：in bathtul，cases with low luss glass termimals；and in style（＇ITO meta！rans witb low loss glass termitals．Sureial units，including multi－section blecks are also available to order，aud mado to your specifications．

    \section*{GLASS CASED POLYSTYRENE} CAPACITORS
    \begin{tabular}{lccccc}
    \begin{tabular}{c} 
    Part \\
    Number
    \end{tabular} & \begin{tabular}{c} 
    Volts \\
    DC
    \end{tabular} & \begin{tabular}{c} 
    Cap． \\
    MFD．
    \end{tabular} & Case & Lize－Ins． & Dist \\
    Al－1－10 & 1001 & .01 & \(13 / k\) & \(1 / 2\) & \(\$ 5.00\) \\
    Alice
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Part Number & Volts DC & Cap． MFD． & Case
    \[
    \mathbf{L}
    \] & Size- & & List Price \\
    \hline A3．1－50 & 100 & ． 05 & 18 & 1 & \％\(/\) & \＄5．25 \\
    \hline A3－1－100 & 1011 & .10 & 1\％ & 1 & 3 & 5.35 \\
    \hline A3－1－250 & 100 & ． 25 & 131 & 1 & \(3 / 1\) & 5.45 \\
    \hline A3．1．500 & 1041 & ． 50 & 3 & 1\％ & 7／14 & 6.00 \\
    \hline A3．1．1000 & 104 & 1.0 & 2 & 1\％ & 7／s & 9.50 \\
    \hline A3－2．50 & 2010 & ． 05 & \(1 \%\) & 1 & 3 & 5.25 \\
    \hline A3－2．100 & 200 & ． 10 & 1號 & 1 & \％\({ }^{\text {\％}}\) & 5.35 \\
    \hline A3．2．250 & 200 & ．25， & \(\underline{2}\) & \(1 \%\) & 7／n & 5.45 \\
    \hline A3－2．500 & 200 & ． 50 & 2 & 1\％ & 7\％ & 6.10 \\
    \hline A3．2－1000 & 200 & 1.0 & 2 & 2 & \(11 / 4\) & 9.60 \\
    \hline A3－4．10 & 400 & ． 01 & 1\％／1 & 1 & \％／4 & 5.15 \\
    \hline A3－4．20 & 4111 & ． 02 & 1 \％ & 1 & \(3 / 4\) & 5.15 \\
    \hline A3．4．50 & 400 & ．05） & 1：1 & 1 & \(3 / 4\) & 5.25 \\
    \hline A3－4－100 & 400 & ． 10 & \(13 \%\) & 1 & 3／4 & 5.35 \\
    \hline A3－4．250 & 400 & ． 25 & 2 & 1\％ & 7／8 & 5.45 \\
    \hline A3．4．500 & 4011 & ． 50 & 2 & \(1 \%\) & 7／8 & 7.20 \\
    \hline A3－4－1000 & 400 & 1.0 & 2 & 2 & 11／4 & 14.50 \\
    \hline A3－6－10 & 600 & ． 01 & 1\％ & 1 & \(3 / 4\) & 5.15 \\
    \hline A3－6－20 & 600 & ． 02 & 13 & 1 & 時 & 5.15 \\
    \hline A3－6．50 & （001） & ． 05 & \(1 \%\) & 1 & 3／4 & 5.25 \\
    \hline A3－6－100 & O（W） & ． 10 & 13 & 1 & 1 & 5.35 \\
    \hline A3．6．250 & 600 & .35 & 2 & 13／4 & 7／4 & 5.45 \\
    \hline A3－6－500 & 600 & ． 50 & 2 & 2 & 11／4 & 7.20 \\
    \hline A3－10－10 & 1000 & ． 01 & 1\％ & 1 & 3 & 8.35 \\
    \hline A3－10－20 & 1000 & ．02 & \(13 / 4\) & 1 & \(3 / 4\) & 8.75 \\
    \hline A3－10－50 & 1000 & ． 0.5 & 1\％／4 & 1 & 1 & 9.15 \\
    \hline A3－10－100 & 1000 & ． 10 & 2 & 1\％1 & F＇s & 9.60 \\
    \hline A3－10－250 & 10011 & 25 & \(\because\) & 2 & 11／1 & 11.25 \\
    \hline
    \end{tabular}

    \section*{STYLE CP70 CASED POLYSTYRENE CAPACITORS}
    \begin{tabular}{|c|c|c|c|c|c|c|}
    \hline Part Number & Volts DC & Cap． MFD． & & Size-
    W & H & List Price \\
    \hline A2－1－500 & 100 & 0.5 & \(1 \%\) & 1 & \(21 / 4\) & \＄6．00 \\
    \hline A2－1－1000 & 100 & 1.0 & 13.4 & 1 & 27／8 & 9.50 \\
    \hline A2－1．2000 & 100 & 2.0 & 21／2 & \(11 / 4\) & \(31 / 2\) & 13.65 \\
    \hline A2－1．4000 & 100 & 4.0 & \(33 / 4\) & 11／4 & \(31 / 2\) & 17.55 \\
    \hline A2－1－6000 & 100 & 6.0 & 3\％4 & \(21 / 4\) & \(31 / 2\) & 23.50 \\
    \hline A2－1．8000 & 100 & 8.0 & 3 x & \(3{ }^{18}\) & \(31 / 2\) & 27.70 \\
    \hline A2－1．10M & 100 & 10.0 & \(4{ }^{\text {\％}}\) & 33／4 & \(31 / 2\) & 32.30 \\
    \hline A2－2－250 & 200 & 0.25 & 13／4 & 1 & \(21 / 4\) & 5.40 \\
    \hline A2－2－500 & 200 & 0.5 & \(10 / 1\) & 1 & \(31 / 4\) & 6.10 \\
    \hline A2－2－1000 & 200 & 1.1 & 21／2 & \(11 / 4\) & \(31 / 2\) & 9.60 \\
    \hline A2－2．2000 & 200 & 2.0 & 3 W & \(11 / 4\) & \(31 / 2\) & 13.75 \\
    \hline A2－2－4000 & 200 & 4.0 & 33 & 214 & \(31 / 2\) & 17.90 \\
    \hline A2－2．6000 & 200 & 6.0 & 33 & \(3{ }^{3}{ }^{3}\) & \(31 / 2\) & 23.80 \\
    \hline A2－2－8000 & 200 & 8.0 & 3\％ & \(3{ }^{3}{ }^{3}\) & 51／4 & 28.00 \\
    \hline A 2 －2－10M & 200 & 10.0 & 4 & 3\％ & \(51 / 8\) & 32.60 \\
    \hline A2－4．250 & 400 & 0.25 & 13 & 1 & 91／4 & 5.45 \\
    \hline A2－4．500 & 400 & 0.5 & \(1 \%\) & 1 & \(31 / 4\) & 7.20 \\
    \hline A2－4．1000 & 400 & 1.0 & \(\stackrel{1}{1 / 2}\) & 11／4 & \(31 / 2\) & 14.50 \\
    \hline A2－4．2000 & 400 & 1.0 & 33\％ & \(11 / 4\) & \(31 / 2\) & 21.70 \\
    \hline A2－4－4000 & 4010 & 4.0 & 30／4 & \(21 /\) & \(31 / 2\) & 34.10 \\
    \hline A2－4．6000 & 400 & fi． 0 & \(3 \%\) & \(3{ }^{3}\) & \(31 / 2\) & 47.50 \\
    \hline A2－4－8000 & 400 & 8.0 & 3\％ & \(3{ }^{3}{ }^{3}\) & \(51 / 2\) & 58.50 \\
    \hline A2．4．10M & 400 & 10.0 & \(4{ }^{\text {dit }}\) & \(38 / 4\) & 51／4 & 72.00 \\
    \hline A2－6－250 & 600 & 0.25 & 1\％ & 1 & \(21 / 1\) & 5.45 \\
    \hline A2－6－500 & 600 & 0.5 & 21／2 & \(11 / 4\) & \(31 / 2\) & 7.20 \\
    \hline A2－6－1000 & HiOO & 1.0 & 3\％ & 11／4 & \(31 / 2\) & 14.50 \\
    \hline A2．6．2000 & 600 & 2.0 & \(3 \%\) & \(21 / 4\) & \(31 / 2\) & 22.10 \\
    \hline A2－6－4000 & 600 & 4.0 & \(4{ }^{\circ}\) & 38 & \(31 / 2\) & 34.60 \\
    \hline A2．6－5000 & 600 & 6.0 & 48 & \(33 / 4\) & \(31 / 2\) & 41.65 \\
    \hline A2－10－100 & 1000 & 0.1 & 13／4 & 1 & 31／1 & 9.60 \\
    \hline A2－10－250 & 1000 & 0.25 & \(13 / 4\) & 1 & \(31 /\) & 11.25 \\
    \hline A2－10－500 & 1000 & 0.5 & 21／2 & \(11 / 4\) & \(31 / 2\) & 15.00 \\
    \hline A2－10－1000 & 1000 & 1.0 & \(3 \%\) & \(13 / 4\) & \(31 / 2\) & 21.70 \\
    \hline A2－10－2000 & 1001 & 9.0 & \(3 \%\) & \(3{ }^{3} 8\) & \(31 / 2\) & 34.10 \\
    \hline A2－10－4000 & 10010 & 1.0 & 3\％ & \(3{ }^{18}\) & \(71 / 1\) & 57.50 \\
    \hline A2－10－5000 & 1000 & 5.0 & 40 & 3\％／4 & \(71 / 4\) & 70.00 \\
    \hline
    \end{tabular}

    F－C－I TEFLON CAPACITORS
    P－C－I Tetlon capacitors are essentially ibdention to pulastyrame rapaci－ Teflon capacitors may be operated at tempratures up to \(200^{\circ} \mathbf{C}\) ，

    Table I
    ELECTRICAL CHARACTERISTICS OF F－C－I PLASTIC DIELECTRIC CAPACITORS
    

    GLASS CASED TEFLON CAPACITORS
    \begin{tabular}{|c|c|c|c|c|}
    \hline Part Number & Volts DC & Capacity MFD． & \[
    \underset{\mathrm{L}}{\text { Case Size }}-\underset{\mathrm{D}}{\text { Inches }}
    \] & List Price \\
    \hline C1－3．5 & 3010 & ． \(00 \%\) & 1 \％ 1 \％ \(1 / 4\) & \＄ 4.45 \\
    \hline C1－3－10 & 3010 & ． 01 & \(13 / \%\) 1／2 & 4.45 \\
    \hline C1－3－20 & 300 & ． 02 & \(13 \%\) & 4.45 \\
    \hline C1－3－50 & 301 & ． 05 & 1\％ & 5.15 \\
    \hline C1－3－100 & 300 & .10 & \(23 / 3\) & 6.15 \\
    \hline C1－6．1 & 000 & ． 001 & \(13 \% 16\) & 5.15 \\
    \hline C1－6－2 & 600 & ． 002 & \(18 / 8\) 年 & 5.15 \\
    \hline C1－6．5 & G60 & ．005 & \(13 / 4\) & 5.15 \\
    \hline C1－6－10 & 800 & ． 01 & \(13 / 81\) & 6.70 \\
    \hline C1－6－20 & 600 & ． 02 & \(1 \%\) \％ & 7.20 \\
    \hline C1－6－50 & 000 & ． 05 & 2 3／4 & 8.20 \\
    \hline C1－6－100 & 600 & ． 10 & \(23 / 4\) & 10.30 \\
    \hline
    \end{tabular}

    \section*{BATHTUB CASED TEFLON CAPACITORS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \multirow[t]{2}{*}{Part Number} & \multirow[t]{2}{*}{Volts DC} & \multirow[t]{2}{*}{Capacity MFD．} & \multicolumn{3}{|r|}{Case Sizes－Inthes} & \multicolumn{2}{|r|}{\multirow[t]{2}{*}{List Price}} \\
    \hline & & & L & W & H & & \\
    \hline C3．3－5 & 300 & ．005 & \(13 / 4\) & 1 & \(3 / 4\) & \＄ & 4.45 \\
    \hline C3．3．10 & 3011 & ． 11 & \(13 / 4\) & 1 & \(3 / 4\) & & 4.45 \\
    \hline C3－3－20 & 300 & ．10 & \(13 / 4\) & 1 & 3／4 & & 4.45 \\
    \hline C3．3．50 & 300 & ． 05 & \(13 / 4\) & 1 & 1 & & 5.15 \\
    \hline C3－3－100 & 300 & ． 110 & ， & \(13 / 4\) & 7／8 & & 6.15 \\
    \hline C3．6．1 & G00 & ． 001 & \(13 / 4\) & 1 & 3 & & 5.15 \\
    \hline c3－6－2 & （00） & ．1002 & \(13 / 4\) & 1 & 3／4 & & 5.15 \\
    \hline C3－6－5 & 600 & ．00\％ & 134 & 1 & 3 & & 5.15 \\
    \hline C3－6－10 & dion & ． 01 & \(13 / 4\) & 1 & \(3 / 1\) & & 6.70 \\
    \hline C3．6．20 & G00 & ． 02 & \(18 / 4\) & 1 & 1 & & 7.20 \\
    \hline c3－6．50 & 600 & ． 0 5 & 2 & \(13 / 4\) & 7／8 & & 8.20 \\
    \hline c3－6－100 & 600 & ． 10 & 2 & 2 & \(11 / 8\) & & 10.30 \\
    \hline
    \end{tabular}

    \title{
    FILM CAPACITORS，INC．
    }

    F－C－I HIGH VOLTAGE CAPACITORS
    \(r^{2}\)（＇－T Tvpe 1）caparitors employ a mewly reveloped plastic tilm hieloetrie which，with suitahbe processing，pronluces capacitors which are botter，smaller and cheaper than cobld syer im promacid before．
    
    
    voltare D．C．application．With these capacitors availahb，it is w longer nectasary to slock groups of wits earh gutathmither in onls one poperis．F－（－I Tipe I）capacitors are furnished in whas tuhas with hermetically sealed metal end raps and either threated studs
     Isk tof nur fuatations．

    \section*{LISTING}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline Cat．No． & \[
    \begin{aligned}
    & \text { Capacity } \\
    & \text { MFD. }
    \end{aligned}
    \] & Working Volts DC & & & \({ }_{\text {L }}^{\text {List }}\) Price \\
    \hline D6－6－10 & ． 01 & 600 & \(1 / 2\) & \(13 / 8\) & \＄ 1.50 \\
    \hline D6－6．20 & ． 12 & 600 & 1／2 & \(13 / 8\) & 1.60 \\
    \hline D6－6．50 & ．15 & 600 & 1／2 & \(13 / 8\) & 1.75 \\
    \hline D6－6－100 & ． 10 & 600 & if & \(13 / 8\) & 1.95 \\
    \hline D6－6－250 & 25 & \(\mathfrak{6 0 0}\) & 15 & \(23 / 8\) & 2.30 \\
    \hline D6－6－500 & ． 50 & 600 & 1 & \(23 / 8\) & 2.60 \\
    \hline D6－6－1000 & 1.10 & 600 & \(11 / 4\) & \(23 / 8\) & 3.90 \\
    \hline D6－10－10 & ． 01 & 1000 & \(1 / 2\) & 13／8 & 1.60 \\
    \hline D6－10－20 & ． 12 & 1000 & 1／2 & \(13 / 8\) & 1.70 \\
    \hline D6－10－50 & ．15 & 1010 & 18 & 13／8 & 1.85 \\
    \hline D6－10－100 & ．10） & 11000 & 18 & \(23 / 8\) & 2.15 \\
    \hline D6－10－250 & ． 25 & 1000 & 7／8 & \(23 / 8\) & 2.50 \\
    \hline D6－10－500 & ． 010 & 1100 & 1 & 23／8 & 2.90 \\
    \hline D6－20－2 & ．002 & 2000 & 1／2 & \(13 / 8\) & 1.90 \\
    \hline D6－20－5 & ． 005 & 2000 & \(1 / 2\) & \(13 / 8\) & 2.05 \\
    \hline D6－20－10 & ． 01 & 2000 & 1／2 & \(13 / 8\) & 2.25 \\
    \hline D6－20－20 & ． 02 & 2000 & \(1 / 2\) & 13／8 & 2.40 \\
    \hline D6－20－50 & ．15 & 2100 & 1.4 & 13／8 & 2.70 \\
    \hline D6－20－100 & ． 10 & 2000 & 16 & \(23 / 8\) & 3.05 \\
    \hline D6－20－250 & ． 25 & 211010 & 1 & 23／8 & 3.50 \\
    \hline D6－20－500 & ． 50 & 2000 & \(11 / 4\) & \(23 / 8\) & 4.10 \\
    \hline D6－30－2 & ． 002 & 3010 & 1／2 & \(13 / 8\) & 4.95 \\
    \hline D6－30－5 & ． 0105 & 3000 & 1／2 & 13／8 & 5.10 \\
    \hline D6－30－10 & ．11 & 3010 & 1／2 & \(13 / 8\) & 5.30 \\
    \hline D6－30－20 & ． 12 & 3000 & 12 & 13／8 & 5.50 \\
    \hline D6－30－50 & ． 05 & ：3100 & 16 & 23／8 & 5.70 \\
    \hline D6－30－100 & ． 10 & 31000 & 7／8 & \(23 / 8\) & 6.00 \\
    \hline D6－30－250 & ． 25 & 3010 & \(11 / 4\) & \(23 / 8\) & 6.60 \\
    \hline D6－50－5 & ． 005 & 5 KV & 5／8 & 1 1\％ & 6.50 \\
    \hline D6－50－10 & ． 01 & 万KV & \(3 / 4\) & 111 & 6.80 \\
    \hline D6－50－20 & ． 02 & 5 KV & \(3 / 4\) & 2 & 7.20 \\
    \hline D6－50－50 & ． 05 & 5 KV & 7／8 & \(2{ }^{\text {暏 }}\) & 7.60 \\
    \hline D6－50－100 & ． 10 & ¢ KV & \(11 / 4\) & \(2{ }^{\text {\％}}\) & 8.50 \\
    \hline D6－75－1 & ． 001 & \(71 / 2 \mathrm{KV}\) & \(5 / 8\) &  & 6.50 \\
    \hline D6－75－2 & ．002 & \(71 / 2 \mathrm{KV}\) & 5／8 & 11 & 6.80 \\
    \hline D6－75－5 & ． 005 & T1／2 KV & \(3 / 4\) & 1 1／6 & 7.00 \\
    \hline D6－75－10 & ． 01 & \(71 / 2 \mathrm{KV}\) & 3／4 & 2 装 & 7.50 \\
    \hline D6－75－20 & ． 12 & \(71 / 2 \mathrm{KV}\) & 7／8 & \(2{ }^{1 / 1 / 4}\) & 8.60 \\
    \hline D6－75－50 & ． 05 & \(71 / 2 \mathrm{KV}\) & 11／4 & 2＊ & 11.10 \\
    \hline D6－75－100 & ． 10 & \(71 / 2 \mathrm{KV}\) & \(11 / 2\) & 2 2， & 12.50 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|c|}
    \hline \multirow[b]{2}{*}{Cat．No．} & \multirow[t]{2}{*}{Capacity MFD．} & \multirow[t]{2}{*}{\begin{tabular}{l}
    Working \\
    Volts DC
    \end{tabular}} & \multicolumn{2}{|r|}{Dimensions} & \multirow[t]{2}{*}{List Price} \\
    \hline & & & Dia． & L & \\
    \hline D6－100－1 & ． 001 & 10 KV & 5／8 & 111 & \＄ 7.20 \\
    \hline D6－100－2 & ． 1022 & 10 KV & 5／8 & 118 & 7.40 \\
    \hline D6－100－5 & .005 & 10 KV & 5／8 & \(2 \frac{9}{16}\) & 8.50 \\
    \hline D6－100－10 & ． 01 & 10 KV & 7／8 & 29 & 9.20 \\
    \hline D6－100－20 & ． 02 & 10 KV & 1 & \(2 \frac{9}{16}\) & 11.40 \\
    \hline D6－100－50 & ． 05 & 10 KV & 11／2 & \(2 \frac{16}{16}\) & 14.60 \\
    \hline D6－150－1 & ． 001 & 15 KV & 5／8 & 111 & 13.80 \\
    \hline D6－150－2 & ． 1022 & 15 KV & 7／8 & 114 & 14.60 \\
    \hline D6－150－5 & ． 0005 & 15 KV & 7／8 &  & 17.00 \\
    \hline D6－150－10 & ． 11 & 15 KV & \(11 / 4\) & 29 & 20.00 \\
    \hline D6－150－20 & ． 112 & 15 KV & \(11 / 4\) & \(43 / 4\) & 22.00 \\
    \hline D6－150－50 & ． 115 & 15 KV & 11／2 & \(43 / 4\) & 26.00 \\
    \hline D6－200－05 & ． 01005 & 20 KV & 5／8 & 11\％ & 18.00 \\
    \hline D6－200－1 & ． 11101 & 20 KV & \(3 / 4\) & \(11 /\) & 19.00 \\
    \hline D6－200－2 & ． 1102 & 20 KV & \(3 / 1\) & 29 & 21.00 \\
    \hline D6－200－5 & ． 1105 & 2）KV & 1 & \(2 \frac{18}{1 / 3}\) & 22.50 \\
    \hline D6－200－10 & ． 11 & 20 KV & \(11 / 2\) & \(2{ }^{\text {\％}}\) & 24.00 \\
    \hline D6－200－20 & ．12 & 20 KV & \(11 / 2\) & \(43 / 4\) & 27.00 \\
    \hline D6－300－02 & ．10002 & 30 KV & 5／8 & \％ & 20.00 \\
    \hline D6－300－05 & ． 00005 & 30 KV & 5／8 & 8 & 21.00 \\
    \hline D6－300－1 & ． 1011 & ：30 KV & 7／8 & 3 & 23.50 \\
    \hline D6－300－2 & ． 0022 & 30 KV & \(3 / 4\) & \(43 / 4\) & 26.00 \\
    \hline D6－300－5 & ． 005 & 30 KV & 11／4 & \(43 / 4\) & 28.00 \\
    \hline D6－300－10 & ． 11 & 3）KV & \(11 / 4\) & 67／8 & 35.00 \\
    \hline D6－400－01 & ． 00001 & 40 KV & 5／8 & 8 & 20.50 \\
    \hline D6－400－02 & ． 0002 & 40 KV & 5／8 & 3 & 21.50 \\
    \hline D6－400－05 & .10005 & 40 KV & \(3 / 4\) & 3 & 22.50 \\
    \hline D6－400－1 & ．1101 & 40 KV & \(3 / 4\) & \(43 / 4\) & 26.00 \\
    \hline D6－400－2 & ． 11102 & 40 KV & 1 & \(43 / 4\) & 28.00 \\
    \hline D6－400－5 & ． 6105 & 40 KV & 11／2 & 43／4 & 33.00 \\
    \hline D6－500－01 & ． 11001 & 50 KV & 5／8 & \(41 / 4\) & 22.50 \\
    \hline D6－500－02 & .0002 & 50 KV & 5／8 & 41／4 & 23.50 \\
    \hline D6－500－05 & ． 10005 & 5）KV & \(3 / 4\) & \(41 / 4\) & 24.50 \\
    \hline D6－500－1 & ． 10101 & 50 KV & \(31 / 4\) & 67／8 & 28.00 \\
    \hline D6－500－2 & ． 1102 & 50 KV & 7／8 & 1；78 & 31.50 \\
    \hline D6－500－5 & ． 1005 & 50 KV & \(11 / 4\) & \(67 / 8\) & 36.00 \\
    \hline D6－600－01 & ． 0001 & g0 KV & 5／8 & \(41 / 4\) & 23.50 \\
    \hline D6－600－02 & ． 11002 & 60 KV & 5／6 & \(41 / 4\) & 24.50 \\
    \hline D6－600－05 & .11005 & f0 KV & 7／8 & \(41 / 4\) & 28.00 \\
    \hline D6－600－1 & ． 1101 & 60 KV & 7／8 & 67／8 & 34.00 \\
    \hline D6－600－2 & ． 11112 & 60 KV & \(11 / 4\) & 67／8 & 36.50 \\
    \hline D6－600－5 & ． 11115 & 60 KV & \(11 / 4\) & 13 & 41.50 \\
    \hline
    \end{tabular}

    \section*{ELECTRICAL PROPERTIES OF F－C－I TYPE D CAPACITORS}

    Operatinus lange
    Voltage Ranice，D．C． Capacitance Rance
    power Factur
    I．R．at Romm T＋mperature Dielectric Absorption
    Temperature Confficient
    Capacitance Stalility
    Voltage Deratine at \(8: 5^{\circ} \mathrm{C}\)
    Voltage Derating at \(85^{\circ} \mathrm{C}\)
    Voltage Derating at \(105^{\circ} \mathrm{C}\)
    Voltage Derating at \(125^{\circ} \mathrm{C}\)
    \(10+125^{\circ}\)（ fiog Vilts fo gokV：hisher an order \(.0001 \mathrm{MF}^{\mathrm{M}} \mathrm{t} 0.1 \mathrm{MF}\) \(10^{n}\) Memohm－Mirrotarads \(0.1 \%\) ＋500 P1PM／\({ }^{\circ}\) \(0.5 \%\) Nole \(30 \%\) －10\％ ifitio

    \title{
    CLOSE TOLERANCE POLYSTYRENE
    }

    For economy . . . for quality . . . wherever close tolerances are important . . . it pays to specify EFCON Plastic Film Miniature Capacitors. They have earned an enviable reputation for DEPENDABILITY and HICH LEVEL PERFORMANCF in filters, timing circuits, analog and digital computers . . . plus many other applications.

    Thanks to advanced engineering and special production techniques . . EFCON Capaciors are consistently made to wlerances closer than \(\pm 1 \%\). They are available in a range of capacitance values from . 001 to 2 Mfd. Non-standard values are made to customers' specifications.

    TYPEPCCARDBOARDTUBE
    Temperature Ramge - \(65^{\circ} \mathrm{C} 10+85^{\circ} \mathrm{C}\)
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline CATALOG NUMBER & \[
    \begin{aligned}
    & \text { CAP. } \\
    & \text { MFD. }
    \end{aligned}
    \] & \[
    \operatorname{SiZE}_{0 \times L}
    \] & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] & CATALOG NUMBER & CAP MFD. & \[
    \operatorname{SIZE}_{0 \times L}^{\text {SIZ }}
    \] & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline \multicolumn{4}{|c|}{100 D.C. Working Volts} & \multicolumn{4}{|c|}{400 D.C. Working Volts} \\
    \hline PC-2201-1C-5 & . m 2 Z & 31601 & \$2.10 & PC-2201-4C-5 & . 0022 & 3/16x1 & \$2.56 \\
    \hline PC-1502-1C-5 & . 015 & 3/16×1 & 2.22 & PC-4701-4C-5 & . 0147 & 3/16x1 & 2.58 \\
    \hline PC-2702-1C-5 & .1127 & 1/4×1 & 2.28 & PC-8201-4C-5 & . 0082 & 1/4x1 & 2.62 \\
    \hline PC-3902-1C-5 & . 0.19 & 5/16xi & 2.32 & PC-1202-4C-5 & .11] & 5/16x1 & 2.66 \\
    \hline PC-6802-1C-5 & . \(\mathrm{s}^{*}\) & 3/8x & 2.38 & PC-2202-4C-5 & .122 & .3/8x 1 & 2.72 \\
    \hline PC-1003-1C-5 & 11 & 7/16x:1/8 & 2.42 & PC-3302-4C-5 & .n.3 & -/16x1-1/8 & 2.76 \\
    \hline PC-1503-1C-5 & . 15 & 9) \(16 \times 5.1 / 8\) & 2.48 & PC-5602-4C-5 & . 056 & \(9 / 16 \times 1.1 / 8\) & 2.82 \\
    \hline PC-2203-1C-5 & .22 & \(9 \cdot 16 \times 1 \cdot 3 / 8\) & 2.58 & PC-5802-4C-5 & . 108 & 9/16×1-3/8 & 2.84 \\
    \hline PC-3303-1C-5 & .3,3 & 11/16x1-3/8 & 2.80 & PC-1003-4C-5 & . 10 & 11/16x1-3/8 & 2.88 \\
    \hline PC-3903-1C-5 & . 39 & 9/16x 1-1.3/16 & 2.92 & PC-1203-4C-5 & .12 & \(9 / 16 \times 1-1,3 / 16\) & 2.92 \\
    \hline PC-5603-1C-5 & . 36 & 11/16x 1-1.3/16 & 3.18 & PC-1803-4C-5 & . 18 & 11/16×1-13/16 & 3.02 \\
    \hline PC-6803-1C-5 & .68 & \(3 / 4 \times 1 \cdot 13 / 16\) & 3.38 & PC-2203-4C-5 & .23 & \(3 / 4 \times 1-1.3 / 16\) & 3.12 \\
    \hline PC-1004-1C-5 & 1.1 & 7/8* \(/ 1.13 / 16\) & 4.38 & PC-3303-4C-5 & . 3 & \(78 \times 1-1316\) & 3.36 \\
    \hline PC-1204-1C-5 & 1.2 & 1x1-13/16 & 5.10 & PC-4703-4C-5 & . 4 & \(1 \times 1-1.3 / 16\) & 3.62 \\
    \hline \multicolumn{4}{|c|}{200 D.C. Working Volts} & \multicolumn{4}{|c|}{600 D.C. Working Volts} \\
    \hline PC-2201-2C-5 & .0n2? & 3/16x1 & 2.32 & PC-2201-6C-5 & .1022 & 3/16x1 & 2.82 \\
    \hline PC-8201-2C-5 & . 10162 & 3/16x 1 & 2.38 & PC-6801-6C-5 & . 110108 & \(5 / 16 \times 1\) & 2.86 \\
    \hline PC-1502-2C-5 & . 115 & \(1 / 4 \times 1\) & 2.44 & PC-1202-6C-5 & . 1112 & - \(3 / 8 \times 1\) & 2.92 \\
    \hline PC-2202-2C-5 & .022 & 5/16x1 & 2.48 & PC-1802-6C-5 & . 018 & \(7 / 16 \times 1-1 / 8\) & 2.96 \\
    \hline PC-3932-2C-5 & .113) & 3/8x1 & 2.54 & PC-2702-6C-5 & .122 & \(916 \times 1.1 / 8\) & 3.00 \\
    \hline PC-5602-2C-5 & . 0.5 & 7/16<1-1' & 2.58 & PC-3902-6C-5 & -11,9 & 5/16×1-3/8 & 3.04 \\
    \hline \(\mathrm{P}^{\mathrm{P}} \mathrm{C}-3202-2 \mathrm{C}-5\) & 19, & 9/10x1-1/8 & 2.62 & PC-5602-6C-5 & \% & 11/16x1.3/8 & 3.08
    3 \\
    \hline PC-1203-2C-5 & .12 & 9) \(16 \times 1.3 / 8\) & 2.68 & PC-6802-6C-5 & .118 8 & 9.16x1-1,3/16 & 3.10 \\
    \hline PC-1803-2C-5 & . 18 & \(11 / 16 \times 1-3 / 8\) & 2.78 & PC-1003-6C \({ }^{\text {P }}\) & . 10 & 11/16x1-13/16 & 3.14 \\
    \hline PC-2703-2C-5 & 2\% & 11/16x1-13/16 & 3.00 & PC-1203-6C-5 & . 1. & 3/4×1-13/16 & 3.18 \\
    \hline PC-3303-2 \({ }^{\text {C- }} 5\) & 3 & 3/4xt-1.3/16 & 3.12 & PC-1803-6C-5 & . 1 & 7/8x1.1.//16 & 3.28 \\
    \hline PC-5603-2C-5 & . 36 & 1x1-1.3/16 & 3.58 & PC-2203-6C-5 & .22 & 1x1-13/16 & 3.38 \\
    \hline
    \end{tabular}

    TYPEPH HERMETICALLY SEALED
    Temperature Range \(-65^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\).
    \begin{tabular}{|c|c|c|c|c|c|c|c|}
    \hline \begin{tabular}{l}
    CATALOG \\
    NUMBER
    \end{tabular} & \[
    \begin{aligned}
    & \text { CAP. } \\
    & \text { MFD. }
    \end{aligned}
    \] & \[
    \underset{D \times L}{S I Z E}
    \] & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] & CATALOG NUMBER & \begin{tabular}{l}
    CAP \\
    MFD
    \end{tabular} & \[
    \begin{aligned}
    & \text { SIZE } \\
    & D \times L
    \end{aligned}
    \] & \[
    \begin{aligned}
    & \text { LIST } \\
    & \text { PRICE }
    \end{aligned}
    \] \\
    \hline \multicolumn{4}{|c|}{100 D.C. Working Volts} & \multicolumn{4}{|c|}{400 D.C. Working Volts} \\
    \hline PH-2201-1C-5 & .1022 & . \(235 \times 1 \cdot 1 / 16\) & \$4.20 & PH-2201-4C-5 & .112? & . \(2.35 \times 1-1 / 16\) & \$5.12 \\
    \hline PH-1502-1C-5 & . 115 & . \(235 \times 1 \cdot 1 / 16\) & 4.32 & PH-4701-4C-5 & . \(\mathrm{MSH}^{7}\) & . \(3.35 \times 1-1 / 16\) & 5.14 \\
    \hline PH-3902-1C-5 & .11,9 & ..112×1-1/16 & 4.42 & PH-1202-4C-5 & (11) & . \(112 \times 1-1 / 16\) & 5.22 \\
    \hline PIH-6802-1C-5 & .n6\% & . \(100 \times 1-1 / 16\) & 4.48 & PH-2202-4C-5 & 1:23 & . \(1 / 11 \times 1.1 / 16\) & 5.28 \\
    \hline PH-1503-1C-5 & . 15 & . \(563 \times 1-116\) & 4.74 & PH-5602-4C. 5 & . 1156 & . \(51.2 \times 1-1 / 10\) & 5.38 \\
    \hline PH-2203-1C-5 & .2- & . \(56.2 \times 1-7 / 16\) & 4.86 & PH-6802-4C-5 & . 1108 & . \(562 \times 1-7 / 10\) & 5.40 \\
    \hline PH-3303-1C-5 & ...i. & . \(6,7 \times 1.718\) & 5.16 & PH-1003-4C-5 & .11) & .00x1-716 & 5.46 \\
    \hline PH-3903-1C-5 & . 89 & . \(562 \times 1-1.3 / 16\) & 5.26 & PH-1203-4C-5 & .12 & . 5 + \(2 \times \times 1-1.3 / 16\) & 5.72 \\
    \hline PH-5603-1C-5 & . 56 & (17) \(\times 1-13^{\prime} 16\) & 5.64 & PH-1803-4C-5 & .18 & . 67 ( \(\times 1-1.3 / 16\) & 5.86 \\
    \hline PH-6803-1C-5 & . 68 & . \(750 \times 1-1.3 / 16\) & 5.82 & PH-2703-4C-5 & . 7 & .50101-1,310 & 6.02 \\
    \hline PH-1234-1C-5 & 1.2 & 1.14 \(41 \times 1.13 / 16\) & 7.30 & PH-4703-4C-5 & . 4 & 1.14Nx \(\times 1.3 / 16\) & 6.74 \\
    \hline \multicolumn{4}{|c|}{200 D.C. Working Volts} & \multicolumn{4}{|c|}{600 D.C. Working Volis} \\
    \hline PH-2201-2C-5 & .cu2? & 235x \(11 / 1 \mathrm{n}\) & 4.66 & PH-2201-6C.5 & . 1 (123 & . \(23.5 \times 1.1 / 16\) & 5.64 \\
    \hline PH-8201-2C-5 & .982 & \(315 \times 1-116\) & 4.72 & PH-6901-6C-5 & . 14168 & . \(112 \mathrm{x} 1 \cdot 1 / 16\) & 5.68 \\
    \hline PH-2202-2C-5 & .102? & . \(312 \times 1-1 / 16\) & 4.82 & PH-1202-6C-5 & . 112 & . \(41 / 1 \times 1-1 / 16\) & 5.74 \\
    \hline PH-3902-2C-5 & .133) &  & 4.88 & PH-2702-6C-5 & .137 & . \(503 \times 1-1 / 16\) & 5.82 \\
    \hline PH-8202-2C-5 & .118, \({ }^{-1}\) & . \(562 \times 1.1 / 10\) & 4.96 & PH-3902-6C & .10.39 & . \(56.2 \times 1-7 / 16\) & 5.86 \\
    \hline PH-1203-2C-5 & .12 & . 5 , \(2 \times 1-7 / 16\) & 5.20 & PH-5602-6C-5 & . 1050 & . \(6711 \times 1.7 / 16\) & 5.90 \\
    \hline PH-1803-2C-5 & .18 & . \(6,71 \times 1-710\) & 5.34 & PH-6802-6C-5 & . 1168 & . \(562 \times 1-1,1 / 16\) & 5.92 \\
    \hline PH-2703-2C-5 & 27 & 6,0x 1-13/16 & 5.48 & PH-1003-6C-5 & . 111 & . \(670 \times 1-1 . / 16\) & 5.96 \\
    \hline PH-3303-2C-5 & 3.3 & . \(7510 \times 1-13 / 16\) & 5.74 & PH-1203-6C-5 & .1] & . \(756 \times 1-1.3 / 16\) & 6.30 \\
    \hline PH-5603-2C-5 & 56 & 1.14) \(\times 1.13 / 16\) & 6.28 & PH-2203-6C-5 & .23 & 1.000×1-1.316 & 6.54 \\
    \hline
    \end{tabular}

    \title{
    Miniature Capacitors and "MYLAR"
    }
    

    FFCON Chose Tolerance Capacitors . . . both Polystyrene and "Mylar" . . . provide excellent stability over an extended temperature range. . . . Polystyrene has extremely high insulation resistance ( \(10^{12}\) ohms at \(25^{\circ} \mathrm{C}\) ). They have a negative temperature coefficient of less than minus \(100 \mathrm{PPM} /{ }^{\circ} \mathrm{C}\). In addition to a very low dielectric absorption . . . EFCON Capacitors feature the lowest dissipation factor of any film capacimors. They are tested at a DC voltage of at least 200 C; of rated voltage at \(25^{\circ} \mathrm{C}\).

    Both EFCON Polystyrene and "Mylar" Capacitors are mass produced in two styles: Polystyrene Type PC and "Mylar" Type MC feature a rigid, wax impregnated, tubular construction. Polystyrene Type PH and "Mylar" Type MHH are hermetically sealed in a metal case with glass-to-metal, solder-sealed terminals. Both types feature non-inductive extended foil construction with leads soldered directly to the foil assuring minimum contact resistance.

    TYPE MC CARDBOARD TUBE
    Temperatare Kange - \(00^{\circ} \mathrm{C}\) to \(+85^{\circ} \mathrm{C}\)
    

    400 D.C. Working Volts
    \begin{tabular}{|c|c|c|c|}
    \hline MC-1002-4C-5 & .1111 & \(\therefore 100 \times 1\) & 2.40 \\
    \hline MC-3302-4C-5 & . 123 & \(5 / 16 \times 1\) & 2.48 \\
    \hline MC-5602-4C-5 & .1556 & S. \(\mathrm{N} \times 1\) & 2.54 \\
    \hline MC-8202-4C-5 & (1)? & 3 \(8 \times 1-3 / 8\) & 2.60 \\
    \hline MC-1003-4C-5 & . 111 & \(12 \times 1-1 / 8\) & 2.68 \\
    \hline MC-1503-4C-5 & . 15 & \(916 \times 1.1 / 8\) & 2.78 \\
    \hline MC-1803-4C-5 & . 18 & 1 '2x1. \(3 / 8\) & 2.88 \\
    \hline MC-2203-4C-5 & .12 & \(9 / 16 \times 1-3 / 8\) & 2.98 \\
    \hline MC-2703-4C-5 & . 17 & 5/8x \(1-3 / 8\) & 3.10 \\
    \hline MC-3903-4C-5 & . 39 & \(5 / 8 \times 1 \cdot 13 / 16\) & 3.38 \\
    \hline MC-4703-4C-5 & . 47 & 11/16x1.13/16 & 3.68 \\
    \hline MC.5603-4C-5 & . 56 & \(0 / 4 \times 1 \cdot 13 / 10\) & 3.90 \\
    \hline MC-6803-4C-5 & . 68 & 7/8x1-13/16 & 4.14 \\
    \hline MC-1004-4C-5 & 1.1) & 1×1-1.316 & 4.88 \\
    \hline
    \end{tabular}

    600 D.C. Working Volts
    MC-1002-6C-5
    MC-3302-6C-5
    MC-5602-6C-5
    MC-1003-6C-5
    MC-1503-6C-5
    MC-2203-6C-5
    MC-3303-6C-5
    \(\mathrm{MC}-3303-6 \mathrm{C}-5\)
    \(\mathrm{MC}-4703-6 \mathrm{C}-5\)
    \begin{tabular}{|c|c|}
    \hline . 110 & 1/4x] \\
    \hline .0.3 & 5/16x13/8 \\
    \hline . 1156 & 3/8×1-3/8 \\
    \hline . 111 & \(1 / 2 \times 1\) 3/8 \\
    \hline . 15 & 9, \(16 \times 1 \cdot 3 / 8\) \\
    \hline .22 & \(3 / 8 \times 1 \cdot 1.3 / 16\) \\
    \hline . 3.3 & 3/4x1-13 16 \\
    \hline .47 & 1x1-1.3/16 \\
    \hline
    \end{tabular}

    TYPE MHH HERMETICALLY SEALED
    Temperalare Range - \(60^{\circ} \mathrm{C}\) to \(+125^{\circ} \mathrm{C}\)
    

    200 D. C. Working Volts
    \begin{tabular}{|c|c|c|c|}
    \hline MHH-1002-2C-5 & .010 & . \(2355 \times 1-1 / 16\) & 4.74 \\
    \hline M \({ }^{\text {HH-1202-2C-5 }}\) & . 012 & . \(2.35 \times 1 \cdot 1 / 16\) & 4.78 \\
    \hline MHH-3302-2C-5 & . 10.33 & . \(312 \times 1-1 / 16\) & 4.80 \\
    \hline M HH-5602-2C-5 & . 156 & . \(400 \times 1-1 / 16\) & 4.88 \\
    \hline M \({ }^{\text {HH-8202-2C-5 }}\) & .182 & \(.400 \times 1.7 / 16\) & 4.94 \\
    \hline MHH-1203-2C-5 & .12 & . \(362 \times 1 \cdot 1 / 16\) & 5.20 \\
    \hline M HH-2203-2C-5 & . 22 & . 56 ? \(\times 1.7 / 16\) & 5.40 \\
    \hline M HH-2703-2C-5 & 2 & . \(56.2 \times 1 \cdot 13 / 16\) & 5.48 \\
    \hline MHH-4703-2C-5 & 47 & . \(670 \times 1-1.3 / 16\) & 6.14 \\
    \hline M HH-6803-2C-5 & .6s & . \(750 \times 1 \cdot 1.3 / 16\) & 6.48 \\
    \hline M HH-1004-2C-5 & 1.1 & \(1.0401 \times 1 \cdot 1.3 / 16\) & 7.44 \\
    \hline
    \end{tabular}

    400 D.C. Working Volts
    \begin{tabular}{|c|c|c|c|}
    \hline MHH-1002-4C-5 & . 1110 & . \(312 \mathrm{x} 1 \cdot 1 / 16\) & \$5.20 \\
    \hline M \(\mathrm{MH}-1502-4 \mathrm{C}-5\) & . 015 & \(\therefore 12 \times 1 \cdot 1 / 16\) & 5.26 \\
    \hline MHH-3302-4C-5 & .03,3 & . 40 (0) \(1-1 / 16\) & 5.28 \\
    \hline M HH-4702-4C-5 & . 1447 & . \(400 \times 1.7 / 16\) & 5.36 \\
    \hline M HH-6802-4C-5 & . \(116 \mathrm{~m}^{\prime \prime}\) & . \(562 \times 1-1 / 16\) & 5.40 \\
    \hline M \(\mathrm{MH}-1203-4 \mathrm{C}-5\) & .12 & . \(562 \times 1.7 / 16\) & 5.72 \\
    \hline M \(\mathrm{MH}-1503-4 \mathrm{C}-5\) & . 15 & . \(56.2 \times 1 \cdot 13 / 16\) & 5.80 \\
    \hline M HH-1803-4C-5 & . 18 & . \(670 \times 1-7 / 16\) & 5.86 \\
    \hline MHH-2203-4C-5 & . 22 & .600x \(1-1.3 / 16\) & 5.94 \\
    \hline MHH-2703-4C-5 & . 27 & . \(751 \times 1.7 / 16\) & 6.02 \\
    \hline M HH-3903-4C-5 & . 39 & . \(750 \times 1-1.3 / 16\) & 6.42 \\
    \hline M \(\mathrm{HH}-5603-4 \mathrm{C}-5\) & . 56 & \(1.000 \times 1 \cdot 1.3 / 16\) & 6.90 \\
    \hline
    \end{tabular}

    NOTE: 1)ue to space limitations only the largest values in a specific tube are listed.

    \section*{WRITE for brochure which gives temperature characteristic curves for capacitance change, power factor and insulation resistance over an} extended temperature range . . . plus detailed
    test data and general characteristics. Also avail able is information about EFCON "Tefion" High Temperature Capacitors and Type S , moldec Silvered Mica.

    Smaller sizes of type MHH available for \(85^{\circ} \mathrm{C}\) operating temperature designated type MH. In quire for size specifications.
    

    \section*{PLASTICON DC RECTANGULARS}

    Mineral oil impregnated and filled. Hermetically sealed. Can be operated in any position, continuously at \(10 \%\) over rated voltage up to \(+40^{\circ} \mathrm{C}\). Tolerance \(10 \%\). Ambient temperature range \(-40^{\circ} \mathrm{C}\). to \(+85^{\circ} \mathrm{C}\). Insulators: Two ceramic type bushings for standard temperature range. Two solderedin metallized glass insulators for extended temperature range. All DC rectangulars have \(8-32\) screw and hex nut terminals with removable hot-tinned solder lugs. Case: Rectangular base, lead coated steel with heavy finish of grey organic lacquer.
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Mfr's. No. & Cap. Mfd. & Volts DC & Height & ons. Inches Width & Deptrs & Term. Height & \begin{tabular}{l}
    Dist. \\
    Bet. Ter.
    \end{tabular} & List \\
    \hline A 0C6C1 & 1.11 & t131 & \(\underline{\sim}{ }^{4}\) & 1:4 & 1 & \(\cdots\) & 18 & \$ 4.49 \\
    \hline A0C6C2 & \(\because .11\) & firl & \(\because \because\) & 13 & 1 & \% & , & 5.41 \\
    \hline AOC6C4 & 4.0 & 11011 & 318 & \(\because:\) & \(1{ }_{10}\) & \(\because\) & 1\%8 & 6.73 \\
    \hline A0C6C8 & - . 0 & till & \(+\) & \(3 \%\) & 111 & \(\therefore\) & 2 & 10.16 \\
    \hline A0C6C10 & 111.11 & f1111 & 4 & \(3 \%\) & \(1: 4\) & \(\therefore\) & 2 & 11.42 \\
    \hline AOC1M1 & 1.11 & 11101 & \({ }^{3} 8\) & 1:1 & 1. & \% & 13 & 4.82 \\
    \hline AOClM2 & \(\because .0\) & 10010 & 3 . & \(\because 3\) & 1 & \(\because\) & 118 & 6.47 \\
    \hline AOClM4 & 1.0 & 111810 & 45 & \(\bigcirc 18\) & 13 & \% & \(11 / 8\) & 7.85 \\
    \hline A0C1M8 & A.13 & 111811 & \(4 \cdot 8\) & 3\% & 1\% & \({ }_{5}\) & 2 & 11.09 \\
    \hline AOC1M10 & 10.0 & 10110 & 4 & \(3: 4\) & \(21 / 4\) & \(\therefore\) & & 12.80 \\
    \hline A0C2M05 & 11.5 & 20110 & \(\because 34\) & 1\% & 1 & \(\therefore\) & \({ }^{1} 18\) & 5.81 \\
    \hline AOC2M1 & 1.11 & 哭 110111 & 4 C & \(1 \because 4\) & 1 & : & 16 & 7.06 \\
    \hline AOC2M2 & 2.11 & \(\because 111010\) & 31, & [3:4 & \(11 / 1\) & 3 & 2 & 8.18 \\
    \hline AOC2M4 & 4.11 & 211811 & \(3^{1}:\) & 3:4 & \(\therefore 1\) & \(\because\) & \(\because\) & 11.09 \\
    \hline AOC3MI & 1.11 & 361011 & \(4{ }^{-}\) & \(21 / 4\) & 1 it & \(1{ }^{1 / 8}\) & \(11 / 8\) & 14.52 \\
    \hline AOC3M2 & \(\because 0\) & 311710 & 1: & : \(8: 4\) & 111 & 1 ion & \({ }^{3}\) & 18.48 \\
    \hline \[
    \text { AOC } 3 \mathrm{M} 4
    \] & 4.10 & 311014 & 45 & 384 & \(21!\) & 1 & 2 & 25.54 \\
    \hline AOC4M1 & 1.0 & 11100 & 4 & \(3: 1\) & \(1 \%\) & 11, & \(\stackrel{\square}{2}\) & 33.00 \\
    \hline A OC4M2 & 2.11 & \$111811 & 4 & 33 & \(1 \%\) & 13 & \(\stackrel{2}{2}\) & 39.60 \\
    \hline AOC4M4 & 4.0 & 401011 & 1 & \(3{ }^{3}\) & 4 & 1 1 & \(\square\) & 60.53 \\
    \hline AOC5M1 & 1.11 & E10601 & & \(3: 4\) & 13 & 211 & \(\cdots\) & 39.60 \\
    \hline A \(0 C 5 \mathrm{M} 2\) & 2.11 & -10100 & 316 & \(3{ }^{3} 3\) & 4 ! & 114 & \(\stackrel{2}{2}\) & 49.50 \\
    \hline AOC75Cl
    AOCIOM1 & 1.0
    1.11 & 5
    10060
    10006 & 31
    \(4 \%\)
    \(4 \%\) & 33
    3
    3 & 4 in & 29
    -314 & \(\stackrel{3}{3}\) & 59.40 \\
    \hline A0Cl0M1 & 1.11 & 111000 & \(45 / 8\) & \(33 / 4\) & \(4 \stackrel{\prime \prime}{1 \%}\) & \(\because 1 / 1\) & \(\stackrel{2}{2}\) & 105.60 \\
    \hline
    \end{tabular}

    \section*{PLASTICON DC OVALS}
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Mfr's. No. & Cap. Mfd. & Volts DC & \multicolumn{3}{|l|}{Dimensions - Inches Height Width Depth} & Term. Height & \begin{tabular}{l}
    Dist. \\
    Bet. \\
    Ter.
    \end{tabular} & List Price \\
    \hline A0C06C2 & 2.0 & 100 & \(23 / 8\) & 2 & \(11 / 4\) & \(3 / 4\) & 13 & \$5.28 \\
    \hline AOC06C4 & 4.0 & \(1: 00\) & \(+\) & 2 & \(11 / 4\) & 3 & \(1{ }_{18}\) & 6.34 \\
    \hline A OCO1M1 & 1.6 & 1000 & \(23 / 8\) & 2 & \(11 / 4\) & \% & 1 & 4.62 \\
    \hline A 0 C01M2 & 2.0 & 1000 & \(31 / 2\) & \(\because\) & 11/4 & \(\because\) & 13 & 6.20 \\
    \hline A0C03M01 & 0.1 & 3000 & \(2 \%\) & 2 & \(11 / 4\) & \(11 / 8\) & & 9.11 \\
    \hline A OCO5M01 & 0.1 & 5000 & \(23 / 4\) & 2 & \(11 / 4\) & 2 & - & 16.90 \\
    \hline A0C05M025 & 0.25 & 5000 & \(31 / 2\) & 2 & \(11 / 4\) & \(\because 1 / 4\) & - & 18.48 \\
    \hline A OC05M05 & 0.5 & 5000 & 45 & \(\because\) & \(11 / 4\) & 1 & - & 21.78 \\
    \hline A OC08M005 & 0.05 & 8000 & \(23 / 4\) & \(\because\) & \(11 / 4\) & \(\because 14\) & - & 18.22 \\
    \hline AOC08M01 & 0.1 & 8000 & \(31 / 2\) & \(\because\) & \(11 / 1 /\) & \(21 / 4\) & - & 20.06 \\
    \hline AOCO10M005 & 0.05 & 10000 & \(31 / 2\) & 2 & \(11 / 4\) & \(\because 14\) & - & 23.10 \\
    \hline
    \end{tabular}
    wo wer-process porcelait
    
     (flatened oval) cross section. Drawn or lock-stam lead coated steme with heavy finish of gray organic lacquer. Two right angle mounting foot brackets are provided as standard on all AOCO capacitors. Add \(1 / 2 "\) to depth to get mounting centers.
    

    Where size and weight must
    be kept to a minimum－
    These hermetically－sealed．self－contained power supplies are de－ signed for Hi Voltage low current DC for many applications．Our exclusive engineering techmiques and oil－filled constriction assure smaller，lighter，more flexible units．
    
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|}
    \hline Model No． & \begin{tabular}{l}
    Output \\
    Voltage
    \end{tabular} & Rated Output Current &  & Dut rent & \％Ripple at Rated Current & Case Size & Circuit & List Price \\
    \hline PS 2－2M60 & \(\because ハ ゙ く\) & 2.11 mat & 5.0 & mid & 1.0 &  & Halt \(11 \begin{gathered}\text { as．}\end{gathered}\) & \＄ 49.50 \\
    \hline PS 5－3M60 & ○Kけい & 3.611 la & 5.0 & & \(\because .0\) & \(3{ }^{3} \times 13 \times 4\) & Halt W゙atro & 85.00 \\
    \hline PS10．1M60 & （1）－12K\！ & 1．\(\quad .1 \mathrm{md}\) & 1.75 & & 2.1 & \(33^{3} x+10 \times\) & Fisll Wate brollhor & 115.00 \\
    \hline PS15－1M60 & （1．］．6け & 1.11 ma & 1．\％） & & 3.11 & \(33_{6} \times+\frac{9}{1} \times 11\) & Full Wave lhablage & 200.00 \\
    \hline PS30－1M60D & \(0.30 \mathrm{KV゙い}\) & 1.0 ma & 1.75 & ma & 3.0 & 7x－x \({ }^{\text {¢ }}\) &  & 285.00 \\
    \hline ＊PS50－2M60 & い－ちゃにす！ & 2.11 mat & 4.11 & mm & 3.11 & \(121 / 2 \times 121 \times 1012\) & ドall Wiate＇riguer & 850.00 \\
    \hline
    \end{tabular}
    
    
    

    \section*{LABORATORY GRADE PLASTICON CAPACITORS}

    Low dielectric absorption．．（1－ \(.12 \%\) residual．Low dissipa－ tion factor．． 0002 ．0000：3 at 1 MC ． Constant \(Q\) and capacitance． from DC to 100 KC．High insu－ lation resistance，101＂ohms／ mfd．average．Negative temp． coefficient，mimus \(400-500 \mathrm{pmm} /{ }^{\circ} \mathrm{C}\) ．Rated roltage 500 V DC．Resistance and absorption readings taken at 200 V DC． \(2 \%\) and \(5 \%\) standard tolerances． \(1 \%\) to order．Type Ladi（ilassmike style．Type LAC rectangular metal can．
    \begin{tabular}{|c|c|c|c|}
    \hline No． & Mid． & Dimensions & List Price \(5 \%\) Tolerance \\
    \hline LAG101 & ．10．1 1 & \(19 \times 10\) & \＄ 6.25 \\
    \hline LAG201 & ．1040？ & 象 & 6.33 \\
    \hline LAG501 & ．10以 & \％\(\times 10\) & 6.50 \\
    \hline LAG102 & ．611 & \(3 \times 11\) & 6.67 \\
    \hline LAG202 & （10） 2 & ：－i x 1＂ & 6.83 \\
    \hline LAG502 & ．14\％ & \(3 \times 1\)＂ & 7.25 \\
    \hline LAG103 & ． 11 & 做 \(\times 1\)＂ & 7.75 \\
    \hline LAG203 & － 1 － & ＂\(\times 1\)＂ & 8.50 \\
    \hline LAG503 & ．11） & 1\％ \(\mathrm{m}_{5} \times 1\)＂ & 9.33 \\
    \hline LAC104 & ． 1 & \(\mathrm{O}_{1} \times 13 \times 1\)＂ & 12．8？ \\
    \hline LAC204 & \(\therefore\) &  & 13.83 \\
    \hline LAC504 & \(\therefore\) & ＋\(\times 21.2 \times 11_{10}^{3} 0^{\prime \prime}\) & 15.83 \\
    \hline LAC105 & 1. & \(15^{5} \times 3 \times 8 \times 140\) & 27.50 \\
    \hline LAC205 & 2. & \(4^{5 / 8 \times 383} \times 2^{14}\) & 40.83 \\
    \hline LAC505 & \(\therefore\) &  & 88.33 \\
    \hline
    \end{tabular}

    MANCFACTURERS：Glassmikes • Plasticon Capacitors • HiVolt Pewet Supplies＊Fulse Forming Neiworiss
    
    \begin{tabular}{|c|c|c|c|c|}
    \hline Cat．No． & Cap．Mfd． & Volts D．C． & Dimensions Dia．＊Length & List Price \\
    \hline  & .111 & 1010 & \(\stackrel{\square}{\because 3} \times 13\) & \＄1．50 \\
    \hline  & ．10 & （ill & \(19 \times 1{ }^{3}\) & 1.60 \\
    \hline 1×（：30： 180 & ．11： & fill & 1．0．1 \({ }_{\text {in }}\) & 1.60 \\
    \hline 心（1）10：3．1ic & ． 111 & 1iat & \％ \(811^{3}\) & 1.60 \\
    \hline 1st： \(511: 3\)＋it & ．0．0 & （illl & 听 & 1.75 \\
    \hline I－fifilli－fic & ． 31 & ＇illl & 1＂： 1 ＂ & 1.75 \\
    \hline Astia indit & 0\％： & 1011 & ！\(\because\) ¢ 10 & 1.75 \\
    \hline Av：lut－tic & ． 1 & dいい & \(3 \times 13\) & 1.95 \\
    \hline As6：36－46 & \(\therefore\) & （ill） & \(1{ }_{3} \times 10\) & 2.15 \\
    \hline 小10－3t－40 & \(\therefore\) & ＇illl &  & 2.25 \\
    \hline S（1：311＋．ic & ． 3 & 1illl &  & 2.35 \\
    \hline  & \(\therefore\) & ＇illl & \％ \(\mathrm{ser}_{4}\) & 2.60 \\
    \hline ASF10．－4it & 1.11 & dill &  & 3.90 \\
    \hline 小心示102－11 & ． 005 & 1000 & 19 ¢ 13 & 1.50 \\
    \hline 心淮1081 V & ．117 & 11010 & 1？\(\times 18\) & 1.60 \\
    \hline  & ．110 & 11110 & 呺 \(\times 1{ }^{3}\) & 1.70 \\
    \hline 小¢0．うns．1． & ．17 & 161111 & \(3 \times 1 \%\) & 1.85 \\
    \hline  & ． 1 & \(106 \%\) & 3ixo & 2.15 \\
    \hline  & \(\therefore \therefore\) & 11010 &  & 2.50 \\
    \hline  & ． 5 & 1000 & \(11 / 8 \times 2\) & 2.90 \\
    \hline  & ．100． & \(\because 11010\) & \(19 \times 78\) & 1.90 \\
    \hline  & ． 110 \％ & \(\because 1110\) & 10，\(\times 1\) \％ & 2.05 \\
    \hline 1：1：10：3－2 11 & ．11 & \(\because 010010\) & ！ 3 － \(1^{3}\) & 2.25 \\
    \hline  & ．1ヶ & \(\because\)－1100 &  & 2.50 \\
    \hline  & ．11\％ & \(\because 110 \%\) & \(3 \times 18\) & 2.80 \\
    \hline  & ． 1 & \(\because 17011\) & \(3{ }_{4} \times 1 /\) & 3.20 \\
    \hline Asios．a－2M & － & \(\because 0001\) & \％x \(x\) 最 & 3.70 \\
    \hline  & \(\therefore\) & 20001 & 1＂x \(\mathrm{x}_{3}\) & 4.40 \\
    \hline ． \(151110-3 \mathrm{M}\) & ．1111 & 31074 &  & 5.15 \\
    \hline \[
    1: 1:=10-3011
    \] & ． 11110 & \[
    : \ddot{b}+1,
    \] & \(198 \times 18\) & 5.25 \\
    \hline \[
    A N(: 5)=3-3 \mathrm{M}
    \] & ． 11115 & 30101 & 313 \(\times 1{ }^{3} 6\) & 5.40 \\
    \hline  & ．11 & 3000 & \(19 \times 7\) is & 5.60 \\
    \hline  & ． 110 & 31010 & \(3_{4}^{6} \times 13 / 4\) & 5.85 \\
    \hline  & ，11， & 80110 & 晹 x 2 \(1 / 1 /\) & 6.15 \\
    \hline \[
    .1501014 .3 .3
    \] & ． 1 & \[
    3000
    \] & \(11 / 8 \times 21 / 4\) & 6.50 \\
    \hline ASM：0．54－3．3 & ．25 & 3000 & 18 & 7.20 \\
    \hline & & & & 5.95 \\
    \hline  & ． 1902 & 4000 & \(18 \times 11^{3} 5\) & 6.05 \\
    \hline  & ． 1105 & 4000 & 1983\％ & 6.20 \\
    \hline IN（1083－19 & ．1） 1 & 40100 & \(3 \times 1{ }^{3}\) & 6.40 \\
    \hline \[
    . N(: 2113+4
    \] & ．102 & \[
    4000
    \] & \(3 / 4 \times 1 / 4\) & 6.75 \\
    \hline \[
    \text { .N(5.70:3-1 } 1
    \] & ．105 & \[
    4000
    \] & \(1{ }^{\text {as }}\)（10 & 7.00 \\
    \hline ASG104－4M & ． 1 & 4000 & \(11 / 8 \times 2\) & 7.80 \\
    \hline & .001 & & \[
    19 \times 71_{16}^{3}
    \] & 6.50 \\
    \hline \[
    A N: Q 02-B M
    \] & ．009 & \[
    \therefore 000
    \] & \[
    19 \times 11_{15}^{3}
    \] & 6.70 \\
    \hline I以 & ． 1105 & 50001 & \(48 \times 1\) \％ & 6.95 \\
    \hline \[
    \text { . } 1 \times 1: 10: 8-5.11
    \] & ． 11 & 5000 & \(3 / 4 \times 18\) & 7.25 \\
    \hline  & .10 & 5000 & \(3 / 4 \times 21 / 4\) & 7.65 \\
    \hline ASG： \(183-\mathrm{B}\) & ．105 & 5000 & 硨 \(\times 2 \times 1 / 4\) & 8.15 \\
    \hline －WS：101－5． & ． 1 & 5000 & \(13 / 8 \times 31 / 2\) & 9.10 \\
    \hline
    \end{tabular}
    \begin{tabular}{|c|c|c|c|c|}
    \hline Cat．No． & Cap．Mfd． & Volts D．C． & Dimensions Dia．\＆Length & List Price \\
    \hline  & ． 110 ¢． & －1106 & 1\％※1\％ & \＄7．00 \\
    \hline W1：103－N 11 & ．1311 & － \(11+11\) & \(9_{6}^{19} \times 1 \%\) & 7.00 \\
    \hline 小心6：313－AM & ．1111\％ & －11111 & 1\％ 1 x & 7.25 \\
    \hline  & ．110． & －11411 & \(3 \times 13\) & 7.55 \\
    \hline 小心；1113－8．11 & ．11 & － 11010 & 3 \({ }^{4} \times 1 / 1\) & 8.15 \\
    \hline \[
    1012-213=11
    \] & 113： & －11111 &  & 9.25 \\
    \hline  & ．10， & －11\％11 & \[
    1
    \] & 11.50 \\
    \hline  & ． 11010 & 11.12111 & 39815 & 7.30 \\
    \hline  & ．1101 & 11.0110 & \(19 \times 15\) & 7.50 \\
    \hline  & （16） & 111.11011 & 108 \(\times 1 \frac{8}{8}\) & 7.80 \\
    \hline  & ． 1911.1 & 11.0100 & \(\left\lvert\, \begin{aligned} & 14 \times 1\end{aligned}\right.\) & 9.00 \\
    \hline  & ． 111 & 11.1160 &  & 10.50 \\
    \hline ． \(151030: 3-1101\) & ．11： & 10.0100 & 1：8x034 & 12.50 \\
    \hline い入の：30：16．11 & －113 & 11.1111 & \(1 \mathrm{x}_{\times \times 2} \times 4\) & 15.00 \\
    \hline  & ．11］ & 111.11011 & \(73 \times 1\) \％ & 17.50 \\
    \hline 121：－117－1 \(\quad 11\) & ．1106：－7 & 1．9．0111 & 12x \(x^{2} 1 / 1\) & 14.50 \\
    \hline  & ． 11017 & 15，01111 & \(3_{4} \times 2\) ！ & 14.80 \\
    \hline IN(:2い:-1:M & ．110？ & \[
    1-0,011
    \] & \[
    8
    \] & 15.50 \\
    \hline \[
    \text { ANri.sll:-1 }: \|
    \] & ．110\％ & 15，10110 & \(11 / 8 \times 2\) & 18.00 \\
    \hline  & ．I 1 & 1 B ， 110010 & 1188：31 & 21.00 \\
    \hline  & ．11： & 1．5，100 & 1\％x＋3 & 25.00 \\
    \hline  & ．0144：\％ & \(\because 11,6110\) & 19，x：3 & 19.50 \\
    \hline \[
    .151: 10.2 . \because 0.11
    \] & ．101 & \(\because 11.4001\) &  & 20.50 \\
    \hline . & ．110： & \(\because 0.0110\) &  & 22.00 \\
    \hline \[
    1 \Sigma(8 . .100-20.3
    \] & ．010． & \(\because 11.10110\) & \[
    1 \text { s x: } 1 / 2
    \] & 24.00 \\
    \hline  & ． 11 & \(\because 0.00110\) & 1最利！ & 26.00 \\
    \hline  & ．0110： & ：30．040） & 1984\％ & 22.50 \\
    \hline  & \[
    11101
    \] & 《い，いいい & 等 x & 25.00 \\
    \hline \[
    .1 \times 5002-80.31
    \] & \[
    .\| \| ?
    \] & ：31．11001 & \[
    1: 11
    \] & \[
    28.00
    \] \\
    \hline & \[
    00.1
    \] & S11．0110 & 1 3\％ & 30.00 \\
    \hline 小心：501－10．11 & ．1100． & 41.0000 & 2319 & 25.00 \\
    \hline  & \[
    .1801
    \] & \[
    40,0000
    \] & \[
    13 \text { xi } 1 / 2
    \] & 29.00 \\
    \hline & & 40，100 & 11／8x \(\mathrm{id}^{1}\) & 30.00 \\
    \hline  & ． 11010 & － 10,000 & \(3 / 4 \times 8\) & 28.00 \\
    \hline  & .101 & 51）．003 & \(18 \times 8\) & 34.06 \\
    \hline ． & \[
    .10:
    \] & \[
    \therefore 11,0100
    \] & \[
    71 / 8 \mathrm{xs} 1 / 4
    \] & \[
    36.00
    \] \\
    \hline & & 50,000 & 1的×1111， & 44.00 \\
    \hline Na:501-6030 & .000 .7 & \[
    80,0,000
    \] & & 32.00 \\
    \hline \[
    . S \mathrm{~S}(: 102-60 \mathrm{M}
    \] & \[
    .001
    \] & \[
    1 ; 0,000
    \] & \[
    89 \times 11
    \] & 39.00 \\
    \hline
    \end{tabular}

    OHere brices and values by quotation．

    MANUFACTURERS：Glassmikes • Plasticon Capacitors • HiVolt Power Supplies • Pulse Forming Networks
    ＂Glassmike＂PLASTICON CAPACITORS Type LSC

    LSG type capacitors have llasticon Lilm－ silicone fluid impregnant in Glassmike style case．Designed to compete with mica capacitors． the LSG capacitors are more applicable for Radio Frequency．Special beneficial features include greater safety factor．lower RF losses． more conveniently mounted．utilize less chassis space．impervious to moisture and smaller in overall volume．
    \begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|c|c|c|}
    \hline Part \＃ & Size & Cap & \[
    \begin{aligned}
    & \text { Volts } \\
    & \text { D.C. }
    \end{aligned}
    \] & List Price & Part \(=\) & Size & Cap & \[
    \begin{gathered}
    \text { Volts } \\
    \text { D.C. }
    \end{gathered}
    \] & List Price & Part \＃ & Size & Cap & \[
    \begin{gathered}
    \text { Kilovolts } \\
    \text { D.C. }
    \end{gathered}
    \] & List Price \\
    \hline 752－6C & \(19 \times 1\) & ．111：5 & 16100 & \＄4．17 & 753－35C & ］\(\because x: 3\) & ．075 & ： 5 （30） & \＄12．35 & 301－14M & \(3 / 4 \times 4\) & ，1003 & 14 & \＄12．85 \\
    \hline 103－6C & \(3_{4} \times 1\) & ．111 & 1：110 & 4.50 & 104．35C & 15 & ）． 1 & 3 可以＂ & 13.65 & 401－14M & \({ }^{3} \times 4\) & ． 111104 & 14 & 12.85 \\
    \hline 203－6C & \％ 81 & 112 & 10011 & 5.50 & 401－5M & \(\therefore \mathrm{x}\) ？ & 0004 & 5000 & 8.00 & 501－14M & \(3 \times 1\) & （0）0い5 & 14 & 12.85 \\
    \hline 253－6C & 营 \(\times 1 \%\) & 1025 & 1300 & 5.50 & 501－5M & ＇\(\times\) & ． 0000 & 50100 & 8.00 & 601－14M & \(1: 8 \times 4\) & ．0010 & 11 & 13.65 \\
    \hline 303－6C & 䞨 \(x^{16}\) & 03 & 600 & 5.50 & 601．5M & \(3_{4}^{-2}\) & ．1000－ & 51100 & 8.85 & 751－14M &  & ．100075 & 14 & 15.35 \\
    \hline 403－6C & ¢9 \(\times 10\) & 04 & 6110 & 5.50 & 751－5M & \({ }_{4}{ }_{4} \times 2\) & ．0007． & 51000 & 8.85 & 102－14M & 碞34 & ．041 & 11 & 15.35 \\
    \hline 503－6C & －9x \({ }^{4}\) & ． 05 & （ill） & 5.50 & 102－5M & \(3 \times \mathrm{x}\) & （10）1 & B100 & 8.85 & 202－14M & \(1^{3}{ }_{4} \times 4\) & ．00． & 11 & 20.00 \\
    \hline 603－6C & 品×1\％ & ． 01 & flll & 5.50 & 202－5M & \(\because \times\) & （11） 3 & 51700 & 9.65 & 252－14M & \(1-54\) & ． 11025 & 11 & 22.70 \\
    \hline 753－6C & \(1{ }_{8} \times 116\) & ． 05 & f00 & 6.17 & 252．5M & \％x2 & ． 101025 & 5000 & 9.65 & 302－14M & \(15 \% \times 4\) & ． 1103 & 14 & 22.70 \\
    \hline 104－6C & \(11 / 8 \times 11 / 4\) & 0.1 & （i）0 & 6.17 & 302－5M & 18 \(\mathrm{x}=\) & .1103 & 50100 & 9.65 & 402－14M & \(11 / 8 \times\) & ． 0104 & 14 & 24.00 \\
    \hline 154－6C & 10 & 0.15 & 1 COH & 7.00 & 402－5M & \(118 \times 2\) & .004 & 5000 & 10.50 & \(502-14 \mathrm{M}\) & \(11 / 8 \times 8\) & ． \(010 \overline{5}\) & 14 & 24.00 \\
    \hline 204－6C & \(13 / 8 \mathrm{x}\) & 0.2 & 600 & 7.00 & 502－5M & 11 1＇80 & ． 005 & 5000 & 10.50 & \(602-14 \mathrm{M}\) & \(138 \times 8\) & ．106 & 11 & 25.40 \\
    \hline 254－6C & \(13 / 8 \times 21 / 2\) & 0.25 & （i）0 & 7.33 & 602－5M & \(118 \times 2\) & .006 & 5040 & 10.50 & 752－14M & \(15 / 8 \times\) & ．11075 & 11 & 27.50 \\
    \hline 304.6 C & \(15 \times 12\) & 0.3 & 1610 & 8.86 & 752－5M & \(13 \times 2\) & ．10075 & S1001 & 11.50 & 103－14M & 1 \％x & ．111 & 14 & 27.70 \\
    \hline 404－6C & \(15 \times 5\) & 0.4 & 600 & 8.86 & 103－5M & \(1^{3} 8 \mathrm{x}\) ？ & ．1）1 & 5000 & 11.50 & 101－17M & 19843／4 & .0001 & 17 & 14.00 \\
    \hline 504－6C & \(1{ }^{\text {n＇x }} \mathrm{x}:\) & 0.5 & 1007 & 10.80 & 203－5M & 13.83 & ．9）2 & 5000 & 12.50 & 201－17M &  & ． 11000 & 17 & 14.70 \\
    \hline 502－1M & \(\mathrm{ld}_{61}\) & ． 005 & 1000 & 5.00 & 253．5M & \(1{ }^{3} 8 \times 8\) & ． 025 & 5000 & 12.50 & 251－17M & \(3 / 4 \times 4\) & ． 100025 & \％ 1 & 14.70 \\
    \hline 602－1M & \({ }^{3} \times 1\) & ． 006 & 1000 & 5.50 & 303．5M & 13808 & 1）3 & 5000 & 15.00 & 301.17 M & \(3 / 4 \times 13\) & .0003 & 17 & 14.70 \\
    \hline 752.1 M & \({ }_{4}^{3} \times 1\) & ．0075 & 1000 & 5.50 & 403.5 M
    503.5 M & \(1{ }^{10} 5\) & ．04 & 5000
    -1000 & 16.70
    18.70 & 401－17M & \(34 \times 48\) & .10004 & 17 & 14.70 \\
    \hline 103．1M & \(3 \times 1\) & － 01 & 1000 & 5.50
    5.85 & 503.5 M
    603.5 M & \(135 \times 1\) & ． 05 & 5060 & 18.70
    20.70 & 501－17M & \(19 \times 43\) & .0005 & 17 & 16.00 \\
    \hline 203.1 M
    253.1 M &  & ．1025 & 10110
    1000 & 5.85
    5.85 & \(603-5 \mathrm{M}\)
    \(753-5 \mathrm{M}\) & \(1{ }^{1} 8\) & ．04： & 5000
    5000 & 20.70
    22.70 & 601－17M & 29，\(\times 13 / 4\) & .0006 & 17 & 17.35 \\
    \hline 253－1M
    303.1 M & 34811\％ & ． 0105 & 1000
    1000 & 5.85
    6.17 & \(753-5 \mathrm{M}\)
    104.5 M & \％\({ }^{1}\) & 0.15 & 5000
    5000 & 22.70
    24.70 & 751－17M & 11／8x \(13 / 4\) & ．00075 & 17 & 19.00 \\
    \hline \(303-1 \mathrm{M}\)
    \(403-1 \mathrm{M}\) &  & ．03 & 1000
    1000 & 6.17 & 101－5M & 10 & 0.10003 & 7000
    7000 & 24.70
    8.15 & 102－17M & \(11 / 8 x+3 / 4\) & .001 & 17 & 19.00 \\
    \hline 503.1 M & \(11 / 8 \times 1 \frac{1}{6}\) & ． 05 & 1000 & 7.33 & 401．7M & 30 & ． 0004 & 70010 & 9.00 & \(202-17 \mathrm{M}\)
    \(252-17 \mathrm{M}\) & \(15 \times 8\) & ． 002 & 178 & 21.85
    21.85 \\
    \hline 603－1M & \(11 / 8 \times 1 \%\) & ． 0 \％ & 10.10 & 7.33 & 501－7M & \(3_{4} \times 2\) & ． 00005 & 7000 & 9.00 & \(302-17 \mathrm{M}\) & \(138 \times 5\) & ． 0030 & \(1 \%\) & 23.00 \\
    \hline 753－1M & \(11 / 4 \times 11 / 2\) & ． 075 & 1000 & 7.33 & 601－7M & \(3{ }^{3} \times 2\) & ． 00004 & 7000 & 9.00 & 402－17M &  & ． 004 & \(1 \%\) & 25.90 \\
    \hline 104.1 M & 11／8x？ & 0.1 & 1000 & 8.00 & 751．7M & \(3_{4} \times 2\) & ．00075 & 7000
    -000 & 9.00 & 502－17M & \(15 / 8 \times 13\) & ． 005 & 17 & 29.00 \\
    \hline 154．1M & \(138 \times 2\) & 0.15 & 1000
    1000 & 9.50
    10.80 & 102.7 M
    202.7 M & \({ }_{4}^{2} \times 2\) & ． 1101 & \(\begin{array}{r}7000 \\ 7000 \\ \hline 0010\end{array}\) & 9.00
    11.00 & 101－20M & 18084 & .0001 & 20 & 16.00 \\
    \hline \(204-1 \mathrm{M}\)
    \(254-1 \mathrm{M}\) & \(13821 / 6\)
    \(15 \times 1 \%\) & 0.2
    0.25 & 1000
    1000 & 10.80
    11.00 & 202.7 M
    252.7 M & \(1{ }^{1} \mathrm{~s} \times 2\) & ． 0028 & \(\begin{array}{r}7000 \\ 7000 \\ \hline 000\end{array}\) & 11.00 & \(201-20 \mathrm{M}\) & \(3 / 4 \times 58\) & ．1000\％ & －30 & 17.00 \\
    \hline 304 －1M & 15 & 0.3 & 1000 & 11.70 & 302．7M & 118 & ．1003 & 7000 & 11.85 & 251．20M & \(3 / 4 \times 68\)
    \(3 / 4\)
    \(\times 5 \%\) & ．00025 & 20
    90
    90 & 17.00
    17.00 \\
    \hline 404－1M & \(1{ }^{5} \times 3^{1} \frac{1}{2}\) & 0.4 & 1000 & 12.70 & 402．7M & \(138 \times\) & ． 0114 & 71000 & 12.35 & 401－20M & 3／4 \(\times 5.3 / 4\) & ． 00004 & 20
    20 & 18.35 \\
    \hline 202－25C & \(19 \times 1\) & ．002 & 2500 & 5.15 & 502－7M & 1548 & ．005 & 7000 & 14.35 & 401－20M
    \(501-20 \mathrm{M}\) &  & ． 0005 & \(\underline{20}\) & 20.15 \\
    \hline 252－25C & \(3{ }_{3} \times 1\) & ．0025 & 2500 & 5.50 & 602－7M & \(1 \times x\) 2 & 0018 & 7000 & 14.35 & 601－20M &  & ． 000008 & \(\bigcirc 0\) & 20.15
    20.15 \\
    \hline 302－25C & \(3 \mathrm{i} \times 1\) & ．003 & 2500 & 5.50 & 752－7M & 11 x 4 & 0075 & 7000 & 17.00 & \(601-20 \mathrm{M}\)
    \(751-20 \mathrm{M}\) & \(11 / 8 \times 5\) & ．00075 & \(\underline{20}\) & 20.15
    22.65 \\
    \hline 402－25C & 3 Bl & ． 004 & 2500 & 5.50 & 103－7M & 11／8x & ， 111 & 71000 & 17.00 & \(751-20 \mathrm{M}\)
    \(102-20 \mathrm{M}\) & \(11 / 8 \times 53 / 4\)
    \(11 / 8 \times 53\) & ．001 & －20 & \[
    \begin{aligned}
    & 22.65 \\
    & 22.65
    \end{aligned}
    \] \\
    \hline 502－25C & 13，\({ }^{3}\) & ．00\％ & 2500 & 5.85 & 203－7M & \(158 \times 4\) & \(0 \%\) & 71100 & 18.65 & 102－20M & 11／8353／4 & ． 0002 & 20 & \[
    \begin{aligned}
    & 22.65 \\
    & 24.50
    \end{aligned}
    \] \\
    \hline 602－25C & \(1{ }^{3} \times 1\) & ．006 & 2 2\％ & 5.85 & 253－7M & 1385 & 025 & 71000 & 21.30 & 202－20M & \(15 / 8 \times 53 / 4\) & ．002 & \(\bigcirc\) & 24.50
    26.70 \\
    \hline 752－25C & 2080 & ．19075 & 2500 & 6.17 & 303－7M & 158 & 03 & 7600 & 21.30 & \(252-20 \mathrm{M}\)
    \(302-20 \mathrm{M}\) & 138 & ．0025 & \begin{tabular}{l}
    90 \\
    90 \\
    \hline 0
    \end{tabular} & 26.70
    28.70 \\
    \hline 103－25 C & \(116 \times 1\) & ． 01 & 2500 & 6.50 & 403－7M & \(1^{3} 5 \times\) & 04 & 7000 & 23.00 & \(302-20 \mathrm{M}\)
    \(402-20 \mathrm{M}\) & 150
    150 & ． 0004 & \(\cdots\) & \[
    \begin{aligned}
    & 28.70 \\
    & 30.20
    \end{aligned}
    \] \\
    \hline 203－25C & \(1^{1 / 8 \times 11}\) & ． 02 & 2500 & 7.18 & 503－7M & \(1{ }^{5 \prime} 8 \times\) & 05 & 7000 & 23.00 & \[
    \begin{array}{|l|l}
    402-20 \mathrm{M} \\
    750.25 \mathrm{M}
    \end{array}
    \] & 18 &  & － 20 & \[
    \begin{aligned}
    & 30.20 \\
    & 20.15
    \end{aligned}
    \] \\
    \hline 253－25C & \(11 / 8 \times 11 / 2\) & ．02\％ & 2500 & 7.18 & & & & & & \(750-25 \mathrm{M}\)
    \(101-25 \mathrm{M}\) & 198 \({ }^{1} 81 / 4\) & ． 000075 & －5 & 20.15
    21.70 \\
    \hline 303－25C & \(11 / 8 \times 11 / 2\) & ． 03 & 2.5001 & 7.18 & & & & & & 101－25M & 3／4 \(\times 181 / 4\) & ． 00002 & 2． & 21.70
    21.70 \\
    \hline 403－25C & 11／6x？ & ． 04 & 2500 & 8.00 & Part \(=\) & Size & Cap & Kilovolts
    D．C． & List Price & 201．25M & \(3 / 4 \times 1 / 4\) & & － 2.1 & 21.70
    21.70 \\
    \hline 503－25C & 13 x \({ }^{\text {a }}\) & ．05 & －50） & 8.68 & Part－ & Size & Cap & & & 251.25 M
    301.25 M & \({ }^{3} 4 \times 14\) & ． 000025 & － & 21.70
    22.20 \\
    \hline 603－25C & \(138 \times\) & ． 06 & 2 500 & 8.68 & & & & & & 301－25M & \(\int_{13}^{3} x^{-1}\) & ． 0003 & \％ & 22.20
    25.00 \\
    \hline 753－25C & \(15 \times 1\)－ & ． 075 & －500 & 10.40 & 201．10M & \(19 \times\) & ．0002 & 111 & \＄10．80 & 401－25M & \({ }^{3 / 2} \times 14\) & ．0004 & \％\％ & 25.00 \\
    \hline 104－25 & \(15 / 8 \times 1 / 2\) & 0.1 & 2500 & 11.70 & 301－10M & \({ }_{4} \times 3\) & 110113 & 10 & 11.00 & 501－25M & \(3{ }^{3} \times 1 / 4\) & ． 00005 & 25 & 25.00 \\
    \hline 154－25C & 1\％1／81\％ & 0.15 & 2500 & 12.70 & 401－10M & \(3_{4} \times 3\) & .1001 & 10 & 11.00 & 601－25M & \(11 / 8 \times 1 / 4\) & .0006 & \(\cdots\) & 27.50 \\
    \hline 601－35C & \(19 \times 1\) & ． 00008 & 3500 & 5.50 & 501－10M & \(3{ }_{4}^{4} \times 3\) & ．100\％ & 111 & 11.00 & \(751-25 \mathrm{M}\) & \(13 / 8 \times 1 / 4\) & .100075 & O．5 & 31.20 \\
    \hline 751－35C & \(3_{4} \times 1\) & ． 00075 & 3500 & 5.85 & 601－10M & \(13 \times 3\) & 0008 & 10 & 11.65 & 102－25M & \(13{ }^{3} \times 1 / 4\) & ． 0101 & \(\cdots\) & 31.20 \\
    \hline 102－35 C & \(3 \times 1\) & ． 0101 & 3500 & 5.85 & 751－10M & －483 & 000\％ & 10 & 12.35 & \(202-25 \mathrm{M}\) & \(15 / 8 \times 1 / 4\) & ． 002 & 2. & 35.40 \\
    \hline 202－35C & 3 X 1 & ．002 & 3500 & 5.85 & 102．10M & 海 48 & ．1101 & 10 & 12.35 & 252－25M & \(1{ }^{51}\) & ． 0003 & \(\cdots\) & 45.00 \\
    \hline 252．35C & \(17.3 \times 1\) & ．0025 & 3500 & 6.20 & 202－10M & \(1{ }^{16} 58\) & ．002 & 10 & 13.65 & 302－25M & \(15 / 8 \times 11 / 2\) & ． 003 & 2.5 & 45.00 \\
    \hline 302－35C & 搨 \(\times 1\) & ． 003 & 3500 & 7.00 & 252－10M & \(138 \times 8\) & ． 0025 & 111 & 15.35 & \(500 \cdot 30 \mathrm{M}\) & \(19 \times 9\) & ． 000005 & 30 & 23.70 \\
    \hline 402－35C & \％nx & ． 004 & 3500 & 7.00 & 302.10 M & \(1: 388\) & ．003 & 10 & 15.35 & \(600-30 \mathrm{M}\) & \(3{ }^{3} \mathrm{x}\)（1） & ． 000008 & ； 30 & 25.00 \\
    \hline 502－35C & \(11 / 8 \times 1\) & .005 & 3500 & 7.50 & 402.10 M & \(15 / 8 \times 3\) & .1104 & 10 & 17.65 & 750－30M & \(3 / 89\) & ． 000075 & 30 & 25.00 \\
    \hline 602－35 & 11／8×1 & ． 006 & 35001 & 7.50 & 502－10M & \(11 / 8 \times 6\) & ． 005 & 10 & 21.30 & 101－30M & \(3 / 4 \times 9\) & .0001 & 314 & 25.00 \\
    \hline 752－35C & \(1^{3}{ }_{8} \times 1\) & .0075 & 3500 & 7.85 & 602－10M & \(11 / 8 \times 6\) & .006 & 10 & 21.30 & 201.30 M & \(3 / 4 \times 9\) & ．0002 & 311 & 25.00 \\
    \hline 103－35C & \(15 \times 1\) & ． 01 & 3500 & 8.18 & 752－10M & \(18 / 8 \times 6\) & ．100\％ & 10 & 24.00 & 251－30M & \(1{ }_{60}^{3} \times\) & ． 000025 & 301 & 30.70 \\
    \hline 203－35C & \(15 / 8 \times 11 / 2\) & ． \(0 \cdot 2\) & 3500 & 8.50 & 103－10M & 13 kx & ． 11 & 10 & 24.00 & 301.30 M & 晹x9 & ． 0003 & 30 & 37.00 \\
    \hline 253－35C & 150．41／20 & 005 & 3500 & 8.67 & 203－10M & \(15 / 8 \times 9\) & ． 02 & 10 & 27.70 & 401－30M &  & .0004 & 30 & 37.00 \\
    \hline 303－35C & \(15 / 8 \times \frac{7}{4}\) & ． 03 & 3500 & 10.80 & 253－10M & \(15 \times 9\) & 025 & 10 & 27.70 & 501.30 M & 11／8x9 & －0005 & 31 & 44.00 \\
    \hline 403－35C & \(1.8 \times \frac{1}{8}\) & ． 04 & 3500 & 10.80 & 101.14 M & 18，\(\times 4\) & .0001 & 14 & 12.00 & 601－30M & \(11 / 8 \times 9\) & ． 0006 & 301 & 44.00 \\
    \hline 503－35C & \(15 \times{ }^{5}{ }^{2} / 4\) & ． 05 & 3500 & 11.65 & 201－14M & \({ }_{4} \times 4\) & ．000： & 14 & 12.85 & 751－30M & \(138 \times 9\) & ． 000075 & 301 & 46.00 \\
    \hline 603－35C & \(15 \times 3\) & ． 06 & 3500 & 12.35 & 251.14 M & \(3 \times 4\) & ．00025 & 14 & 12.85 & 102－30M & \(13_{8} \times 9\) & ． 001 & （3） & 50.00 \\
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[^44]:    JANT VRICE $\$ 1.85$
    Stamlard Packiner 10 fur Carton．

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    | Cat. No. | Wiring | List Price |
    | :---: | :---: | :---: |
    | BE-12 SPST | Sivult-1*ile *irul...7l\|r w. | \$0.60 |
    | BE-20 DPST | Iomber Iole sizele-Tlyuw. $31-1 \because 1.1 .1$ | 0.75 |
    | BE-21 (Mod.) DPST |  <br>  | 0.75 |

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[^46]:    Friare incluete AN－3220－Z hwols．

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[^53]:    The stranded rersjons of Belden Interrom The stamber rersions of belden ferse same hut herause of their flexjbility, are casjer tul pul) througil a ronduit having more than the nstal number of bents.

[^54]:    * Mreasurements for d-c insulation resistance made with a megohm bridge at 300 volis on specintens in mercury after sulnjection tow, re

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